

The background is a collage of three images. The top image shows two female students in a laboratory; one is wearing safety goggles and pouring liquid into a beaker while the other looks on. The middle image is a close-up of a bronze bust of James Madison. The bottom image shows a group of students, including a male student in a purple cap and a female student with glasses, gathered around a laptop in a classroom or computer lab setting.

19

JAMES MADISON UNIVERSITY

UNDERGRADUATE CATALOG

20

# Table of Contents

Message from the President.....	1
University Calendar.....	2
About the University.....	3
Mission Statement.....	3
History.....	3
Administration.....	3
James Madison University Administration.....	3
JMU Alumni.....	4
JMU Foundation.....	4
Accreditation.....	4
Admissions.....	6
Office of Admissions.....	6
Visiting the University.....	6
First Year Student Admission.....	6
Application Deadlines.....	6
Application Procedure for First Year Student Admission.....	6
Transfer Student Admission.....	6
Evaluation of Transfer Credits.....	7
Advanced Placement.....	7
International Admission.....	8
Special Admission Requirements.....	12
Credit for Military Service.....	12
Degrees Offered.....	14
Student Services and Learning Resources.....	15
University and Post-Graduate Resources.....	24
Tuition and Fees.....	26
Financial Aid, Scholarships and Student Employment.....	29
Academic Policies and Procedures.....	33
Academic Terms and Definitions.....	47
Centers and Institutes.....	48
Cross Disciplinary Minors.....	53
Teaching Licensure.....	78
Academic Units.....	85
School of Accounting.....	85
Adult Degree Program.....	88
School of Art, Design and Art History.....	92
Department of Biology.....	106
Department of Chemistry and Biochemistry.....	115
Department of Communication Sciences and Disorders.....	124
School of Communication Studies.....	127
Department of Computer Information Systems and Business Analytics.....	153
Department of Computer Science.....	156
Department of Early, Elementary and Reading Education.....	158
Department of Economics.....	160
Department of Educational Foundations and Exceptionalities.....	165
Department of Engineering.....	170
Department of English.....	172
Department of Finance and Business Law.....	176
Department of Foreign Languages, Literatures and Cultures.....	180
Department of Geology and Environmental Science.....	186
Hart School of Hospitality Sport and Recreation Management.....	192
Department of Health Professions.....	196
Department of Health Sciences.....	199
Department of History.....	201
Independent Scholars Program.....	205
School of Integrated Science.....	206
Department of Interdisciplinary Liberal Studies.....	216
International Affairs.....	218
Department of International Business.....	227
Department of Justice Studies.....	230
Department of Kinesiology.....	237
Department of Learning, Technology and Leadership Education.....	241
Department of Management.....	242
Department of Marketing.....	246
Department of Mathematics and Statistics.....	249
School of Media Arts and Design.....	255

Department of Middle, Secondary and Mathematics Education .....	263
Department of Military Science.....	268
School of Music .....	271
School of Nursing .....	282
Department of Philosophy and Religion .....	286
Department of Physics and Astronomy.....	293
Department of Political Science .....	298
Pre-Professional Health Advising .....	302
Department of Psychology .....	307
Department of Social Work.....	312
Field Practicum Application .....	312
Department of Sociology and Anthropology .....	314
School of Theatre and Dance .....	321
School of Writing, Rhetoric and Technical Communication.....	327
Course Descriptions.....	332
University Faculty.....	502

## Message from the President

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Dear Student,

As a James Madison University student, you have many opportunities to make choices that will affect your success at JMU and your future life. Some of them will be made in organizational or social settings outside the classroom. Many of these choices, however, are important ones concerning your academic preparation at JMU. This document, the James Madison University 2019-2020 Undergraduate Catalog, is an important reference for you. This catalog offers a comprehensive view of academic life at JMU and the thousands of different courses available to you as you craft your learning experiences.

Take care in choosing your classes. You need to carefully select the necessary courses to fulfill your particular degree requirements and also consider other educational experiences as well. Challenge yourself as you make your decisions. Explore the world of knowledge and opportunities here at JMU. Remember: your educational foundation at James Madison University will help prepare you for all of life's opportunities.

Your intellectual enrichment and your collegiate experience will foster personal growth and include life-forming decisions. Enjoy your college days. I extend my best wishes to you for a wonderful and rewarding year at JMU.

Sincerely,

Jonathan R. Alger

President

## Fall Semester 2019

### August 20-21, Tuesday-Wednesday

Residence halls open for freshmen on assigned days.  
Dining Services open on Tuesday, August 20th and fall meal plans begin at 5 p.m. for freshmen.

### August 23, Friday

Opening Faculty Meeting  
Freshman Assessment Day

### August 26, Monday

Classes meet as scheduled.

### September 13, Friday

Last day to withdraw from the university with cancellation of tuition charges and refund.

### October 11-13, Friday-Sunday

Family Weekend

### October 11, Friday

First Block courses end.

### October 14, Monday

Second Block courses begin.

### October 15, Tuesday

Last day to submit an application for a baccalaureate degree if graduation requirements are to be met in May or August 2020.

### October 17, Thursday

Mid-semester grades due in the Office of the Registrar.

### October 22, Tuesday

First Block course grades due in the Office of the Registrar.

### October 25-27, Friday-Sunday

Homecoming

### November 4, Monday

Registration begins for 2020 spring semester.

### November 22, Friday

Dining Services closes at 7:30 p.m.

### November 23, Saturday

Thanksgiving holiday begins and residence halls close.

### November 30, Saturday

Residence halls open. Dining Services open at 4:30 p.m.

### December 2, Monday

Classes resume.

### December 2, Monday

Last day for students to submit work to faculty for 2019 spring semester and 2019 summer session for removal of "incomplete" grades.

### December 6, Friday

Last day of classes.

Last day for faculty to turn in removal of "incomplete" grades for 2019 spring semester and 2019 summer session to the Office of the Registrar.

### December 7-13, Saturday-Friday

Final Examinations.

### December 13, Friday

Dining Services close and fall meal plans end at 2 p.m.

Deadline for completion of course work for December graduates.

### December 14, Saturday

Undergraduate Commencement Ceremony

Residence halls close.

### December 16, Monday

Regular semester and Second Block course grades due in the Office of the Registrar by 3 p.m.

## Winter Session 2020

### January 6, Monday

Classes meet as scheduled.

### January 10, Friday

Final examinations.

### January 13, Monday

Winter Session Grades Due.

## Spring Semester 2020

### January 12, Sunday

Residence halls open.

Spring meal plans begin and Dining Services open at 5 p.m.

### January 13, Monday

Classes meet as scheduled.

### January 20, Monday

Martin Luther King, Jr. Holiday. Classes do not meet.

### January 31, Friday

Last day to withdraw from the university with cancellation of tuition charges and refund.

### February 11, Tuesday

Student Assessment/Faculty Assistance (No classes 8 a.m.- 4 p.m.)

Evening classes (those beginning 4 p.m. or later) meet as scheduled.

### March 3, Tuesday

First Block courses end.

### March 6, Friday

Mid-semester grades due in the Office of the Registrar.

Dining Services close at 2 p.m. Residence halls close.

### March 9-13, Monday-Friday

Spring Break. Classes do not meet.

### March 15, Sunday

Residence halls open. Dining Services open at 5 p.m.

### March 16, Monday

Classes resume.

Second Block courses begin.

### March 17, Tuesday

First Block course grades due in the Office of the Registrar.

### March 20, Friday

James Madison Day.

### March 23, Monday

Advance registration for 2020 summer session begins.

### April 6, Monday

Registration begins for 2020 fall semester.

### April 15, Wednesday

Last day to submit a graduation application if graduation requirements are to be met in December 2020.

### April 16, Thursday

Last day for students to submit work to faculty for 2019 fall semester for removal of "incomplete" grades.

### April 30, Thursday

Last day of classes.

Last day for faculty to turn in removal of "incomplete" grades for 2019 fall semester to the Office of the Registrar.

### May 1-7, Friday-Thursday

Final Examinations. University housing checkout process.

### May 7, Thursday

Residence halls close for undergraduate students.

Spring meal plans end and Dining Services close at 7 p.m.

Deadline for completion of course work for May graduates.

### May 7-9, Thursday-Saturday

Commencement Ceremonies

### May 12, Tuesday

Regular Semester and Second Block course grades due in the Office of the Registrar by 3 p.m.

James Madison University is a public, comprehensive university and is the only university in America named for James Madison. The university places great emphasis on the quality of the undergraduate student experience in its bachelor's level programs and offers a complementary array of distinguished master's, educational specialist and doctoral programs aimed at meeting specific state and national needs. JMU provides a total education to students – one that has a broad range of the liberal arts as its foundation and encompasses an extensive variety of professional and pre-professional programs, augmented by a multitude of learning experiences outside the classroom. The value and quality of the JMU experience has been recognized repeatedly in many national publications.

Enhancing quality in student learning is a priority for JMU. A national study found that 81 percent of employers want colleges to place more emphasis on "critical thinking and analytic reasoning" and 75 percent want more emphasis on "ethical decision making" (Raising the Bar: Employers' Views on College Learning in the Wake of the Economic Downturn, AAC&U and Hart Research Associates (2010)). In 2013, JMU launched a major university-wide effort called The Madison Collaborative: Ethical Reasoning in Action with the purpose of teaching ethical reasoning skills to every student at the university.

First year students are introduced to the Madison Collaborative during orientation, and exposure continues through campus programming, the General Education curriculum and courses in majors. It teaches students how to apply a set of reasoning skills to evaluate implications of different courses of action in their personal, professional and civic lives. The Madison Collaborative ties directly to the university's mission of "preparing educated and enlightened citizens."

## Mission Statement

We are a community committed to preparing students to be educated and enlightened citizens who lead productive and meaningful lives.

## History

Since its establishment in 1908, James Madison University has grown from a small state normal and industrial school for women to today's coeducational comprehensive university with a fall 2014 enrollment of 20,855 students.

The university was founded in 1908 as the State Normal and Industrial School for Women at Harrisonburg, with Julian Ashby Burruss as its first president. The school opened its doors to its first student body in 1909 with an enrollment of 209 students and a faculty of 15. Its first 20 graduates received diplomas in 1911. In 1914, the name of the school was changed to the State Normal School for Women at Harrisonburg. The school received authorization to award bachelor's degrees in 1916. During this initial period of development, Burruss' administration established the campus plan and constructed six buildings.

After Burruss resigned in 1919, Dr. Samuel Page Duke became the second president. Duke's administration erected nine major buildings.

In 1924, the university became the State Teachers College at Harrisonburg and continued under that name until 1938, when it was named Madison College in honor of James Madison, the fourth president of the United States. In 1946, the Duke administration admitted men as regular day students.

Following the retirement of Duke, Dr. G. Tyler Miller became the third president of the university in 1949 and remained until 1970. Miller's administration enlarged the campus by 240 acres and constructed 19 buildings. The administration also revamped the curriculum. In 1954, the expanding school received authority to grant master's degrees. The university became a coeducational institution in 1966. Dr. Ronald E. Carrier became JMU's fourth president in 1971. His administration changed Madison College into a university. In 1977, the university adopted its current name, James Madison University. The Carrier administration nearly tripled the number of students and university faculty members and constructed some 30 major campus buildings. Doctoral degrees were authorized in 1994.

Dr. Linwood H. Rose was named JMU's fifth president in September 1998. Under his leadership, JMU was continually recognized in national publications as one of the nation's finest institutions of its type. More than 20 new academic programs were implemented, 25 major buildings were constructed, a Phi Beta Kappa chapter was installed and the university successfully completed its first capital campaign. Before being named president, Rose had served as a member of the institution's administration for 23 years.

Jonathan Alger took office in July 2012 as the sixth president of James Madison University. Under his leadership, JMU has developed a new vision to be "the national model of the engaged university: engaged with ideas and the world," along with a new strategic plan focused on engaged learning, community engagement and civic engagement. President Alger is a nationally recognized expert in higher education law and policy and held previous positions at Rutgers University, the University of Michigan, the American Association of University Professors and the U.S. Department of Education.

## Administration

The general responsibility for the administration of the university has been assigned to the president, who is appointed by the JMU Board of Visitors. When the board is in recess, its executive committee may exercise the power of the board.

Assisting the president in the administration of the university are the provost and senior vice president for academic affairs, the senior vice president for administration and finance, the vice president for student affairs, the vice president for access and enrollment management, the vice president for university advancement, the executive director for campus and community programs for access and inclusion, university counsel, the special assistant to the president for strategic planning and engagement, and the executive advisor to the president.

Appointment to these positions and to the university's instructional and administrative faculty is made by the JMU Board of Visitors upon the recommendation of the president.

## James Madison University Administration

### Board of Visitors

Ms. Maribeth D. Herod, (Rector), Herndon, VA

Mr. Michael B. Battle, Clarksville, MD

Ms. Vanessa M. Evans-Grevious Charlottesville, VA

Mr. Frank T. Gadams, Norfolk, VA

Mr. Jeffrey E. Grass, Arlington, VA

Mr. Matthew A. Gray-Keeling, Richmond, VA

Ms. Lucy Hutchinson, New York, NY

Ms. Maria D. Jankowski, Richmond, VA

Ms. Deborah T. Johnson, Woodbridge, VA

Ms. Lara P. Major (Vice Rector), Purcellville, VA

Ms. Maggie A. Ragon, Staunton, VA

Mr. John C. Rothenberger, Great Falls, VA

Mr. Michael M. Thomas, Reston, VA

Ms. Kathy J. Warden, Great Falls, VA

Mr. Craig B. Welburn, Manassas, VA

Mr. Norman R. Jones III (student representative), Manassas, VA

Ms. Donna L. Harper (Secretary), JMU/Harrisonburg, VA

### Chief Administrative Officers

President

**Jonathan R. Alger, J.D.**

Senior Leadership Team

**Heather J. Coltman, D.M.A.**

Provost and Senior Vice President for Academic Affairs

**Michael K. Davis, Ph.D.**

Executive Advisor to the President

**Art T. Dean II, M.Ed.**

Executive Director for Campus and Community Programs for Access and Inclusion

**Donna L. Harper, Ed.S.**

Vice President for Access and Enrollment Management

**Charles W. King Jr., M.A.**

Senior Vice President for Administration and Finance

**Nick L. Langridge, Ph.D.**

Vice President for University Advancement

**Timothy M. Miller, Ed.D.**

## Deans

**Robert D. Aguirre, Ph.D.**

Dean, College of Arts and Letters

**Cynthia M. Bauerle, Ph.D.**

Dean, College of Science and Mathematics

**Michael E. Busing, Ph.D.**

Dean, College of Business

**John Burgess, M.A.**

Interim Dean, The Graduate School

**Robert A. Kolvoord, Ph.D.**

Dean, College of Integrated Science and Engineering

Vice President for Student Affairs

**Jack Knight, J.D.**

University Counsel/Assistant Attorney General and Special Counsel

**Sharon E. Lovell, Ph.D.**

Dean, College of Health and Behavioral Studies

**Bradley R. Newcomer, Ph.D.**

Dean, Honors College

**Rubén Graciani, M.F.A.**

Acting Dean, College of Visual and Performing Arts

**Mark L'Esperance, Ph.D.**

Dean, College of Education

**Melissa Lubin, Ph.D.**

Dean, Professional and Continuing Education

## Organization

JMU consists of the following colleges and academic administrative units:

- College of Arts and Letters
- College of Business
- College of Education
- College of Health and Behavioral Studies
- College of Integrated Science and Engineering
- College of Science and Mathematics
- College of Visual and Performing Arts
- Libraries and Educational Technologies
- Honors College
- The Graduate School
- Professional and Continuing Education
- University Studies

## JMU Alumni

### Office of Alumni Relations

Phone: (540) 568-6234

Website: <http://alumni.jmu.edu/>

JMU benefits from an active, enthusiastic and supportive alumni association. With more than 135,000 graduates, the JMU Alumni Association strives to develop a continuing interest in the university by providing opportunities for service, fellowship, networking and loyalty for JMU alumni. The association provides scholarship opportunities for incoming JMU students. Alumni chapters across the globe sponsor socials, programs, scholarships, community service and various events to engage alumni in their area. The alumni association also hosts annual programming on campus, including homecoming, reunions and an annual alumni volunteer conference.

The JMU Alumni Association is directed by a board of directors who represent the interests of all graduates by reviewing and setting the strategy for the association. JMU's magazine, *Madison*, provides information about the university to all alumni, parents of currently enrolled students, friends and businesses, corporations, and foundations associated with JMU. The e-newsletter, *Madison Update*, is a popular way for alumni to stay informed about alumni and campus activities.

Find out more about the JMU Alumni Association and upcoming events at <http://www.alumni.jmu.edu>.

## JMU Foundation

Website: <http://www.jmu.edu/foundation/>

The James Madison University Foundation, Inc. a 501(c)(3) organization, was formed in 1969 to support the university — its students, faculty, staff, programs and facilities. The foundation receives, manages and stewards all charitable contributions for JMU. The foundation accepts gifts of cash, securities, real estate, personal property and more. The foundation's mission is to support and serve the James Madison University community. Its vision is to provide an ever-growing and sustainable source of private support for the university community by promoting a culture of philanthropy, prudent investment, stewardship and excellence. The foundation is guided by an abiding commitment to the university, valuing generosity and fiscal responsibility.

## Accreditation

James Madison University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, masters and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call (404) 679-4500 for questions about the accreditation of James Madison University. The Commission should only be contacted concerning an institution's significant non-compliance with a requirement or standard. Normal inquiries about James Madison University (such as admission requirements, financial aid, education programs, etc.) should be directed to JMU, not the Commission's office.

### Additional Accreditation

ABET, Incorporated

AACSB International – The Association to Advance Collegiate Schools of Business

American Chemical Society

Accreditation Council for Occupational Therapy Education

American Psychological Association

Association for Information Technology Professionals

Association of University Health Programs in Health Administration

Accreditation Review Commission on Education for Physician Assistants, Inc.

Commission for Collegiate Nursing Education

Commission on Accreditation for Dietetics Education, the accrediting agency for The American Dietetic Association

Commission on Accreditation of Athletic Training Education

Council for Interior Design Accreditation

Council on Academic Accreditation in Audiology and Speech Language

Pathology of the American Speech-Language and Hearing Association

Council for Accreditation of Counseling and Related Educational Programs

Council for the Accreditation of Educator Preparation

Council on Social Work Education (baccalaureate level)

Education Commission on Accreditation on Social Work

Educational Standards Board of the American Speech-Language-Hearing Association

International Association of Counseling Services

National Association of College and University Attorneys

National Association of School Psychologists

National Association of Schools of Art and Design

National Association of Schools of Dance

National Association of Schools of Music

National Association of Schools of Theatre

Review Commission on Education for the Physician Assistant

Society for Public Health Education

Virginia Board of Nursing

## Memberships

American Association of Colleges for Teacher Education  
American Association of State Colleges and Universities  
American Council on Education  
Association of American Colleges and Universities  
Association of Virginia Colleges and Universities  
College and University Personnel Association  
Council of Graduate Schools in the United States  
Council of Southern Graduate Schools

National Association of College and University Business Officers  
National Association of Student Personnel Administrators  
Southeastern Universities Research Association  
Southern Regional Education Board Doctoral Scholars Program  
Institutional and Educational Membership  
Association of Computing Machinery

## Corporate Membership

American Association of University Women



## Office of Admissions

Phone: (540) 568-5681

Email: [admissions@jmu.edu](mailto:admissions@jmu.edu)

Website: <http://www.jmu.edu/admissions>

Fax: (540) 568-3332

Location: Madison Hall, MSC 0101

The enrollment for the university is authorized by the State Council of Higher Education in Virginia. The number of students admitted each year is limited by the resources available to the university.

## Visiting the University

We encourage prospective students to attend a group information session and a walking tour of campus. To check our visitation schedule and make a reservation, visit our website.

## First Year Student Admission

JMU's admission process is competitive. We receive more qualified applications than we can accommodate. For the Fall 2019 admissions process, approximately 60 percent of applicants were admitted with 88 percent of the applicants being competitive. There is not a prescribed formula for gaining admission. The admissions committee works to select the strongest candidates from a high quality pool. We consider the following factors in evaluating applicants: program of study, academic achievement, standardized test scores, Secondary School Report Form and recommendation, extracurricular activities and an optional personal statement. Each applicant is rated in the following four areas, listed in order of importance:

## Academic Program

Competitive applicants should minimally have the following:

- four years of math with at least one full year beyond algebra II (i.e. pre-calculus, trigonometry, discrete, statistics, analysis, etc.). Computer and consumer math do not count and will not be evaluated as a full year beyond algebra II.
- three years of laboratory science (preferably biology, chemistry and physics or an AP, IB or DE science; general science or earth science does not count as a lab science);
- three to four years of the same foreign language or two years of two different foreign languages;
- four years of English; and
- four years of social studies.

Students who challenge themselves with the upper-level courses offered in their high school (i.e. Honors-level courses, Advanced Placement classes, International Baccalaureate, dual enrollment) increase their competitiveness. Although schools provide different opportunities, applicants should pursue the most demanding college preparatory programs available. Because strong students come from different types of schools, we evaluate applicants within the context of their high schools.

## Academic Achievement

To evaluate achievement in high school, we evaluate grades in the core subject areas: mathematics, English, foreign language, social studies and lab sciences. A competitive candidate is an "A/B" student in core courses. We look at performance throughout the entire high school career.

## Standardized Tests

The SAT I or ACT are an optional part of the application. SAT IIs are not required for or considered in the admissions process.

## Extracurricular Activities

We are looking for quality over quantity. For instance, we like to see what applicants have done in clubs, organizations and athletics beyond just being members. We also consider community service and part-time jobs. We look at the variety and depth of involvement. Applicants must be academically competitive before extracurricular activities are reviewed.

## Application Deadlines

### Early Action Admission

Early Action is more competitive than the Regular Decision process. To be admitted through Early Action, a student needs to be superior in curriculum, grades, test scores and extracurricular activities.

The university will offer non-binding early notification admission to qualified first year student applicants. The deadline for early notification is November 1. Successful candidates will be notified in mid-January and must submit a tuition deposit by May 1 to enroll at the university. Most students who are not selected for early notification are considered under the university's regular admission process.

For the last two years, 45 to 50 percent of students deferred from Early Action to Regular Decision were eventually admitted. Students who apply Early Action do not have an advantage over students who apply Regular Decision.

### Regular Decision Admission

Because Early Action is more competitive than Regular Decision, students who apply through Regular Decision are not at a disadvantage. Applications must be submitted by January 15 to be considered for regular decision admission. All applicants will receive notification of their admission status the first week of April. Admitted students must submit a tuition deposit by May 1 to enroll at the university.

## Application Procedure for First Year Student Admission

To access the application, apply online by filling out the application and submitting it electronically with an electronic payment. Students applying to James Madison University must:

- Carefully complete and submit the application, along with the nonrefundable application fee.
- Request that a counselor send a copy of their transcript and a letter of recommendation to:  
James Madison University Office of Admissions  
MSC 0101 100 E. Grace Street  
Harrisonburg, VA 22807

SAT or ACT scores are optional. Applicants should request SAT or ACT scores be forwarded to James Madison University directly from the College Board or American College Testing, respectively.

Information furnished on applications and all other university documents and records must be accurate and complete without evasion or misrepresentation. Submitting inaccurate or incomplete documents is cause for rejection or dismissal from the university.

## Transfer Student Admission

To transfer to JMU, a student must:

- Have completed or be in the process of completing at least 24 credits at the college or university level, after graduating from high school or earning a GED, at the time of application.
- Successfully complete college course work in the following areas: English, math, lab science and social science in order to be competitive. The more college level course work a student completes, the less emphasis the admission committee places on the high school transcript.
- Be in good standing and eligible to continue or graduate from their previous institution(s). It is the student's responsibility to provide the JMU Office of Admissions with official transcripts of work completed from all colleges attended. Concealment of previous attendance at a college or university is cause for cancellation of admission and registration. (Students with holds on their academic records will not be considered for admission until holds are released).

The university recommends students have a "B" cumulative grade point average (3.0 on a 4.0 scale) to be competitive for admission.

## Application Procedure for Transfer Admission

To apply for transfer admission to the university, applicants must:

- Submit the online application for undergraduate admission along with the electronic application fee. This fee is not refundable or transferable and will not be credited to the student's account.
- Request official transcripts be sent from all colleges attended prior to the application deadline.
- Submit an official high school transcript or a copy of a GED in addition to college transcripts, regardless of the number of college credits completed or the number of years out of high school.
- Complete a one-page personal statement (optional) for review by the Admissions Committee.
- Indicate a major.

All materials are due by October 1 for spring admission, February 1 for summer admission and March 1 for fall admission.

## Evaluation of Transfer Credits

Credit will be awarded for those courses equivalent to courses offered at JMU in which the student has earned a grade of "C" or better.

After the student has been approved for admission, the Office of the Registrar will evaluate the transcript(s) of each transfer student to show the credits accepted by the university. The academic unit head of the program in which the student is majoring will determine the credits required for graduation.

With the exception of some community college degrees in General Studies, JMU General Education requirements will be waived for those students who have completed either the Associate of Arts, Associate of Science, or the Associate of Arts and Sciences degree at a Virginia community college. For the complete listing of degrees associated with a Virginia Community College that waive all General Education requirements, go to the Transfer Advising. Students who complete one of these associate degrees and are offered admission will receive junior-level status; however, due to varying major and degree requirements, junior-level status does not guarantee graduation in two years. For more details, consult the Office of Admissions or the JMU Virginia Community College Transfer Guide.

## Advanced Placement

Applicants for admission who have completed advanced work in secondary school may use AP test scores to apply for course credit at JMU. Information about AP exams is available at <https://apstudent.collegeboard.org/takingtheexam/about-exams>. For a full list of available AP credit opportunities at JMU, refer to the Advanced Placement table.

## Advanced Placement Chart

The score necessary to earn college credit at JMU, the corresponding course title at JMU and the credit hours which can be earned appear below. The grading scale is from one to five with five being the highest score. Credit hour equivalencies are reviewed annually by academic units.

Note: This information is subject to change at the discretion of James Madison University. For the 2019-20 academic year, the scores displayed in the online catalog supersede the scores in the printed undergraduate catalog.

2019-2020 Academic Year Advanced Placement Courses			
Placement Course	Minimum Required Score	JMU Equivalent	Credit Hours Earned
Art History	4	ARTH 206	3
Biology	4	BIO 140 & BIO 150 or ISAT 113, ISCI 104 & BIO 0002	8 8
Calculus AB	4	MATH 235	4
Calculus AB Subscore	4	MATH 235	4
Calculus BC	4	MATH 235 & MATH 236	8
Chemistry	4	Majors: CHEM 131 & CHEM 132	6
	4	Nonmajors: CHEM 131 & CHEM 131L and CHEM 132 & CHEM 131L-132L or CHEM 120 & CHEM 0003	8
	3	CHEM 120 and CHEM 0003 or ISCI 101 and ISCI 104	4
Chinese Language and Culture	4	CHIN 231	3
Comparative Government	4	POSC 240	3
Computer Science A	5 3	CS 149 CS 000	3 3
Computer Science Principles	3	CS 000	3
Economics (Micro)	4	ECON 201	3
Economics (Macro)	4	ECON 200	3

English Language and Composition or English Literature and Composition	4	WRTC 103	3
Environmental Science	4	ISAT major: ISAT 112 & ISAT 0004 To earn credit for ISAT 112, students must earn a 4 or higher on both the Environmental Science exam and the Chemistry exam.	8
	4	Non majors: GEOL 115, ISCI 104 & ISAT 0004	8
	3	ISCI 0005	4
French Language or French Literature	4	FR 231	3
Geography, Human	3	GEOG 280	3
German Language	4	GER 231	3
Government: U.S.	4	POSC 225	4
History: European	5	HIST 201 or HIST 202	3
History: U.S.	5	HIST 225	4
History: World	5	HIST 102	3
Italian Language and Culture	4	ITAL 231	3
Latin Vergil	4	LAT 231	3
Music Theory – Aural Subscore	5	MUS 143	1
Music Theory – Nonaural Subscore	5	MUS 141	3
Physics B	4	PHYS 140, PHYS 140L, and PHYS 150 & PHYS 150L	8
	3	ISCI 101 & ISCI 104 or PHYS 140 & PHYS 140L	4
Physics C: Mechanics	4	PHYS 240 & PHYS 140L	4
	3	PHYS 140 & PHYS 140L	4
Physics C: Electricity and Magnetism	4	PHYS 250 & PHYS 150L	4
	3	PHYS 150 & PHYS 150L	4
Physics 1	3	ISCI 101 & ISCI 104 or PHYS 140 & PHYS 140L	4
Physics 2	3	PHYS 150 & PHYS 150L	4
Psychology	4	PSYC 101	3
Spanish Language or Spanish or Literature	4	SPAN 231	3
Statistics	4	MATH 220 or ISAT 251	3

1 ART 000 does not count toward major or minor requirements in art or toward general education requirements but is elective credit toward a degree.

2 BIO 000 does not count toward major or minor requirements in biology or toward general education requirements but is elective credit toward a degree.

3 CHEM 000 does not count toward major or minor requirements in chemistry or toward general education requirements but is elective credit toward a degree.

4 ISAT 000 does not count toward major or minor requirements in integrated science and technology or toward general education requirements but is elective credit toward a degree.

5 ISCI 000 does not count toward major or minor requirements or toward general education requirements but is elective credit toward a degree.

## International Admission

<http://www.jmu.edu/admissions/apply/international.shtml>

The Office of Admissions is responsible for the admission and enrollment of undergraduate international students. It also evaluates "A" Level examinations for academic credit.

Credit will be awarded for those courses equivalent to courses offered at JMU in which the student has earned a grade of "C" or better.

All non-U.S. citizens and nonpermanent residents of the U.S. must complete the international student application. This application and an international student information guidebook are available in the Office of Admissions, located in Madison Hall.

In addition to regular first year student and transfer admission requirements, international students must present evidence of English proficiency and documentation of sufficient financial resources.

The university welcomes international applications and is authorized by federal law to enroll non-immigrant alien students. Requests for information concerning the admission of undergraduate international students should be directed to:

Office of International Admissions, MSC 0101  
James Madison University 100 E. Grace Street  
Harrisonburg, VA 22807

Phone: (540) 568-7865

## International Examinations Credit

JMU will follow the recommendations of the National Council on the Evaluation of Foreign Educational Credentials when awarding academic credit based on international examinations. Questions regarding the evaluation of international examinations should be directed to the Office of Admissions.

## Cambridge International Examinations and United Kingdom "A" Level Examinations

Students who participated in the Cambridge International Examination program or the United Kingdom "A" Level examinations may be awarded general education or other credit. Credit is evaluated by the appropriate academic unit.

For a full listing of available Cambridge International Examination courses and credit opportunities, refer to the table below.

## 2019-2020 Cambridge International Examination Courses

The grade necessary to earn college credit at JMU, the corresponding course title at JMU and the credit hours that may be earned appear in the Cambridge International Examination table. The acceptable grading scale is A, B, or C, although the acceptable grade for credit may vary between courses and the level of the exam taken. Credit hour equivalencies are reviewed annually by academic units.

A-Level Exams			
Cambridge International Exam	Accepted Grades for Credit	JMU Equivalent Course	Credit Hours Earned
Afrikaans – Language	A,B	FL 000	3
Arabic – Language	A,B	ARAB 231	3
Biology	A	BIO 103, ISCI 104, BIO 000	8
Biology	B,C	BIO 103, ISCI 104	4
Chemistry	A	CHEM 131, CHEM 131L, CHEM 132, CHEM 131L-132L	8
Chemistry	B	CHEM 131, CHEM 131L	4
Chemistry	C	ISCI 101, ISCI 104L	4
Chinese – Language	A,B	CHIN 231	3
Computer Science	A,B	CS 149, CS 159	6
Divinity	A,B	REL 202	3
English Language	A,B	WRTC 103	3
English (Literature in)	A,B,C	ENG 221, ENG 222	6
Food Studies	A,B	NUTR 340	3
French – Language	A,B	FR 231	3
German – Language	A,B	GER 231	3
Hindi – Language	A,B	FL 000	3
Marathi – Language	A,B	FL 000	3
Marine Science	A,B,C	ISCI 003	4
Mathematics	A,B	MATH 235, MATH 000	7
Mathematics further	A,B	MATH 000	4
Physical Education	A,B,C	KIN 000	3
Physical Science	A,B	ISCI 101, ISCI 104, ISCI 001	8
Physical Science	C	ISCI 101, ISCI 104	4
Physics	A,B	PHYS 140, PHYS 150, PHYS 140L, PHYS 150L	8
Physics	C	ISCI 101, ISCI 104	4
Portuguese – Language	A,B	PORT 231	3
Psychology	A,B,C	PSYC 101, PSYC 002	6
Sociology	A,B,C	SOCI 101	3
Spanish – Language	A,B	SPAN 231	3
Tamil – Language	A,B	FL 000	3
Telugu – Language	A,B	FL 000	3
Travel and Tourism	A,B	HM 000	3
Urdu – Language	A,B	FL 000	3
Urdu – Pakistan Language	A,B	FL 000	3

AS-Level Exams			
Cambridge International Exam	Accepted Grades for Credit	JMU Equivalent Course	Credit Hours Earned
Afrikaans – Language	A	FL 000	3

Arabic – Language	A	ARAB 231	3
Biology	A	BIO 103, ISCI 104	4
Chemistry	A	ISCI 101, ISCI 104L	4
Chinese – Language	A	CHIN 231	3
English (Literature in)	A,B,C	ENG 222	3
French – Language	A	FR 231	3
German – Language	A	GER 231	3
Hindi – Language	A	FL 000	3
Hinduism	A,B	REL 310	3
Islamic Studies	A,B	HUM 252	3
Japanese – Language	A	JAPN 231	3
Marathi – Language	A	FL 000	3
Marine Science	A,B,C	ISCI 003	4
Mathematics	A,B	MATH 000	3
Physical Science	A	ISCI 101, ISCI 104	4
Physics	A	ISCI 101, ISCI 104	4
Portuguese – Language	A	PORT 231	3
Psychology	A,B,C	PSYC 002	3
Spanish – Language	A	SPAN 231	3
Spanish – First Language	A	SPAN 231	3
Tamil – Language	A	FL 000	3
Telugu – Language	A	FL 000	3
Urdu - Language	A	FL 000	3

### United Kingdom "A" Level Examinations

Credit will be awarded to those students who receive a "C" or higher on an "A" level exam. Credit will be comparable to completing the two-course introductory sequence (six credit hours) in the subject.

### French Baccalaureate

Students with scores of 12/20 or higher on examinations in subjects studied at a coefficient of 4 or 5 may be awarded general education or other credit. Evaluation of credit will be directed by University Programs in coordination with the appropriate departmental undergraduate office. The "Total Score" of the French Baccalaureate is not used to determine credit eligibility.

### German Abitur

Students who participated in the Thirteenth Class (Dreizehnte Klasse) German Abitur program may be awarded general education and other credit for examination scores of 10 or higher (15-point scale). Evaluation of credit will be directed by University Programs in coordination with the appropriate departmental undergraduate office.

### International Baccalaureate

JMU recognizes the International Baccalaureate diploma and individual IB courses by awarding credit on IB higher-level examinations in essentially the same manner in which credit is allowed for Advanced Placement courses.

Typically, credit hours will be awarded for each higher-level examination on which a score of five, six or seven has been earned. Credit hour equivalencies are reviewed annually by academic unit.

Some standard-level examinations will also be considered for credit. The university encourages the completion of the IB diploma and will give special consideration for admission to students who have completed the IB program. The grading scale is from one to seven, with seven being the highest score.

For a full listing of available IB courses and credit opportunities, refer to the International Baccalaureate Courses table.

### 2019-2020 International Baccalaureate Courses

This information is subject to change at the discretion of James Madison University. For the 2019-2020 academic year, the scores displayed in the online catalog supersede the scores in the printed undergraduate catalog.

### Higher-Level IB Courses

2019-2020 International Baccalaureate Courses			
International Baccalaureate Course	Minimum Required Score	JMU Equivalent	Credit Hours Earned
Anthropology (social and cultural)	5	ANTH 195 & ANTH elective	6
Art/Design	6	ART 102 & ART elective	6

	5	ART 102	3
	4	ART elective	3
Art/Visual	5	ART 102	3
Biology	7	BIO 103 & ISCI 104 and BIO 0001	8
	5	BIO 0001 (elective)	4
Chemistry	5	Majors: CHEM 131, CHEM 132	6
	5	Nonmajors: CHEM 131, CHEM 131L, CHEM 132, CHEM 131L-132L	8
Computing Studies	5	CS 139	4
Economics	6	ECON 201, ECON 200	6
English A	5	WRTC 103	3
Foreign Languages (Same course numbers in each language)	7	300 + elective	6
	6	231-232	6
	5	231	3
	4	102	4
Geography	6	GEOG 200	3
	5	GEOG elective	3
History: All Regions	6	HIST elective	6
	5	HIST elective	3
History: Africa	6	HIST 263	3
	5	HIST 263	3
History: Americas	5	HIST 225	4
History: West and South Asia	6	HIST electives	6
	5	HIST elective	3
History: East and Southeast Asia and Australia	6	HIST electives	6
	5	HIST elective	3
History: Europe	6	HIST 202 & HIST elective	6
	5	HIST 202	3
Mathematics	5	MATH 235	4
Physics	5	PHYS 140 & PHYS 150	6
Psychology	4	PSYC 101	3

#### Standard-Level IB Courses

International Baccalaureate Course	Minimum Required Score	JMU Equivalent	Credit Hours Earned
Social Anthropology (social and cultural)	5	ANTH 195	3
Art/Design	7	ART elective	3
	6	ART elective	3
Chemistry	6	Majors: CHEM 131	3
	6	Nonmajors: CHEM 131 - CHEM 131L	4
Economics	6	ECON 201 with IB diploma	3
Foreign Languages (Same course numbers in each language)	7	232	3
	6	231	3
	5	102	4

Geography	5	GEOG elective	3
History	5	HIST elective	3
Physics	6	PHYS 140 and PHYS 150	6
Psychology	6	PSYC 101	3

<sup>1</sup> BIOD 000 does not count toward major or minor requirements in biology or toward general education requirements, but is elective credit toward a degree.

## Special Admission Requirements

In addition to regular first year student and transfer admission requirements, students who want to major in music, musical theatre or dance must also complete an on-campus audition. Incoming freshmen, transfers and change-of-major students intending to major in architectural design, graphic design, industrial design or the BFA in art studio are required to submit an online art portfolio in SlideRoom for School of Art, Design and Art History admissions consideration.

### Art

Phone: (540) 568-6216/6661      Email: [art-arhistory@jmu.edu](mailto:art-arhistory@jmu.edu)      Website: <http://www.jmu.edu/art>

#### Art History Majors

Students intending to major in art history are not required to submit a portfolio, but should follow the regular JMU admissions process. Prospective art history majors who wish to be considered for the Lisanby Art History Scholars in Museum Studies must e-mail Dr. Wren River Stevens at [stevnwr@jmu.edu](mailto:stevnwr@jmu.edu) to schedule a Lisanby Scholarship interview and complete application requirements. To enroll in the museum studies concentration in art history, students must have a 3.3 GPA in the major and a minimum of nine credits in Art History and General Education Art History courses.

#### Architectural Design, Art Studio, Graphic Design and Industrial Design Majors

All prospective freshmen, transfer and change of major students intending to major in architectural design, graphic design, industrial design or studio art must meet JMU admission requirements as stated in the Undergraduate Catalog. In addition to meeting JMU admissions requirements, all students seeking the BFA degree in architectural design, art studio or graphic design, or the BS in industrial design are required to submit a portfolio to the school's SlideRoom account (<https://jmuart.slideroom.com>). The submission of a portfolio is optional for students seeking the BA or BS in art studio. There is a \$10 charge for this submission. Additionally, all transfer and change of major students, except those seeking the BA or BS in art studio, will need to upload unofficial transcripts and a statement of intent to the school's SlideRoom account that explains their educational and artistic goals, articulating the reasons for choosing this area of study. The submission of a portfolio is seen as evidence of a student's interest and potential for future success in art. All students, regardless of degree type, who wish to be considered for a scholarship must submit a portfolio to SlideRoom and attend an on-campus Portfolio Review day (requests for Skype interviews are considered on a case-by-case basis). All scholarship awards are based on merit and vary in amount, up to the full cost of tuition.

The School of Art, Design and Art History offers students the opportunity for feedback on their portfolio, prior to the digital submission, through several on-campus and off-campus portfolio review days. This portfolio review event will provide an opportunity for feedback on actual artwork, as well as an opportunity to meet with faculty from the school. Tours of facilities and program info sessions will take place at on-campus events. All prospective freshmen, transfer and change of major students are strongly encouraged to attend a portfolio review day prior to submitting their portfolio. For these in-person feedback sessions, it is highly recommended that student show actual works of art; however, a portfolio that consists of printed images is acceptable. If time-based media examples (video and animation) are included, students will need to bring their own digital device for presentation purposes. Refer to the SADAH website for the dates of the upcoming portfolio review days and for additional portfolio requirements.

Students seeking official acceptance into the graphic design major must enroll in GRPH 208 and submit a portfolio representing work completed in GRPH 200. Image Making (0, 6); GRPH 201 and GRPH 206. Typography I (0, 9). Students not admitted may reapply the following semester.

Students seeking official acceptance into the architectural design major must enroll in ARCD 208 and submit a portfolio representing work completed in ARCD 200. Architect Design Studio I and ARCD 202. Architect Design Studio II. Students not admitted may reapply the following year.

Students seeking official acceptance into the advanced industrial design courses must enroll in INDU 208 and submit a portfolio representing work completed in INDU 200, INDU 202, GRPH 201, INDU 220, INDU 380 and independent design related work. Students not admitted may reapply one time.

### Music

Phone: (540) 568-3851      Email: [music\\_admit@jmu.edu](mailto:music_admit@jmu.edu)      Website: <http://www.jmu.edu/music>

Auditions for music are given on one specific November date, and three specific dates in January and February. It is important that students indicate their intention to participate in the audition process by January 15.

### Nursing

Phone: (540) 568-6314      Website: <http://www.nursing.jmu.edu/>

In addition to the regular first year student and transfer admission requirements, students who intend to major in nursing must submit a BSN Admission Application. Applications, admission criteria and admission deadlines may be found on the School of Nursing website.

### Special Expenses

A differential tuition of \$90 per credit hour is added to the standard charge for courses carrying the NSG prefix. This charge applies to all students, both in-state and out-of-state, at the undergraduate and graduate levels, with the exception of students enrolled in the R.N. to B.S.N. program.

### Theatre and Dance

Phone: (540) 568-6342      Email: [theatredance@jmu.edu](mailto:theatredance@jmu.edu)      Website: <http://www.jmu.edu/theatredance/>

Admissions to the dance, musical theatre and theatre majors are by audition for performers or portfolio review for design/technical theatre, theatre studies (directing, dramaturgy, theatre scholarship, etc.) or theatre education students.

Theatre and musical theatre auditions/portfolio reviews are held in late fall, January and early February for first year and transfer student applicants. Refer to the school website for more information on requirements for admission to the programs.

Dance major auditions take place in November and in February. Transfer students must audition at one of these audition dates. For the dates of the dance auditions and for information on what is required in order to audition, refer to the school website.

### Credit for Military Service

JMU encourages veterans to apply for admission as full-time or part-time students. Information regarding VA Educational Benefits is available from the veterans' coordinator, Student Success Center, 5th floor.

Veterans who have one or more years of active military duty will be granted six hours of health and kinesiology elective credit (providing they have no previous credit in this area). Students must submit a Report of Separation (DD-214) to receive this credit.

Additional credit may be given for successfully completing certain service schools. This credit will be determined based on recommendations in A Guide to the Evaluation of Educational Experiences in the Armed Services. An official copy of the Joint Services Transcript (JST) is required. Consult the Office of the Registrar.

Credit is allowed for courses taken at the Defense Language Institute. The amount of credit varies with the type of courses successfully completed.

JMU must receive an official transcript. Credit allowed is based on their recommendation in A Guide to the Evaluation of Educational Experiences in the Armed Services. For those languages not offered at JMU, a maximum of 12 hours is accepted.



## Degree Requirements for Arts (B.A.)

Requirements	Credit Hours
General Education courses <sup>1</sup>	41
Philosophy requirement (In addition to General Education)	3
Foreign Languages requirements	0-14
Major concentration courses and electives	62-76
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Degree Requirements for Bachelor of Business Administration (B.B.A.)

Requirements	Credit Hours
B.B.A. core courses	44-45
General Education courses <sup>1</sup>	41
Major courses	24
Electives	11-21
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Degree Requirements for Bachelor of Fine Arts (B.F.A.)

Requirements	Credit Hours
Core program – art courses	24
General Education courses <sup>1</sup>	41
Art emphasis courses	54
Electives	1
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Degree Requirements for Bachelor of Individualized Study (B.I.S.)

Requirements	Credit Hours
General Education courses <sup>1</sup>	41
Major concentration courses	30
Electives	49
	120

<sup>1</sup> The Adult Degree Program contains a set of requirements each individualized study major must fulfill. The university recognizes this alternate general education program as a nontraditional equivalent to The Human Community.

## Degree Requirements for Bachelor of Music (B.M.)

Requirements	Credit Hours
Core music program courses	27
General Education courses <sup>1</sup>	41
Major concentration courses and electives	56-63
	124-131

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Degree Requirements for Bachelor of Science (B.S.)

Requirements	Credit Hours
General Education courses <sup>1</sup>	41
Quantitative requirement	3
(in addition to General Education courses) <sup>2</sup>	
Scientific Literacy requirement <sup>3</sup>	3-4
(in addition to General Education courses)	
Major concentration courses and electives <sup>4</sup>	72-77
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> Students are strongly encouraged to complete one of the following sequences: MATH 107-108, MATH 135-235, MATH 155- 220, MATH 156- 220, MATH 220 and one from MATH 321-327, or MATH 235-236. <sup>3</sup> Scientific Literacy requirement to be chosen from the list of courses satisfying Bachelor of Science degree requirements on the Registrar's website. <sup>4</sup> Includes education courses leading to licensure in teacher education.

## Degree Requirements for Bachelor of Science in Nursing (B.S.N.)

Requirements	Credit Hours
General Education courses <sup>1</sup>	41
Nursing courses	61
Other supportive courses	14
Electives	5-8
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Degree Requirements for Bachelor of Social Work (B.S.W.)

Requirements	Credit Hours
Core program – social work courses	42
General Education courses <sup>1</sup>	41
Social work electives	6
Electives	32-35
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Academic Affairs Mission Statement

Phone: (540) 568-6616 Website: <http://www.jmu.edu/acadaffairs>

The Division of Academic Affairs is a community of scholars engaging students in the collaborative construction and application of knowledge through intellectual pursuits in teaching, learning, research, inquiry, creative activity and service.

## Administration and Finance Mission Statement

Phone: (540) 568-6434 Website: <http://www.jmu.edu/adminfinance>

The Division of Administration and Finance is committed to the preparation of students to be educated and enlightened citizens who will lead productive and meaningful lives. The division supports the university's commitment to excellence by empowering our staff to communicate effectively with the university community and provide proactive approaches to satisfy customer expectations.

## Student Affairs Mission Statement

Phone: (540) 568-3685 Website: <http://www.jmu.edu/studentaffairs>

We are a community committed to preparing students to be educated and enlightened citizens who lead productive and meaningful lives.

## Business Services

### Bookstore

Location: 211 Bluestone Drive, MSC 2902 Phone: (540) 568-6121 Website: <http://www.jmu.edu/bookstore>

The JMU Bookstore stocks all textbooks used by the academic units, as well as a large selection of general and technical books. The store also sells school supplies, office computer supplies, Apple and Dell computers, software, clothing, gifts, magazines, and greeting cards. For students' convenience, the bookstore provides services including special orders for books, textbook buy back, gift cards, bus tickets and computer services.

### Card Services

Location: Student Success Center, MSC 3532 Phone: (540) 568-6446 Website: <http://www.jmu.edu/cardctr>

Card Services issues the JMU access card (JACard), the official identification card for all members of the university community. The JACard allows access to various campus facilities such as residence halls, and many other services. Card Services also has set up a Mobile ID app available on Apple and Android devices that allows access to many of the same services on campus. This app is a supplement to the JACard.

Services include meal plan access, dining dollar and FLEX declining balance accounts, administered by Card Services. FLEX accounts are honored for purchases or services in the bookstore, print services, copy machines, computer labs, library fees, convenience stores, parking, mail services, UREC, UPB movies, University Health Center, Forbes Center and all dining facilities, including on-campus vending machines, as well as many off-campus merchant locations.

### Dining Services

Location: West Campus Dining Hall Phone: (540) 568-6751 Website: <http://www.jmu.edu/dining>

We know that dining is an integral part of campus life and see each day as an opportunity to serve delicious food, host great events and provide an overall memorable dining experience. Convinced that nutritious food is essential to a healthy lifestyle and strong academics, we build our menus with health in mind and make eating a well-balanced meal an easy choice.

### Meal Plans

Students living on campus are required to purchase a meal plan. Each meal plan contains a set amount of punches to allow entry into all-you-care-to-eat dining halls and Dining Dollars to purchase food à la carte at retail dining locations. Dining Dollars GOLD can also be added for additional spending. Cash and credit card sales are welcome at all dining locations. Personal eating habits, class schedule and leisure activities should all be considered when choosing a meal plan.

### Special Diets

We pride ourselves on providing the information and knowledge necessary for students with food allergies, celiac disease and other medically-prescribed diets to make informed food choices in our dining locations. We ensure all dining employees undergo a certified allergy training during on-boarding. To learn more about our special diets program, reach out to our registered dietitian at (540) 568-5731.

### Parking Services

Location: Champions Drive Parking Deck, 280 Champions Drive, MSC 1301 Phone: (540) 568-3300 Website: <http://www.jmu.edu/parking>

Parking Services offers annual, semester and daily parking permits to eligible members of the university community. Permits are available to campus visitors, free of charge, upon presentation of a valid driver's license and vehicle registration. The department also maintains parking meters throughout the campus that are intended to provide convenient, short-term parking to faculty, staff, students and visitors. Any vehicle parked on university-owned or leased property is required to display a valid JMU parking permit. Hard copies of the Parking Handbook are available free of charge upon request at Parking Services.

### Print Services

Location: Medical Arts, Suite 31, MSC 5722 Phone: (540) 568-7300 Location: Engineering/Geosciences (EnGeo), Room 1002, MSC 4311 Phone: (540) 568-8731

Website: <http://www.jmu.edu/printservices>

Print Services is owned and operated by the university as a service to the campus community. Two locations provide a full range of photocopying and digital printing services. Services include academic coursepack production, copyright permissions, full color, black/white digital printing, binding and laminating as well as wide format posters/printing. Both locations offer computer labs for working on projects with access to the production machines to complete projects.

### Career and Academic Planning

Location: Student Success Center, MSC 1016 Website: <http://www.jmu.edu/cap>

Advising: Room 3210 Interviewing: Room 3250 Phone: (540) 568-6555 Employer Services Phone: (540) 568-7379

Career and Academic Planning coordinates academic advising for all first year students, advises undeclared students, assists all students in choosing or changing their major and deciding on a career direction, and supports the career readiness of all students through a variety of job search programs, graduate school application services, and opportunities for students to connect with employers for jobs and internships.

### First Year Academic Advising

Academic advising is vital to student success. Advisers assist students in shaping their educational experience to meet specific intellectual, personal and career goals. Advisers do not decide the student's goals or educational program but help them learn how to develop appropriate goals, make good choices that enhance learning and personal growth, and succeed both in and out of the classroom.

During summer orientation, all new students are assigned to faculty or professional advisers who discuss with them the university's various programs of study, academic policies and procedures, incoming credit (AP, DE) and class enrollment procedures. The advisers continue to work with first year students until midway through the spring semester, at which time those first year students who have declared a major are assigned to advisers within their academic unit. Students who are undeclared are assigned to a professional adviser in Career and Academic Planning. Students must declare their major by the beginning of their sophomore year. Refer to Academic Policies and Procedures for information on declaring a major. JMU students are responsible for the short and long term educational choices they make; however, they can make these choices in a supportive environment. Effective academic advising is a relationship between the student and their adviser. Students must be aware of their own interests, values and goals, be knowledgeable about relevant policies and requirements, and be willing to take initiative to seek assistance when it is needed. Advisers should respond to the student as an individual, be aware of their progress, and help them make connections between academic choices and career possibilities.

#### *Career Advising and Decision Making*

Career and Academic Planning helps students understand the process of deciding on an appropriate major and relating that decision to possible career paths.

Students can meet with professionals and attend various programs to enhance their knowledge of majors, explore career fields, learn career decision-making strategies, discover more about their own interests and strengths, and launch an effective internship, job or graduate school search.

#### *Career and Academic Planning Course*

UNST 102. Career and Academic Planning is a course for first year students who want to explore the relationship between academic majors and career fields, identify their major and career interests and learn effective decision-making strategies for choosing a major and career.

#### *Career Resources and Online Tools*

The Career and Academic Planning website offers several free online tools to help students explore majors and career options, research employers and industries, and develop interview skills. Students are able to connect directly with internships, jobs, graduate schools, and programs and services offered by Career and Academic Planning. These online tools include the Career Guide to JMU Majors, FOCUS, Vault, InterviewStream and Handshake.

#### *Graduate School Information*

JMU offers a graduate and professional school fair open to all majors every fall semester. Information on the process of applying to graduate or professional school is available on Career and Academic Planning's website. Students can also make an appointment with a career adviser for individual assistance.

#### *Internship and Job Search Services*

##### *Connecting with Employers*

Companies and organizations representing a wide variety of industries including, business, government, non-profit and educational employers come to JMU throughout the year to conduct job interviews with graduating seniors and internship interviews for all class levels. The Career and Academic Planning website provides information about the on-campus interview program and participating employers, as well as the wide range of opportunities available to students. Students are able to create a profile on Handshake, an online platform that connects students to on-campus interviews and thousands of positions. Students can also connect with employers and receive feedback on their interviewing skills at InterviewPREP, a one-day interview practice event hosted in the Career and Academic Planning interview center.

##### *Resume Development*

CAP offers many resources to assist students with writing resumes. Students can access resume writing resources via the CAP website and participate in resume writing workshops and other programs throughout the year. Students can also meet with career advisers for individual assistance by making an appointment or attending drop-in resume reviews.

##### *Career Fairs*

Several career fair events are sponsored each year by CAP to provide students with the opportunity to interact with employers and obtain job, internship, and employment-related information.

##### *Job Search*

Job search related workshops and programs are offered throughout the academic year covering topics such as targeted job search strategies, interviewing, networking and use of social media in the search process. Students may also meet individually with a career adviser to tailor their job search. To prepare for interviews, students can use InterviewStream, a web-based interviewing practice application that is available at any time. InterviewStream allows students to record a practice interview related to their major or career choice, review the videos themselves and share it with others for feedback. Job postings for all majors can be found on Handshake, a web-based job search system. Students can use the Vault online industry guides to research specific career fields, obtain job search tips and find additional job listings.

##### *Internships*

Handshake and the Career and Academic Planning website offer resources on how to find and apply for internships that span a broad range of career fields. Students can also attend a workshop or meet with a career adviser to tailor their internship search. Vault is an online resource with extensive internship listings. Students are encouraged to speak with their respective academic departments for additional information on internships. If academic credit is desired, arrangements must be made in advance with the student's academic department.

#### Center for Global Engagement

Location: 100 East Grace Street, MSC 5731      Phone: (540) 568-5209      Fax: (540) 568-3310      Website: <http://www.jmu.edu/global>

#### Semester Abroad Programs

Recognizing its responsibility to provide international experiences to JMU students, the university sponsors semesters abroad in Antwerp, Florence, London, Salamanca and Scotland. JMU students experience life in a different culture and gain direct access to the historical, artistic and sociopolitical traditions of the environment while pursuing an approved course of study toward their bachelor's degree.

The programs are open to all students in good academic standing. Applicants should have at least a 2.0 grade point average.

##### *Semester in Antwerp*

Offered during the fall, spring and summer semesters, the Semester in Antwerp program is an experience-based program, blending classroom theory with field trips to actual European businesses and sites of historic and cultural interest. While in Belgium, students attend classes onsite at the University of Antwerp with business faculty who specialize in European Integration and the effects of economic and monetary union. This program is open only to business majors who have been accepted into COB 300. No foreign language is needed to participate in this program.

##### *Semester in Florence*

The program curriculum for the Semester in Florence program highlights the Renaissance tradition of the city through art, literature and culture-related courses, as well as focusing on 20th- and 21st-century Italy and Europe through politics and history. Previous background in Italian is not required; however, students must take at least 3 credit hours of Italian while in Florence. Offered all 3 semesters, fall, spring and summer, this program gives students the opportunity to complete 6 credits toward the General Education requirement for arts and humanities. Interested students can also earn substantial credit toward a minor in Modern European Studies.

##### *Semester in London*

During the Semester in London, students study both classic and modern literature and then examine those great works in context, exploring how history influenced the present in Europe's most cosmopolitan city. Internships are also available as part of the program. With more than 200 possible intern sites in London, positions are widely varied and open to all majors. This unique opportunity allows students to build essential life and career skills while experiencing the British lifestyle first-hand. This program is offered during the fall, spring and summer. Interested students can also earn substantial credit toward a minor in British Communication and Media.

##### *Semester in Salamanca*

Offered fall, spring and summer, the Semester in Salamanca program gives students the opportunity to experience the cultural richness of Spain, as their exposure to theaters, concerts, cinemas and other performing arts groups will unveil a new aspect of learning. All courses are taught in Spanish; thus, all applicants must have completed the intermediate level of Spanish (SPAN 232) prior to departure. Upon arrival in Salamanca, students enroll in a 3-credit intensive language class at the level appropriate to their needs during their first month abroad. This requirement permits time for students to adapt to Spanish language and culture before entering regular semester courses.

College of Education students also have the option of a semester program specifically for them, taking place every spring semester. Offering four required courses and a practicum in local schools, the program integrates the study of educational foundations, student diversity and pedagogical instruction with the exploration of Spanish history and culture.

#### *Semester in Scotland*

Students spend four weeks in Edinburgh and four weeks in St. Andrews as part of the Semester in Scotland program. This study abroad opportunity is open to all majors. Classes are taught by JMU professors and faculty members from the University of Edinburgh and University of St. Andrews, two of the best and most prestigious universities in the United Kingdom. Participating students take 13 credits in General Education courses. Course offerings vary each summer but will always cover courses in Clusters Two, Three, Four and Five of JMU's General Education curriculum.

#### *Summer Abroad Programs*

During the summer, many international courses and travel study classes (80-90 programs) are offered. Specific course offerings vary from year to year. A typical summer schedule might include classes in Argentina, Australia, Belgium, Cameroon, Canada, China, Costa Rica, England, France, Germany, Ghana, Greece, India, Ireland, Italy, Japan, Jordan, Kenya, Lebanon, Madagascar, Malta, Mexico, Montreal, Morocco, the Netherlands, the Philippines, Scotland, South Africa and Spain.

#### *Program Cost*

The programs' costs differ, but all programs include tuition, housing, a basic food allowance, course-related travel, including extended weekend trips, instructional events, such as theater, concerts, historical tours and guest lectures, and some social activities.

All programs exclude the costs of students' travel to and from the program site. Loans and scholarships may be applied, and semester abroad scholarships and assistantships are available. Students live in a central, convenient part of each city and have ready access to the faculty member in residence or the on-site director if any health problems or emergencies arise. Students enrolled in JMU-sponsored study abroad programs will be covered by a medical insurance policy for the period of time that they are participating in the JMU program.

Interested students can get information about study abroad programs from the Center for Global Engagement.

#### International Exchange Programs

The university is committed to increasing the opportunities for students' global awareness. Numerous exchange programs with schools and universities abroad are available. JMU's exchange programs are based at prestigious universities around the world, such as Flinders University in Australia; University of Leicester in England; Hiroshima University, Nanzan University and Ritsumeikan University in Japan; Yonsei University in South Korea; the Universidad de Salamanca in Spain; University of Versailles in France; and Malmo University in Sweden. Language requirements and curricula vary.

Exchanges are available to all majors and minors. Students should consult the Center for Global Engagement for application deadlines and further information.

Study at Oxford, Cambridge or St. Andrews. The university also offers the opportunity to study abroad for a semester or a full academic year at three of Great Britain's oldest and most respected universities: the University of Cambridge and the University of Oxford in England and the University of St. Andrews in Scotland. Participants will take part in tutorials across a wide range of topics and live with and share all of the benefits of regular university students. Study at Oxford, Cambridge or St. Andrews is open to all JMU students possessing a 3.3 grade-point average; students do not need to be honors students to participate in this program.

#### External Abroad Programs

Students may apply to participate in other approved study abroad programs. The university will accept credits earned abroad at approved institutions in accordance with its policy of accepting transfer credits. Approval of proposed study programs must be obtained from the Center for Global Engagement and the head of the academic unit in which the transfer credit will be awarded.

### Center for Multicultural Student Services

Location: Madison Union, Room 207, MSC 3504 Phone: (540) 568-6636 Website: <http://www.jmu.edu/cap>

Website: <http://www.jmu.edu/multicultural>

The Center for Multicultural Student Services celebrates the diversity of JMU students by fostering student growth and development, heightening awareness and educating its constituents regarding ethnic and cultural diversity.

The purpose of CMSS is:

- To assist the university in its goal of recruiting and retaining a diverse student population through a variety of programs and services designed to assist students in achieving their academic and career aspirations.
- To encourage the development of a climate in which the accomplishments of multicultural students are appreciated.
- To create an environment through which multicultural students can continue to share in and contribute to the mainstream of campus life.

The office works diligently to provide the following services:

- Cultural Programming and Awareness
- Leadership Development
- Recruitment and Retention
- Student Support

### Community Service-Learning

Location: Student Success Center, 2nd Floor Room 2100, MSC 1011 Phone: (540) 568-6366 Website: <https://www.jmu.edu/csl>

Community Service-Learning (CSL) cultivates positive social change through mutually beneficial service partnerships, critical reflection and the development of engaged citizens. CSL facilitates intentionally designed short-term immersive and longer term service experiences that engage students in preparing, reflecting and learning through meaningful service to the community. Students, faculty, staff and community agencies partner to help achieve community-identified goals and prepare students for lifelong engaged citizenship and purposeful community involvement. Students can serve in over 80 community agencies by enrolling in a service-learning course or by coming to the CSL office.

Students eligible for Federal Work Study can earn their financial aid by tutoring in local elementary schools to improve reading comprehension or by working in local nonprofit organizations to address a variety of community needs.

In addition to local service opportunities, Alternative Break Programs are student developed and led experiences that serve communities in the United States and abroad. Breaks are offered during winter, spring and May breaks. Weekend Breaks are also offered each semester to work with communities within four hours of JMU. Breaks fill up quickly, so check the CSL website regularly for registration information.

### Counseling Center

Location: Student Success Center, Room 3100, MSC 0801 Phone: (540) 568-6552 Website: <http://www.jmu.edu/counselingctr>

The Counseling Center provides free, confidential personal counseling services to all full-time JMU students. Initial visits do not require an appointment, as the Counseling Center has walk-in hours Monday – Friday, 10AM – 3PM. After-hours crisis services may be accessed by contacting the Office of Public Safety (568-6911).

Counseling at the Counseling Center frequently involves issues such as relationship problems, self-esteem, depression, anxiety/stress, eating and body image concerns, and difficulty adjusting to college life. Services include:

**Personal Counseling:** Individual counseling provides students with the opportunity to freely explore any personal problems or concerns which have a negative impact on the quality of their lives. The Counseling Center operates under a short-term treatment model in which the student and counselor collaboratively identify and address the student's primary concerns within a limited number of sessions. Students who request or require longer-term treatment are referred to community resources.

**Specialized Treatment Programs:**

- **Tackling Anxiety:** This treatment program provides effective strategies and interventions to reduce anxiety, worry, nervousness and panic symptoms.
- **Tackling Society:** This treatment program helps reduce social anxiety symptoms and increase confidence, assertiveness, and connection.
- **Group Counseling:** Each semester, students participate in small group experiences on issues related to their needs (e.g., depression, eating disorders, anxiety, grief, etc.).

**Sexual Trauma Empowerment Program (STEP):** The Counseling Center provides crisis, individual and group counseling to students who are survivors of sexual assault. Referral services are also available to students who choose to pursue judicial charges through JMU or criminal charges through the court system.

**Psychiatric Services:** The Counseling Center has psychiatric providers who prescribe medications that may be helpful to students dealing with psychological issues. Only students who are currently engaged in ongoing treatment at the Counseling Center are eligible to receive these services. The cost of any medication and/or necessary lab work is the financial responsibility of the student. Students who are exclusively interested in psychiatric services are provided an off-campus referral.

**Consultation:** In person or over the phone, the Counseling Center provides consultation to students, faculty, staff and others who are concerned about the distressed, unusual, problematic, or potentially harmful behavior of others.

**Outreach Programming:** Workshops on a wide variety of mental health topics may be requested by visiting the Counseling Center online.

**Peer Mentor Program:** This program is designed to help first year and transfer multicultural and international students make a successful transition from high school to the university.

## Office of the Dean of Students

Location: Madison Union, Room 300, MSC 3534 Phone: (540) 568-6468 Website: <http://www.jmu.edu/deanofstudents>

Staff are committed to providing students with impartial and independent support regarding university policies, procedures and regulations. Specific types of assistance include:

- Assisting students who are considering withdrawing from the university prior to the end of the semester.
- Facilitating communications and connections with university personnel and departments.
- Notifying faculty of extended class absences when a student is incapacitated or has experienced extraordinary circumstances over the course of several days. Such notifications are sent as a convenience for the student, but do not excuse the student's absence. It is the responsibility of the student to contact each professor upon their return regarding the professor's policy for missed classes, assignments, etc.
- Referring students to resources to increase the likelihood of their success.
- Supporting and advising students and families in crisis and/or challenging situations.
- Consulting with faculty, staff and students regarding distressed and disruptive students to include referrals to appropriate resources.

## Office of Disability Services

Location: Student Success Center, Suite 1202 Phone: (540) 568-6705 Fax: (540) 568-7099 Website: <http://www.jmu.edu/ods>

Disability Services collaborates with the JMU community by providing programs and services that support the university in creating inclusive, equitable environments that value disability, diversity and accessibility. Services include:

- Equal access to university programs and services
- Provision and coordination of reasonable accommodations
- Disability-related support services
- Liaison to faculty, staff and students on disability related issues

Disability services is comprised of the following areas:

### *Accessible Media & Technology*

Email: [alt-media@jmu.edu](mailto:alt-media@jmu.edu) Website: <http://www.jmu.edu/ods/accommodations/accessible-media>

Accessible Media and Technology provides course materials in alternative formats for students with qualifying disabilities, manages the accessible technology labs and supports university faculty and staff with designing accessible course materials. Services include:

- Textbooks and articles in alternative formats such as audio, large print, accessible PDFs and Braille
- Captioning for videos and recorded audio
- Educational programs on creating accessible course materials

Accessible Technology Computer Labs with specialized software and furniture are located in Carrier Library (Room 119), Rose Library (Room 1204), and the Student Success Center (Suite 1202).

### *Learning Strategies Instruction*

Email: [lsi@jmu.edu](mailto:lsi@jmu.edu) Website: <http://www.jmu.edu/lsi>

Learning Strategies Instruction (LSI) is the direct-instruction of curriculum-based strategies designed to improve the actual process of learning. Available to any student, LSI promotes learning efficiency in current courses and is available in such areas as:

- Memory
- Note-taking
- Reading comprehension
- Studying
- Test-taking
- Time management

### *Screening & Referral Service*

Website: <http://www.jmu.edu/ods/accommodations/screening-and-referral.shtml>

This office provides a two hour clinical interview exploring a broad range of historical, academic, study habits/skills, academic frustrations and emotional components. A screening does not yield a diagnosis; rather, it assists in the decision making process for recommending the next step in the process.

### *Housing Accommodation Committee*

Email: [specialhousingrequest@jmu.edu](mailto:specialhousingrequest@jmu.edu) Website: [https://www.jmu.edu/ods/\\_files/housing-accommodation.pdf](https://www.jmu.edu/ods/_files/housing-accommodation.pdf)

Deadlines for housing accommodation requests are concurrent with deadlines for the associated housing contract.

## Office of Equal Opportunity

Location: 1017 Harrison St., MSC 5802 Phone: (540) 568-6991 Website: <http://www.jmu.edu/oeo>

The Office of Equal Opportunity administers JMU's commitment to providing an equitable and safe environment for the entire JMU community. JMU adheres to a strict policy that prohibits discrimination of any kind in JMU's hiring practices, admissions, academics or programs involving JMU employees or students. The Office of Equal Opportunity is a resource for all university community members to ensure the protections and rights provided in the non-discrimination policy and other university policies and/or state and federal laws.

The responsibility for overall coordination, monitoring and information dissemination about JMU's program of equal opportunity, non-discrimination and affirmative action is assigned to the Office of Equal Opportunity. The OEO also monitors JMU's compliance with federal and state laws.

Any university community member who believes they have been subjected to discrimination due to age, color, disability, gender identity, genetic information, national origin, parental status, political affiliation, race, religion, sex, sexual orientation or veteran status may file a complaint with the OEO. Our office investigates complaints of discrimination and harassment and provides preliminary findings.

## Honorary Societies

The following honorary and professional societies recognized by the Association of College Honor Societies maintain active chapters on the JMU campus. These honors societies are not administered by the Honors College.

- Beta Gamma Sigma (business)
- Golden Key National Honor Society
- Kappa Delta Pi (education)
- Omicron Delta Epsilon (economics)
- Omicron Delta Kappa (scholarship and leadership)
- Percy H. Warren Chapter of Mortar Board Honor Society
- Phi Alpha Theta (history)
- Phi Beta Kappa
- Phi Kappa Phi National Honor Society
- Phi Sigma Tau (philosophy)
- Psi Chi (psychology)
- Sigma Tau Delta (English)
- Other honorary and professional societies at JMU include:
  - Alpha Kappa Psi (professional business society)
  - American Production and Inventory Control Society (resource management)
  - Beta Alpha Psi (accounting)
  - Beta Beta Beta (biology)
  - Data Processing Management Association (information systems)
  - Delta Sigma Pi (professional business society)
  - Epsilon Chi Omicron (international business)
  - Eta Sigma Delta (hospitality and tourism management)
  - Eta Sigma Gamma (honorary)
  - Financial Management Association (finance)
  - Institute of Management Accountants (accounting)
  - Kappa Delta Pi (education)
  - Kappa Pi (art)
  - National Association of Social Workers Program Unit
  - Order of Omega (Greek leadership)
  - Phi Alpha National Social Work Honor Society
  - Phi Chi Theta (business and economics)
  - Phi Epsilon Kappa (physical education honorary)
  - Phi Mu Alpha Sinfonia (music)
  - Pi Mu Epsilon (mathematics)
  - Pi Sigma Epsilon (marketing)
  - Rotaract (business)
  - SIGGRAPH (digital media production)
  - Sigma Alpha Iota (music)
  - Society for Collegiate Journalists
  - Society of Human Resources Management
  - Society of Professional Journalists
  - Tau Beta Sigma (band)

## JMU Learning Centers

Location: Student Success Center, Suite 1100 Phone: (540) 568-2932 Website: <http://www.jmu.edu/learning>

JMU's Learning Centers support students, faculty and staff through the following programs and free services:

### Communication Center

Location: Student Success Center, Room 1155 Phone: (540) 568-1759 Website: <http://www.jmu.edu/commcenter>

The Communication Center provides resources and assistance with digital and oral communication projects and promotes students' communication excellence through attention to process, innovation and audience-centered design. The center offers consultations, class workshops, and online resources for faculty and students across campus. The center provides the following services:

- Speech preparation assistance
- Assistance with speech outlines and research
- Speech anxiety reduction strategies
- Developing audience-centered presentations and visual aids
- Enhancement of speech delivery and style

### English Language Learner Services

Location: Student Success Center, Room 1155 Phone: (540) 568-2881 Website: <http://www.jmu.edu/ells>

In addition to opportunities to work on academic skills in a cooperative environment, multilingual learners can seek consultation on such topics as:

- Reading, writing, listening and speaking
- American academic culture
- Multilingual writing groups

### Peer Assisted Study Sessions

Location: Student Success Center, Room 1119 Phone: (540) 568-4370 Website: <http://www.jmu.edu/pass>

Peer Assisted Study Sessions (PASS) help students successfully complete historically challenging courses. Students work together in regularly scheduled out-of-class study sessions that are facilitated by peer educators. These sessions are designed to help students master course content and develop their organizational, study and learning skills. Refer to the PASS website for a current list of supported courses.

### Science & Math Learning Center

Location: Student Success Center, Room 1107 Phone: (540) 568-3379 Website: <http://www.jmu.edu/smlc>

The Science and Math Learning Center (SMLC) provides support to JMU students enrolled in first and second year science and mathematics courses by providing a secure, supportive learning environment that fosters independent thinking. The center provides a walk-in tutoring service by both faculty and trained peer tutors in the following subject areas: physics, chemistry, mathematics and statistics. Refer to the SMLC website for a current list of supported courses. The SMLC is equipped with an educational computing lab.

### University Writing Center

Location: Student Success Center, Room 1121 Phone: (540) 568-1759 Website: <http://www.jmu.edu/uwc>

The University Writing Center works directly with student and faculty writers, provides resources on writing strategies and supports writing across campus. The center provides the following services:

- Individualized writing consultations
- Writing space for Writing Center users
- Faculty consultations for designing assignments and responding to student writing
- In-class workshops on writing-related issues for any academic course or department
- Supports students working on digital assignments (formerly "DigiComm")

## JMU Libraries

Carrier and Rose Libraries, Music Library, Educational Technology and Media Center

Phone: (540) 568-6150 Website: <http://www.lib.jmu.edu>

JMU Libraries engage with JMU's diverse communities in their creation and search for knowledge through academic resources, physical and virtual spaces, and educational and research services. The Libraries value adaptability, collaboration, diversity, learning and strategic innovation. The Libraries nurture a user-oriented focus in helping students, faculty and staff succeed at JMU.

The Libraries are here to support students' academic success. They provide equitable, accessible, and welcoming places to learn, create, explore and collaborate. They strive to provide collections, services, programs, expert help, and technologies that support a variety of research and learning needs, perspectives, and lived experiences. Students who take full advantage of the Libraries' resources early in their academic careers are more confident and skilled when it comes to doing university-level research.

The Libraries recognize that a big university library system can be overwhelming. They offer assistance navigating services at the Ask The Library desks in each library, via email or online chat, or by appointment. The Libraries manage the Madison Research Essential Skills Test (MREST), a General Education requirement for all freshmen and select transfer students. The Libraries also provide online tutorials and walk-in workshops on a variety of information literacy and technology topics, from finding articles for papers to 3D printing. Every major has a dedicated librarian, who will teach in classes and work with students at any stage of their university careers. There are two main libraries (Carrier on West Campus and Rose on East Campus) that each provide study, collaboration and maker spaces, and several small branches.

## Orientation Office

Location: Student Success Center, Suite 2200, MSC 1010 Phone: (540) 568-1787 Website: <http://www.jmu.edu/orientation>

The Orientation Office provides a variety of academic and social programs and services to support new students' transition to the university. All first-year students entering in the fall semester attend a one-day orientation program in June or July and a five-day program in August. All transfer students entering in the summer and fall semesters attend a one-day orientation program in May or June and a three-day program in August. For new transfer students entering in the spring semester, Orientation is offered as a one-day program in December.

All orientation programs provide new students with academic advising, information about essential student services and insights on how to be a successful student. There are numerous opportunities to meet new people, learn about key academic resources and get involved in campus and community activities.

## Pre-Professional Health Advising

Dr. Sharon Babcock, Director

Phone: (540) 568-6652 Email: [pph@jmu.edu](mailto:pph@jmu.edu) Website: <http://www.jmu.edu/pph>

Pre-professional health (PPH) advising offers minors and advisory programs that outline recommended courses, activities and competencies for students who are preparing for careers in health professions that require masters or doctoral education.

Health profession schools are most concerned with the overall scope and quality of an applicant's undergraduate performance. Students are encouraged to select a major based on interests and aptitudes. Regardless of baccalaureate degree program, competitive applicants must demonstrate excellence in academic accomplishments, prerequisite course work, career exploration, health-related experience, community service and standardized admission tests, as well as intra- and inter-personal competencies. Students are encouraged to establish mentoring relationships with faculty, clinical mentors and supervisors. Pre-professional health advisers are available to assist students in making academic and career-related decisions. Planning and evaluation services are available for students and alumni during the application process to health profession schools.

Service in the community and experience in health-care settings are highly recommended to students considering a professional health career. Requirements for these types of activities vary among programs; students should inquire with their respective program adviser for guidance. Student organizations provide venues to participate in community service and to interact with health professionals; thus, students are encouraged to become involved in the American Medical Student Association, Pre-Dental Society, Pre-Med Association, Pre-Occupational Therapy Association, Pre-Optometry Club, Pre-Pharmacy Society, Pre-Physical Therapy Society, Pre-Physician Assistant Club, Pre-Vet Society, International Service Learning Club, The Huber Connection and The Institute for Healthcare Improvement.

Students must complete all courses to earn a minor. The courses outlined fulfill the admission requirements of many, but not all, professional programs. Since professional schools have unique requirements, students must inquire with schools of interest for definitive admissions requirements.

- Pre-Dentistry
- Pre-Occupational Therapy
- Pre-Physical Therapy
- Pre-Forensic Studies
- Pre-Optometry
- Pre-Physician Assistant
- Pre-Medicine
- Pre-Pharmacy
- Pre-Veterinary Medicine

## Public Safety

Location: Anthony-Seeger Hall, MSC 6810 Phone: (540) 568-6913 Website: <http://www.jmu.edu/publicsafety/>

The Office of Public Safety consists of law enforcement and safety services. The office supports and advances the educational purposes of the university through the provision of a safe and secure environment for learning, working and personal development.

### Police

The university police are commissioned officers with comprehensive law enforcement powers. University police continually patrol JMU's campus and facilities, providing full-service protection to the JMU campus community.

The Campus Police Cadet Program carefully screens and trains students to aid the university police. Cadets are on duty from 7 p.m. until 2 a.m. each weeknight and until 3 a.m. on weekends. Cadets are responsible for patrolling the campus and securing academic and administrative buildings each evening. In addition, they provide escort services to students walking across campus. When cadets are off duty, university police officers escort students as needed.

### Safety

The university safety engineer is responsible for conducting safety surveys and inspections; investigating fires, hazardous material spills and other dangerous conditions; and providing environmental and workplace safety and health awareness training.

## Office of the Registrar

Location: Student Success Center, Room 5300, MSC 3528 Phone: (540) 568-6281 Website: <http://www.jmu.edu/registrar>

The Office of the Registrar is responsible for:

- Athletic certification
- Graduation
- Class enrollment
- Student records
- Class schedule preparation
- Transfer credit evaluation
- Degree audits
- Transcript issuance
- Diploma issuance
- Veterans Affairs
- Enrollment verifications

## Residence Life

Location: Huffman Hall, MSC 2401 Phone: (540) 568-4663 Website: <http://www.jmu.edu/orl>

The Office of Residence Life oversees multiple functions related to living and learning at James Madison University. Offices and programs within the department focus on student learning, student development and successful transitions throughout the university experience.

Student Learning Initiatives focuses on the development of resident students by offering many services and programs specifically targeted toward this group. Community Development oversees the selection, training and supervision of residence hall staff, develops policies and procedures for hall operations, and administers the delivery of programs and services designed to promote student success. Housing Operations manages all university-sponsored housing facilities, including the administration of contracts and room assignments. Business Operations coordinates all maintenance and housekeeping services and manages residence hall summer projects.

Office	Telephone Number
Business Operations	(540) 568-7576
Community Development	(540) 568-3501
Director's Office	(540) 568-6275
Student Learning Initiatives	(540) 568-3598
Housing Operations	(540) 568-4663

## Office of Student Accountability and Restorative Practices

Location: Student Success Center, Room 2122 Phone: (540) 568-6218 Website: <http://www.jmu.edu/osarp> Email: [osarp@jmu.edu](mailto:osarp@jmu.edu)

We facilitate student development and restoration through a fair process that holds students accountable to community and university standards in order to support student and community success.

## Student Government Association

Location: Madison Union, Room 331, JMU Box 8022 Phone: (540) 568-6376 Website: <http://sga.jmu.edu>

The Student Government Association of James Madison University is an organization dedicated to collaborating with all members of its community to advocate for student opinion, while fostering a proactive, inclusive environment.

SGA promotes the welfare of students by providing the medium through which students can actively voice their concerns and by serving as a liaison between the students, faculty and administration at JMU.

## Student Handbook

Website: <http://www.jmu.edu/handbook>

The Student Handbook contains all university policies and explains the campus accountability processes, as well as the process used to address allegations of sexual misconduct. It is important to note that processes and policies can change; the information in the online handbook is the most up-to-date version used by OSARP. It is your responsibility to know and follow federal, state and local laws as well as JMU policies.

## Student Success Center

Location: Student Success Center, Room 3010, MSC 1012 Phone: (540) 568-5959 Website: <http://www.jmu.edu/successcenter>

At JMU, all students can be successful if they rise to the challenges they face as students, take full advantage of the many academic and student support services available to them on the campus, and participate deeply in engagement opportunities on campus and beyond.

Student success succinctly describes JMU's pervasive philosophy of collaborative, campus-wide efforts to coordinate programs and support services that: help students become more efficient, effective and engaged learners; address students' physical and emotional health; and provide advice and assistance for a variety of financial, curricular, technical and employment concerns.

The James Madison University Student Success Center houses a number of university departments, resources and functions that support student learning, student health and student services. These include: Card Services; Career and Academic Planning; Centennial Scholars Program; Community Service-Learning; Counseling Center; Dining Services; EPIC Center; Financial Aid and Scholarships; Information Technology Computing Support; Learning Centers; Learning Strategies Instruction; LGBTQ & ALLY Education Program; Madison Advising Peers; Office of Disability Services; Office of Student Accountability and Restorative Practices; Office of the Registrar; Orientation Office; Student Affairs Technical Services; Student Employment; Student Life & Involvement Associate Vice President; Student Success Center Operations; University Business Office; University Health Center; and Wellness, Orientation, & Multicultural Engagement Associate Vice President. The Student Success Center is a comprehensive facility unlike any other in scale and scope of programs, services and resources. All of the departments in the center collectively contribute to the success of all JMU students.

## Title IX

Location: 4035 Madison Hall, MSC 7806 100 E. Grace Street Phone: (540) 568-5219 Email: [titleix@jmu.edu](mailto:titleix@jmu.edu)

Website: <https://www.jmu.edu/access-and-enrollment/titleIX/index.shtml>

Title IX of the Education Amendments of 1972 prohibits discrimination based on sex in educational programs and activities receiving federal funding. Title IX states, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Sexual Misconduct, including Sexual Assault and Sexual Harassment, are all forms of sex-based discrimination prohibited by Title IX. JMU Policy 1340 in conjunction with Policy 1324 and Policy 1302 set out the university's commitment to providing a learning environment and workplace free from all forms of illegal sex discrimination and provides procedures for university students, employees, visitors, and affiliates to file reports and/or formal complaints.

The Title IX Coordinator is the Chief Title IX Officer, who is responsible for overseeing the university's compliance with Title IX including receiving and responding to incidents of sexual misconduct involving JMU community members. Contact information and procedures for filing reports and/or formal complaints is available on the Title IX website.

## University Advising

Location: Roop Hall, Room 200 MSC 1024 Phone: (540) 568-7350 Website: <http://www.jmu.edu/advising>

University Advising provides support to help students understand graduation requirements and assists them with their academic planning and tracking. The office develops advising resources for students and faculty and maintains the academic advising website for the university.

### Major Advising

University Advising provides full-time academic advising support in select academic programs with large student enrollments to help students make progress in major requirements. Full-time academic advisers are joint appointments between the academic unit and University Advising.

### International Study Center Students

The international advising coordinator helps international students make progress from the International Study Center to JMU by assisting them with General Education requirements, selection of a major, graduation requirements and course registration.

### Prospective Transfer Students



Three transfer advising coordinators have office hours on the following Virginia community college campuses to assist prospective transfer students with their academic planning: Blue Ridge, Germanna, John Tyler, Lord Fairfax, Northern Virginia, Piedmont and Reynolds. Transfer advisers are available by appointment to advise prospective students on JMU majors and General Education requirements.

### New Transfer Students

University Advising coordinates the advising and class registration process for new transfer students matriculating to JMU in the fall and spring semesters. All new transfer students who have earned at least 30 transfer credits must declare a major upon entering the university and are advised by an adviser in their major.

### Madison Advising Peers

Madison Advising Peers (MAP) are JMU students who care about their fellow students and are committed to helping them achieve their college goals. MAPs work in conjunction with faculty advisers by providing supplemental academic advising information and assisting other JMU undergraduate students who may have general advising questions. A MAP can be a supportive and friendly resource for students who feel overwhelmed and confused.

## University Health Center

Location: Student Success Center, MSC 7901 Phone: (540) 568-6178 Fax: (540) 568-6176 Website: <http://www.jmu.edu/healthcenter>

The University Health Center is staffed by a team of board-certified medical providers, substance abuse prevention specialists and certified health educators who administer care in a confidential and professional manner.

New students at JMU are required by state law to submit specific information about immunizations. JMU does NOT require a physical exam, but you must comply with the immunization requirement prior to attending classes. Therefore, it is mandatory that you complete the following steps:

Print the JMU immunization form (<http://www.jmu.edu/healthcenter/Forms/Immunization%20Form>) and have it completed and signed by a health care professional. If a different immunization form is used by your health care provider or you have a completed one from another college or university, it will be accepted in lieu of the JMU form.

Log in to your MyJMUHealth account (<http://www.jmu.edu/healthcenter/myjmuhealth>) to upload a scanned copy of the completed and signed immunization form, as well as a copy of your health insurance card (front and back):

While in your MyJMUHealth account, complete the required TB Assessment (4 questions) and the brief Health History (4 questions) under the "forms" tab.

These steps only have to be completed once, not every year.

The University Health Center offers office visits at no additional cost and low-priced specialty services to students. In addition, the health center offers:

- Alcohol and other drug prevention, intervention and recovery programs and services
- Allergy Clinic
- General Medicine Clinic for routine and preventative care
- Health education programs
- International travel immunizations
- Lab services
- LGBTQ & Ally Education Program
- Patient advocate
- Peer health education organizations:
- CARE (Campus Assault ResponsE)
- REACH (Reality Educators Advocating Campus Health)
- Pharmacy dispensing (for prescriptions written by on-campus providers)
- Nutrition services
- X-ray services
- Safer Sex Supplies
- Sexual violence prevention and advocacy services
- Specialty clinics including dermatology and orthopedics
- Urgent Care Clinic
- Women's Health Clinic

## University Recreation

Location: University Recreation Center, MSC 3901 Phone: (540) 568-8732 Website: <http://www.jmu.edu/recreation>

University Recreation (UREC) promotes and advances healthy lifestyles through participation opportunities, educational experiences and supportive services. The qualified staff is committed to excellence and attentive to the developmental needs of participants. Educational programming areas include adventure, aquatics, challenge courses, fitness, group exercise, informal recreation, intramural sports, nutrition, safety, sport clubs, wellness and youth programs.

UREC, a 278,515 square foot facility, is located on the east side of campus. UREC offers eight basketball/volleyball courts, seven racquetball/wallyball courts, four badminton/pickleball courts, two batting cages, a squash court, a table tennis area, and two indoor walking/running tracks. The Fitness Center includes 25,000 square feet of cardiovascular and weight training equipment, with areas for stretching, functional fitness and specialty training areas. There are six group exercise studios, each purposed for specific activities. The Aquatics Center offers two pools, one a 25M by 25Y main pool, and a smaller fitness activity pool that includes a jetted fitness channel, bubble bench, waterfalls, volleyball, basketball and log rolling. There is also a 32 person heated/jetted hydrotherapy pool and a dry sauna. The Adventure Center includes a climbing tower, bouldering wall, climbing shoe and adventure equipment checkout, bike rentals and repair shop, trip instruction space and an outdoor boat yard. The Wellness Center includes an athletic training room, meditation room, personal and small group training, fitness assessment and nutrition counseling spaces, as well as two massage therapy studios. There is also a demonstration kitchen and wellness education room, as well as a wet/dry classroom. There is also a 200 person capacity club room for large meetings and training events. The Equipment Center is open for checking out sporting equipment and for locker and towel services.

UREC also encompasses several satellite facilities. University Park, located at 1090 Devon Lane, includes an open event lawn, tennis, sand volleyball and basketball courts, sports turf, pavilion, disc golf course, and TEAM Challenge Course. Additional UREC satellite facilities include the UREC Turf, East Campus Fields, spaces within Godwin and Memorial Halls, and several fields and courts around campus.

A valid JACard is needed to enter UREC and University Park. Online registration is available for educational programs, group exercise classes and intramural sports. Programs requiring fees can be registered for in-person at the main UREC facility using FLEX or online at [URECregister.jmu.edu](http://URECregister.jmu.edu) using a credit card.

## University Unions

Location: Madison Union 200, MSC 3501 Phone: (540) 568-3341 Website: <http://www.jmu.edu/universityunions>

The University Unions Department reflects a broad range of programs, facilities and services created to build a sense of community for the campus as a whole. The facilities are the gathering places for the campus, with meeting rooms, assembly spaces, lounges and support services available. They are places where ideas come to life, learning is put into practice and the various constituencies of the campus find common ground.

University Unions is comprised of the following units:

### The Dux Leadership Center

Location: Madison Union 330, MSC 3503 Phone: (540) 568-5901 Website: <http://www.jmu.edu/dux>

The Dux Leadership Center (pronounced "dukes," which is Latin for "to lead" or "leadership") helps JMU students become better leaders. The center provides leadership programs like MYMOM, the Strengths Conference based on Gallup's Clifton Strengths Finder assessment, as well as 1:1 leadership coaching programs and opportunities. Students may check out equipment, books and other resources useful for leadership development, team building and experiential learning leadership activities.

Professional staff in the Dux Leadership Center are certified trainers for the DISC Personality Assessment program and can provide customized workshops to help people learn more about themselves, how to connect with others and how to build teams more effectively. They also serve as leadership consultants, assisting individuals, groups and organizations in the development of their leadership capabilities.

### Festival Conference and Student Center Scheduling

Location: MSC 4201 Phone: (540) 568-8932 Website: <http://www.jmu.edu/festival>

Festival Conference and Student Center provides gathering places for the campus, with meeting rooms, assembly spaces, lounges and support services available. It provides a comprehensive approach to the coordination of services necessary for campus events and coordination of scheduled meetings and conferences throughout the year.

### Facilities Services (University Unions)

Madison Union, MSC 3506 Phone: (540) 568-5555

### Festival Conference and Student Center, MSC 4201

Phone: (540) 568-1715

Three buildings house the programs and services which the University Unions provide for the JMU community. They are the Madison Union, Grafton-Stovall Theatre and Festival Conference & Student Center. Facilities Services address physical building, operations and information concerns in these spaces.

### Fraternity & Sorority Life

Location: Madison Union 404, MSC 3508 Phone: (540) 568-4195 Fax: (540) 568-6444 Website: <http://www.jmu.edu/osai>

The Office of Fraternity & Sorority Life works with social fraternities and sororities to foster cooperation and communication amongst the chapters, the university and the community. Staff members advise the InterFraternity and Panhellenic Councils, as well as Greeks Advocating the Mature Management of Alcohol (GAMMA), Greek InterVarsity and Order of Omega Greek Leadership Honor Society. Staff members also work with individual chapters to promote the development of character, leadership, scholarship and service.

### Madison Union

Location: Madison Union 245, MSC 3506 Phone: (540) 568-6330 Website: <http://www.jmu.edu/madisonunion>

Madison Union and Grafton-Stovall Theatre provide gathering places for the campus, with meeting rooms, assembly spaces, lounges and support services available. It provides a comprehensive approach to the coordination of services necessary for campus events and coordination of scheduled meetings and conferences throughout the year.

### Off-Campus Life

Location: Festival Conference & Student Center, Suite 1130, MSC 4214 Phone: (540) 568-6071 Website: <http://www.jmu.edu/ocl>

Off-Campus Life (OCL) is here to assist students in gaining necessary knowledge and skills to make informed decisions within the off-campus community, to provide support and resources to off-campus students allowing them to maintain an academic focus and to inspire and empower students to be responsible citizens who create safe, values-oriented communities.

OCL also administers the Utility Deposit Assistance Program (UDAP). UDAP is a JMU sponsored program that allows students to obtain utility connections without paying the up-front deposit costs. JMU becomes your guarantor for payments up to specified limits for water, electric, and gas. This \$40 contract can be purchased through the student tab in MyMadison.

### Student Activities, Leadership & Involvement

Location: Madison Union 320, MSC 3502 Phone: (540) 568-8157 Fax: (540) 568-2382 Website: <http://www.jmu.edu/osai>

The Office of Student Activities, Leadership & Involvement hosts Student Organizations, Mad4U, PLA (Presidents Leadership Academy) and the University Program Board. The Office of Student Activities, Leadership & Involvement provides a wide range of educational, social and cultural events, as well as support services for all JMU student clubs and organizations. The Belnvoled website offers access to all student organizations on campus. Student Organization Night at the beginning of each semester offers an opportunity for all students to meet members of clubs, learn about organizations and discover how to become involved with them.

### Taylor Down Under

Phone: (540) 568-7853 or (540) 568-5555

Located on the ground floor of Madison Union, this huge space is comprised of a lounge, billiard tables, fooseball, iPads for loan, board games and Auntie Anne's Pretzel Shop with Carvel ice cream. The TDU lounge area is a popular hangout for all students. There is a computer lab for student use, wireless printing, evening entertainment on the TDU Stage, comfortable seating and an information desk.

### University Program Board

Location: Madison Union 324, MSC 3505 Phone: (540) 568-6217 Website: <http://www.jmu.edu/upb>

Campus entertainment is scheduled through the University Program Board, a student organization advised through Student Activities, Leadership & Involvement. Concerts, films, speakers, trips and numerous other activities designed to complement the educational mission of JMU are arranged by the UPB. The board also solicits collaborative programs with other student organizations, university departments and schools. Committees for which students may volunteer include film, special events, center stage, spirit and traditions and spotlight sounds.

### Withdrawal from the University

Location: Office of the Dean of Students Madison Union, 300, MSC 3534 Phone: (540) 568-6468 Website: <http://www.jmu.edu/deanofstudents>

The Office of the Dean of Students assists students who are considering withdrawing from the university after the first three weeks of the semester. The student and staff member discuss personal, financial and academic implications including pertinent policies and procedures directly involved with their withdrawal. The staff member will provide and assist the student with the proper withdrawal procedure. Details regarding the process are located at <http://www.jmu.edu/studentaffairs/departments/deanofstudents/withdrawals-loa.shtml>.

## The Graduate School

*John Burgess, Interim Dean*

*Michael Stoloff, Associate Dean*

Phone: (540) 568-6131

Website: <http://www.jmu.edu/grad>

Location: Madison Hall, Fourth Floor, MSC 6702

The Graduate School coordinates graduate and post-graduate education throughout the university. The JMU Graduate School was established in 1954 when the State Board of Education authorized the university to offer programs leading to the Master of Science in Education degree. There have been over 18,000 graduate degrees awarded through 2016, and enrollment growth and ongoing development of graduate programs of distinction are key strategic initiatives of the university.

It is the mission of The Graduate School to support, facilitate and promote excellence in lifelong education through graduate programs of distinction, innovative outreach programs and a diverse student body.

The Graduate School at James Madison University is a leading institution for graduate study that is recognized for innovative advanced degree programs, distinguished faculty, collaborative student-centered research and applied learning. The Graduate School is responsible for administering over 52 different graduate programs offering master and doctoral degrees across seven academic colleges. Currently, more than 1,850 students from all areas of the world are enrolled and pursuing post-baccalaureate studies through JMU.

The Graduate School is authorized to offer graduate programs leading to master's, Educational Specialist, Doctor of Audiology, Doctor of Philosophy, Doctor of Psychology, Doctor of Musical Arts and Doctor of Nursing Practice degrees. Many graduate programs also offer concentration areas. Refer to the Graduate Catalog or the graduate school website for details.

The Graduate School offers the following programs and degrees:

- Accounting (M.S.)
- Adult Education/Human Resource Development (M.S.Ed.)
- Art Education (M.A.)
- Assessment and Measurement (Ph.D.)
- Biology (M.S.)
- Business Administration (M.B.A.)
- Business Administration – (Northern Virginia) (M.B.A.)
- Clinical Mental Health Counseling (M.A./Ed.S.)
- College Student Personnel Administration (M.Ed.)
- Combined – Integrated Clinical and School Psychology (Psy.D.)
- Communication and Advocacy (M.A.)
- Communication Sciences and Disorders (Clinical Audiology) (Au.D.)
- Communication Sciences and Disorders (M.S.; Ph.D.)
- Computer Science (M.S.)
- Counseling and Supervision (Ph.D.)
- Education – Fifth year format (M.A.T.)
- Education (M.A.T.; M.Ed.)
- Education, Special – Fifth year format (M.A.T.)
- Education, Special (M.A.T.; M.Ed.)
- English (M.A.)
- Health Sciences (M.S.)
- History (M.A.)
- Kinesiology – Fifth year format (M.A.T.)
- Kinesiology (M.S.)
- Mathematics (M.Ed.)
- Music (M.M.)
- Nursing (M.S.N.; D.N.P.)
- Occupational Therapy (M.O.T.)
- Performance/Conducting, Pedagogy, Literature (D.M.A.)
- Physician Assistant Studies (M.P.A.S.)
- Political Science – European Union Policy Studies (M.A.)
- Psychological Sciences (M.A.)
- Public Administration – Fifth year format (M.P.A.)
- Public Administration (M.P.A.)
- School Counseling (M.Ed.)
- School Psychology (M.A.; Ed.S.)
- Speech Pathology (Clinical) (M.S.)
- Speech Pathology (Online) (M.S.)
- Sport and Recreation Leadership (M.S.)
- Strategic Leadership (Ph.D.)
- Studio Art (M.A.; M.F.A.)
- Writing, Rhetoric and Technical Communication (M.A.)

## Outreach & Engagement

*Dr. Melissa Lubin, Dean*

*Dr. Nick Swartz, Associate Dean*

*Ms. Carol Fleming, Assistant Dean*

*Ms. Sarah MacDonald, Assistant Dean*

Phone: (540) 568-4253

Location: Ice House, 127 W. Bruce Street, MSC 6906

Website: <http://www.jmu.edu/outreach>

Outreach & Engagement (O&E) is part of University Programs, a division of Academic Affairs. O&E offers credit and non-credit programs as well as targeted one-time courses, certificate programs and complete degree programs at a distance. O&E seeks to provide access to anyone seeking opportunities for educational or personal growth. O&E works with faculty, academic units, students and community organizations to design, market and deliver a wide array of programs. O&E also oversees the enrollment of non-degree seeking students, who are individuals who enroll in credit courses, but are not seeking a degree.

### Certificate Program Admission

Individuals who wish to pursue a certificate must apply to the program and be approved before registering for classes. Individuals must complete the Certificate Application available at <http://www.jmu.edu/outreach>. Virginia residents must also complete the "Checklist and Application for Virginia In-State Tuition Rates." A non-refundable \$45 application fee must accompany the application. Although certificate program students are considered non-degree seeking students, applicants for certificate programs need only complete the Certificate Application once for the semester in which they wish to begin the program. Students must take at least one course in their certificate program in every twelve-month period, or they will be deactivated from the program and will need to reapply if they wish to continue. (Specific certificate programs may have different enrollment requirements.) Applications for certificate programs are forwarded to the appropriate academic unit for review. A list of available certificate programs can be found at the O&E website under "Certificate Programs" at <http://www.jmu.edu/outreach>.

### Non-degree Seeking Student Admission

The non-degree seeking student classification includes adult non-degree students, high school non-degree students and teacher licensure students. Individuals seeking enrollment as a non-degree seeking student must complete the "Non-degree Seeking Student Application." Virginia residents must also complete the "Checklist and Application for Virginia In-state Tuition Rates." A non-refundable \$20 application fee must accompany the application. Non-degree seeking students must submit the application and processing fee each semester they enroll in courses.

Non-degree seeking students can enroll and register for up to 11 hours of credit per semester. If additional credits are needed, students should contact O&E. Course prerequisites may apply. Courses at the 500 or 600 level and above require approval by the appropriate department head. Non-degree seeking students can complete the non-degree student application and the in-state form by going to <http://www.jmu.edu/outreach> and clicking "Apply."

Students should register online during the dates identified for non-degree seeking students following the instructions at <http://www.jmu.edu/registrar> and clicking "For Students" then "Registration Dates and Deadlines." Walk-in registration and course adjustments are permitted for non-degree seeking students; contact the Registrar's Office.

The courses taken in the non-degree seeking student category carry university credit, and they may be transferred into a degree program, once admitted, at the discretion of the program. JMU reserves the right to deny admission to non-degree seeking students; admission as a non-degree seeking student does not guarantee admission to a degree program at the university.

#### Non-credit Courses and Certificates

O&E offers a wide variety of non-credit courses for workforce and professional development. These programs are available for supplementing and updating knowledge, skills and abilities. Some non-credit courses and workshops award continuing education units (CEUs) as a uniform measure of professional development and to signify the student has completed the course or workshop.

#### Senior Citizen Tuition Waiver

Legal residents of the State of Virginia who have reached 60 years of age before the beginning of an academic term and who have a taxable income that did not exceed \$23,850 for the year preceding the term may register for and enroll in courses as full-time or part-time students and pay no tuition but will incur a \$20 application fee as well as fees established for the purpose of paying for course materials, such as laboratory fees. Senior citizens who have a taxable income higher than \$23,850 may choose to register to audit courses under the same policy, subject to instructor and department approval. Senior citizens shall be subject to the admissions requirements of the institution and a determination by the institution of its ability to offer the course or courses for which the senior citizen registers. A senior citizen shall only be admitted to a course in which enrollment is sought after all tuition-paying students have been accommodated. A senior citizen tuition waiver form must be submitted to Outreach & Engagement to determine eligibility according to section 23-38:54 of the Code of Virginia. Forms can be found on the O&E website.

Student Success Center, Room 5100

Email: ubo@jmu.edu

Phone: (540) 568-6505

Website: <http://www.jmu.edu/ubo>

Tuition and fee charges for the 2018-2019 sessions are available online at <http://www.jmu.edu/ubo>. The tuition and fees listed contribute to general maintenance and operation, instruction, and other university service costs, including recreational and health-service facility costs. The fees also support student activities such as the Student Government Association, University Program Board and student publications.

The amounts listed for tuition do not include certain additional tuition for some academic programs, academic fees, course fees or the cost of books or supplies. The university reserves the right to adjust tuition and fee charges because of rising costs or other conditions upon approval of the JMU Board of Visitors.

For a full description of the tuition and fee rates, refer to the University Business Office website.

## Billing and Registration

Registration for returning students is conducted in March for the summer semester, April for the fall semester and November for the spring semester. Students will be notified in April and May by email when their initial electronic billing statement Madison Money Manager (M3) is ready for the summer semester, early August for the fall semester and mid-December for the spring semester. Thereafter, all new charges, payments and adjustments will be posted electronically in the real-time section – "Account History" – of M3. Authorized users will only be emailed when students have a balance on their account.

New students who attend an orientation session will be notified of the amounts due through the electronic billing statement in early August.

Students are encouraged to review their financial account for amounts due after any registration or course adjustment activity or meal plan addition or change. Students may access their financial account by using the student information MyMadison link on the Registrar's website or through the Web link provided in the billing email. Students are strongly encouraged to set their parents up as "Authorized Users" in the M3 system to assure the timely payment of their student account and to avoid unnecessary delays in communicating information. Student account balances are due in full by the first week of classes.

To keep university costs as low as possible, the Commonwealth of Virginia has instituted the following financial policies:

- There is a \$50 fee for each check returned due to non-sufficient funds or stop-payment.
- There is a late fee applied to all delinquent accounts. If a student has a balance due that is not covered by financial aid, or the installment payment plan, by the payment due date (Friday of the first week of classes), a late payment fee will be applied to the account which cannot be waived. Financial aid must be accepted and the installment plan must be set up by the due date to avoid the late payment fee. The late payment fee is 3% of the balance due and is non-negotiable.

Student account balances are due in full by the first week of classes to avoid a late fee and/or hold.

## Payment of Tuition and Fees

Payment may be made by the following means:

- Remitting payment by check or cash to the University Business Office, Student Success Center, Room 5100 by mail or in person.
- Remitting an electronic check payment or credit card payment online through M3 or the University Business Office website. This service is provided by an outside vendor.
- Contracting with our third party vendor in M3 to set up the installment payment plan no later than the payment due date (Friday of the first week of classes) for an amount that covers any balance not included in a financial aid award or other anticipated payments.

Accepting financial aid, completing the Master Promissory Note (MPN) when applicable and the Loan Request Form (LRF) by the payment due date (Friday of the first week of classes) for an amount that covers the entire balance due.

Any combination of personal payments, installment payment plan and/or financial aid that covers the entire balance due. Personal payments may be made by a combination of personal check, cash, money order, cashier's check, electronic check and credit cards.

Payments drawn on foreign banks must be converted to U.S. dollars prior to transmittal to the university or payment must be remitted through the M3 system Western Union link. The student's account number (campus ID number) should be included on all payments to ensure its application to the proper account.

Debts owed to the university are governed by the following policies:

- No credit for university work may be given to any student for a diploma, teacher's license or transfer purposes until all debts to the university have been settled.
- Until a student's account is paid in full, he/she will be ineligible for readmission or registration for a future semester.
- Upon recommendation of the director of the University Business Office and with the approval of the Assistant Vice President for Finance, students in debt to the university may be suspended from their classes or may be withdrawn.

## Audit Fees and Internships

A student registering to audit a course or for an internship will pay the same tuition and fees as one who registers for credit.

## Examination for Credit Fee

Arrangements for attempting credit by departmental examination may be made by paying a nonrefundable \$25 fee to the University Business Office and presenting the receipt to the Office of the Registrar.

## Late Fee

As of July 1, 2009 the Commonwealth of Virginia has passed legislation requiring late fees to be placed on past due balances owed to the university. The mandatory late fee is 3% of the balance due.

## Returned Check Fee

A \$50 per check fee is assessed for checks returned unpaid to the university. If a check is returned, the University Business Office staff will notify the student by email. If the student does not make appropriate alternative payment as specified, the student's class registration will be canceled and the student may be withdrawn from the university. The university will also hold the student's records, future registration, transcripts, teaching license and diploma until the check is redeemed. When a Returned Check Hold is placed on a student's financial account, any future payment by personal check will require 15 business days to clear before a hold is released.

## Service Fee

Electronic Student Account payments made by credit card through MyMadison or at UBO's website will be assessed a service fee by the outside vendor. This fee is based on the total charges paid. The calculated amount is displayed separately, assessed at the time payment is made and cannot be refunded. There is no fee charged for electronic check payment.

## Specialized Class Fees

Certain courses which use off-campus facilities have additional charges which will be determined at the time the course is offered. Certain courses may require additional fees.

## Specialized Program Tuition

Some courses offered through the College of Business and the School of Nursing require additional tuition charges.

## Collection of Past Due Accounts

### *Financial Information and Disclosure Statement*

Students are expected to access financial information through M3 in MyMadison. Failure to receive email notification of posted electronic billing statement is not a justification for granting immunity in financial matters. Failure to access available data through self-service access via MyMadison or to read and comply with university regulations will not exempt students from whatever financial penalties they may incur.

### Course Cancellation

Failure to attend a course after registering is not justification for elimination of charges. A student must officially drop a course to qualify for a refund or release of charges by the drop/add deadline posted by the Office of the Registrar. Failure to pay will not release a student from the responsibility for these charges.

### Outstanding Debts/Delinquent Accounts

Students with outstanding debts are denied any registration activity and access to an official transcript of their grades until all debts are paid in full. Student accounts are subject to the financial policies of James Madison University, as specified in the undergraduate catalog. Unless students resolve the debt, the university will advance the matter to the next step in the collection process.

#### *Collection Activities*

Once an account is 60 days past due, the delinquent balance is subject to transfer to a collection agency. At that point, repayment arrangements must be made directly with the collection agency, and the account holder is responsible for the additional fees associated with collection efforts. The fee associated with collection efforts are 33.33% of the outstanding balance, which is the standard and customary amount for the collection industry.

#### *Collections in the Commonwealth of Virginia*

The university pursues debt in accordance with the guidelines set forth by the Commonwealth of Virginia in the Virginia Debt Collection Act. Virginia state law requires that the university make every attempt to collect past due amounts owed to state agencies. If, after 60 days, full payment of a debt has not been received, the student account will be placed with a collection agency. Students are responsible for any collection fee incurred at a rate of 33.33% of the total due.

Students also risk tarnishing their credit rating and will be subject to further enforcement proceedings. Collection efforts are costly to the student. Avoid them by paying on time. Agencies charge the university a 33.33% fee that must be reimbursed by the student. Collection fees cannot be appealed. If a student finds that his/her account has been referred to a collection company, he/she should contact the company immediately to make payment arrangements.

The account can be listed by the Credit Bureau as a bad debt, a delinquent account can be collected in full from income tax refunds, lottery winnings, or other refunds due from the state, and the account may be turned over to the Virginia Attorney General's Office for litigation. Timely payment is strongly encouraged so that collection efforts can be avoided.

#### University Agents

Todd, Bremer and Lawson, Inc.

Post Office Box 36788

Rock Hill, SC 29732-0512

Phone: 1-800-849-6669

Fax: 1-803-328-5211

#### Williams and Fudge

Post Office Box 11590

Rock Hill, SC 29731-6266

Phone: 1-800-849-9791

Fax: 1-803-329-0797

### Setoff Debt Collection Act

Under the provisions of this act, an individual's Virginia income tax refund or lottery winnings will be subject to the university's claim for any unpaid balance of tuition and fees. Any communication disputing an amount owed must be submitted in writing to the director of the University Business Office.

### Eligibility for In-state Tuition

Eligibility for in-state tuition charges is based on the provisions of Section 23.1-500 of the Code of Virginia in effect on the first day of classes for each term. Students who exceed the minimum number of credit hours required for graduation by 25 percent should refer to the UBO website for additional tuition charges. A link to the Code of Virginia guidelines can be found on the website of the Assistant Vice President for Finance and the University Business Office. This statute limits in-state tuition to those with Virginia domiciliary status. Domicile is defined as the "present, fixed home to which you return following temporary absences and at which you intend to stay indefinitely." If there is any question of the right to classification as a domicile of Virginia, it is the student's obligation, prior to the first day of classes for the semester, to raise the question with JMU administrative officials.

### Restriction on In-state Tuition

In accordance with Virginia law, in-state students initially entering a Virginia public institution during or after the fall 2006 semester will be assessed a surcharge for any credit hours over 125% of their degree program requirements. Exceptions may apply when credit hours are required for an additional program.

### Dependent Students

To qualify for in-state tuition, a dependent student or an un-emancipated minor shall establish by clear and convincing evidence that, for a period of at least one year prior to the date of the alleged entitlement, the person through whom he/she claims eligibility was domiciled in Virginia and had abandoned any previous domicile, if another existed. A link to the Code of Virginia, as well as Residency Guidelines, can be found on the University Business Office website under the section "Residency Requirements." Certain exceptions apply to Active Duty Military and veteran dependents.

### Independent Students

The statute defines an independent student as one whose parents have surrendered the right to his/her care, custody and earnings; have ceased to support him/her and have not claimed him/her as a dependent on federal and state income tax returns for at least 12 months prior to the alleged eligibility. Certain exceptions apply to Active Duty Military and veteran students.

To qualify for in-state tuition, an independent student shall establish by clear and convincing evidence that for a period of at least one year immediately prior to the date of the alleged entitlement, he/she was domiciled in Virginia and had abandoned any previous domicile, if such existed.

Domiciliary status shall not ordinarily be conferred by the performance of acts which are auxiliary to fulfilling educational objectives or are required or routinely performed by temporary residents of the commonwealth. Mere physical presence or residence primarily for educational purposes shall not confer domiciliary status. A matriculating student who has entered an institution and is classified as an out-of-state student shall be required to rebut by clear and convincing evidence the presumption that he/she is in the commonwealth for the purpose of attending school and not as a bona fide domiciliary.

Initial determinations of eligibility are made by the Office of Admissions (incoming first year students, re-entries and transfers), The Graduate School (graduate students) and Outreach and Engagement (for continuing education and special students). Decisions on returning degree-seeking students are made by the director of the University Business Office.

To establish eligibility after entering JMU as an out-of-state student, an applicant must complete the reclassification form posted on the University Business Office website. For information on special provisions of Section 23.1-500, contact the Office of Admissions, The Graduate School, Outreach and Engagement or the University Business Office.

Once a student receives an initial determination of eligibility, he/she may appeal for a review of the application by contacting the office which made the decision. If there is any question of the right to classification as a domicile of Virginia, it is the student's obligation prior to or at the time of registration to raise the question with the administrative officials of James Madison University. Any party aggrieved by a final administrative decision shall have the right to petition within 30 days for a review by the Circuit Court of Rockingham County.

A change to in-state status may be made only when the completed application for reclassification form is received by the University Business Office prior to the first day of classes for that semester. Students are responsible for paying out-of-state tuition rates until in-state status has been approved.

### Room and Board

Part-time students cannot purchase a housing contract without prior approval of the Office of Residence Life. Students residing in university housing are required to have a Meal Plan with their housing contract.

Commuter students may purchase one of several meal plans through Card Services in the Student Success Center and can have the charge posted to their student account. Commuter contracts purchased after the first week of classes are due immediately. A commuter contract must be purchased each semester.

If a student arrives late by 10 or fewer days, the boarding fee will not decrease. The only exception, however, is lateness because of hospital confinement. If a student is late by seven days or longer due to hospital confinement, the university will review adjusting the board fee. Contact Card Services in the Student Success Center on the second floor at (540) 568-6446 for additional information.

### Refunds

Any overpayment of a student account can be either refunded or posted to a future semester as a payment. An overpayment created by a credit card payment must be refunded back to the credit card. All overpayments are refunded to the student except for Parent PLUS loans, which are refunded as specified by the parent in the PLUS application. All student refunds are processed through the university's vendor, BankMobile. Each student has the option of receiving his/her refund through direct deposit to a current bank account or using a BankMobile Vibe account. The selection is made when the student logs into the BankMobile website through the link "My Refunds" in M3. Questions concerning refund procedures can be directed to the University Business Office at (540) 568-6505, by email at ubo@jmu.edu or by going to the UBO's office in the Student Success Center during regular business hours.

Parents who are eligible to receive a refund on their federal Parent PLUS loan will receive a paper check at the home address of record.

Students who officially withdraw from the university by the deadline for fall semester or by the deadline for spring semester will be refunded all tuition and fees except the tuition and room deposit.

Withdrawing after the end of this period will not reduce tuition charges. Board fees will be prorated from the dining hall opening date. After the deadline dates, refunds will be for only a pro rata share of the board fee. Room refunds will be made in accordance with the Residence Life refund schedule as stated in the current Residential Contract.

Students who withdraw from the university due to physical or mental health reasons certified by an appropriate health care provider or for unavoidable emergency or extenuating circumstances approved by the Dean of Students will be refunded a pro rata share of tuition, fees and board. Refunds for withdrawal from the university are calculated from last date of attendance as approved by the Dean of Students. Room refunds will be made in accordance with the Residence Life refund schedule as stated in the current Residential Contract.

For further information on withdrawal from the university, see the section Withdrawal from the University.

### Room and Tuition Deposits

#### *New Students*

For new students, a deposit of \$250 is required to confirm their acceptance of the offer of admission. When a student pays the deposit, the money is applied to the student's account. The deadline for this deposit is May 1. Refunds after the stated deadlines will be made only for personal illness certified by a physician or other extenuating circumstances approved by the Dean of Admissions.

#### *Returning Students*

For returning students who want to live in university residential facilities, a signed room and board contract must be submitted online to the Office of Residence Life at <http://www.jmu.edu/orl>. A contract fee will be assessed when the contract is submitted.

# Financial Aid, Scholarships and Student Employment

Location: Student Success Center, Room 5200

Phone: (540) 568-7820

Email: [fin\\_aid@jmu.edu](mailto:fin_aid@jmu.edu)

Website: <http://www.jmu.edu/financialaid/>

## Scholarships, Grants and Loans

The Office of Financial Aid and Scholarships helps qualified students secure a financial aid package designed to meet their financial needs. An award package may consist of grants, scholarships, loans and work-study. Students interested in information on financial assistance programs should visit the financial aid website at <http://www.jmu.edu/financialaid>, contact the Office of Financial Aid and Scholarships at the above address or send an email to [fin\\_aid@jmu.edu](mailto:fin_aid@jmu.edu). The website includes a link to JMU Terms and Conditions for Financial Aid – Consumer Information, which provides information regarding general financial aid rules and required disclosures.

## Application Procedures and Deadlines

All financial aid applicants must undergo a standardized federal "needs analysis" by completing the Free Application for Federal Student Aid (FAFSA). To receive priority consideration, it is essential that applicants ensure their FAFSA has reached the federal government by March 1 prior to the academic year for which they are seeking financial assistance. Failure to apply by the priority filing date may cause delays in receiving aid and can result in less attractive aid packages.

A student must complete a FAFSA before financial aid eligibility can be determined for the following sources of aid:

- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grant
- Commonwealth Award
- Virginia Guaranteed Assistance Program
- Federal Subsidized Direct Loan
- Federal Unsubsidized Direct Loan
- Federal Parent PLUS Direct Loan
- Federal Work-Study Program
- Need-based JMU Foundation Scholarships
- University Grant

When students file the FAFSA, the federal processor calculates their Expected Family Contribution (EFC). The EFC is an estimate of the family's ability to contribute to the student's overall educational expenses for one year. JMU calculates the student's financial "need" by subtracting the EFC from the Cost of Attendance (described later). Due to limited funding, grants are awarded to students who have the highest financial need, and in many cases to those who met the priority FAFSA filing date.

Financial aid recipients must complete the FAFSA each school year. Amounts and types of assistance may vary from year to year. If funds are available, the Office of Financial Aid and Scholarships continues to assist students who meet the following conditions:

Complete the FAFSA, with precedence given to those who apply by the priority filing date of March 1, prior to the academic year for which they are seeking financial assistance.

Meet general eligibility requirements for aid as defined by the FAFSA.

## Maintain Satisfactory Academic Progress.

The financial aid office sends an electronic notification to students offered financial assistance by JMU. The aid notice has important information, so the recipient should follow all instructions to ensure the completion of required forms. Students can find consumer information regarding the financial aid process, including pertinent rules and regulations, through the financial aid website. If any of the information included in the financial aid package or award notification is incorrect, the student should immediately notify the Office of Financial Aid and Scholarships. Financial aid is awarded based on FAFSA information, as well as the student's status at JMU (e.g., academic level, enrollment status and residency).

Parents of dependent undergraduate students may qualify for a Federal Parent PLUS Direct Loan. For those eligible to apply for the Parent PLUS, the financial aid office sends award notifications to parents with instructions for applying. The parent award notice does not include any information about student awards.

Federal and state regulations also require the Office of Financial Aid and Scholarships to consider any outside sources of assistance when awarding financial aid. These outside sources can be JMU scholarships, private scholarships, veteran's benefits, tuition waivers, etc. The student's financial aid package may fluctuate throughout the year based on changes in FAFSA information, JMU status or the receipt of additional aid. Financial aid notices are usually sent to returning students in early summer. New students may receive aid notices in the spring prior to enrollment.

## Cost of Attendance

An important part of determining a student's eligibility for financial aid is calculating a Cost of Attendance. In accordance with federal regulations, JMU has developed a Cost of Attendance (i.e., budget) for anticipated expenses a student may incur during the current school year. These expenses include tuition, room, board, books and supplies, travel and personal. Room and board can refer to either residence hall or off-campus living expenses, depending upon a student's response on the FAFSA. Expenses are also considered for students who live at home with parents or relatives, but the Cost of Attendance is lower than for those living elsewhere. Travel expenses include items such as gasoline, vehicle maintenance and insurance. Personal expenses include laundry, clothing and entertainment. Many of the elements in the Cost of Attendance are estimates, so it is possible for a student to spend more or less than anticipated during any given year.

## Repeating Coursework

For information on how repeat courses may affect a student's financial aid, visit: <http://www.jmu.edu/financialaid/terms-and-conditions>.

## Classes and Program of Study Applicability

Schools can only consider classes that count toward degree requirements when awarding financial aid. For example, if a student takes a full-time course load (i.e., 12 undergraduate credits) and nine of the 12 hours are financial aid eligible, then that student could only receive financial aid for nine hours. For information on determining what classes can be counted for financial aid purposes, visit: <http://www.jmu.edu/financialaid/terms-and-conditions.shtml#Set-1-A-section23>.

## Satisfactory Academic Progress

Website: <http://www.jmu.edu/financialaid/learn/sap/index.shtml>

In order to qualify for financial assistance, federal regulations indicate that a student must meet certain academic requirements as determined by the Office of Financial Aid and Scholarships. State, federal and some institutional aid programs are subject to the Satisfactory Academic Progress (SAP) policy. For a complete description of the policy, refer to the SAP website.

### Understanding Satisfactory Academic Progress (SAP)

In accordance with federal regulations, the Office of Financial Aid and Scholarships must ensure that students meet both qualitative (grade-based) and quantitative (time-related) requirements before certifying eligibility for financial aid. The term qualitative refers to grade point average (GPA). Quantitative components include both pace and maximum time. Refer to the pertinent sections below for a detailed description of each SAP component.

Students who have not completed the required number of hours or achieved the required cumulative GPA are not eligible to receive financial aid until such time that they meet the requirements. If extenuating circumstances contributed to students' inability to meet SAP requirements, they may request reconsideration by submitting an Appeal Form with appropriate supporting documentation. This form is available on the SAP website.

Refer to the financial aid website for more information on how repeating courses may affect financial aid.



## GPA Requirement

Students must fulfill GPA requirements as described by the academic suspension policy in the current JMU catalog. For more information, refer to Academic Policies and Procedures.

## Pace Requirement

Undergraduate students must be making satisfactory progress toward degree requirements by earning passing grades in at least 80 percent of the classes attempted. The Office of Financial Aid and Scholarships includes transfer credits, course withdrawals, incompletes and use of the "repeat forgiveness" option in the calculation of attempted hours.

## Maximum Time Requirement

Undergraduate students who have attempted more than 150 credit hours are not eligible for financial aid. The Office of Financial Aid and Scholarships includes transfer credits, course withdrawals, incompletes and use of the "repeat forgiveness" option in the calculation of attempted hours.

## Evaluation Process

All undergraduate students who file a Free Application for Federal Student Aid (FAFSA) are subject to the SAP policy. Upon receipt of the results of a student's FAFSA each year, the Office of Financial Aid and Scholarships will evaluate the student's SAP status before awarding financial assistance. If students were unable to meet SAP requirements during their previous enrollment, they will receive notification regarding their area(s) of deficiency. Students who do not meet SAP standards cannot receive financial aid.

## Appeals Process

If extenuating circumstances contributed to students' inability to meet SAP requirements, they may request reconsideration by submitting an Appeal Form with appropriate supporting documentation. This form is available on the SAP website. Students who wish to appeal must do so by a prescribed deadline.

### 2019-20 Appeal Deadlines

Summer 2019: Monday, June 24, 2019

Fall 2019: Monday, September 9, 2019

Spring 2020: Monday, January 27, 2020

Students choosing not to appeal may become eligible for future assistance by attending without financial aid and resolving their academic deficiency.

## Grants

### Federal Pell Grant

Pell grants are generally awarded only to undergraduate students who are seeking their first bachelor's degree and whose Expected Family Contribution (EFC) falls within the federally prescribed range.

### Federal Supplemental Educational Opportunity Grant

SEOG is awarded to Pell-eligible students with the highest financial need as long as funds continue to be available.

### Commonwealth Award

The Commonwealth Award is a need-based grant for Virginia residents who are seeking an undergraduate degree. The maximum award will not exceed the cost of tuition and fees.

Awards will be made as long as funds are available, with priority given to those who met the FAFSA priority filing date.

### Virginia Guaranteed Assistance Program

VGAP is a need-based grant for undergraduate, full-time Virginia residents who graduated from a Virginia high school with at least a 2.5 GPA. The maximum award will not exceed the cost of tuition, fees and an allowance for books. Awards will be made as long as funds are available, with priority given to those who met the FAFSA priority filing date.

### University Grants

These institutional grant programs are primarily available to undergraduate students. The FAFSA is used to determine each student's need level, and grants are awarded accordingly.

Awards are made as long as funds continue to be available.

## Student Loans

### Federal Direct Loan Program

The Direct Loan (subsidized and unsubsidized) is a long-term, low-interest loan for which undergraduate students may apply. Interest rates for Direct Loans disbursed on or after July 1, 2019–June 30, 2020 are as follows:

- Undergraduate Subsidized Direct Loans = 4.53%
- Undergraduate Unsubsidized Direct Loans = 4.53%

Once disbursed this interest rate is fixed over the life of the loan. Interest rates on new loans will change on an annual basis each July 1st. Visit the financial aid website for up-to-date information and interest rates.

For a subsidized loan, the government will pay the interest while the student is in school. For an unsubsidized loan, the student can either pay the interest while in school or have it capitalized (i.e., added to the principle). Payments on the principle amount do not begin until six months after the student graduates or drops below half-time status.

Students must be making satisfactory academic progress and be enrolled at least half time for the period covered by the loan. Each year, dependent undergraduate students may borrow up to \$5,500 at the first-year level (no more than \$3,500 subsidized), up to \$6,500 at the sophomore level (no more than \$4,500 subsidized) and up to \$7,500 at the junior and senior levels (no more than \$5,500 subsidized). Independent undergraduate students may borrow no more than \$9,500 at the first-year level, up to \$10,500 at the sophomore level and no more than \$12,500 at the junior and senior levels.

Dependent undergraduate students may not borrow more than \$31,000 in Direct Loan funds during their undergraduate career (no more than \$23,000 subsidized). Independent students may borrow no more than \$57,500 during their undergraduate career (no more than \$23,000 subsidized). For students who received prior Federal Stafford Loans at JMU or another institution, the career total is the sum of all Direct and Stafford Loans.

### Federal Parent PLUS Direct Loan

Biological parents, adoptive parents or any stepparent of a dependent undergraduate student listed on the FAFSA may apply for a loan through the Parent PLUS Direct Loan program. The borrower must be a citizen or permanent resident of the United States. In addition, the student must be making satisfactory academic progress and be enrolled at least half time for the period covered by the loan. A student must complete a FAFSA before Parent PLUS Direct Loan eligibility can be determined.

Parent PLUS borrowers may apply for an amount up to the Cost of Attendance minus any other financial aid received by the student for that academic year. The interest rate on the Parent PLUS disbursed after July 1, 2019 – June 30, 2020 is 7.60%. Once disbursed this interest rate is fixed over the life of the loan. Interest rates on new loans will change on an annual basis each July 1st. Visit the financial aid website for up-to-date information and interest rates

Interest begins to accrue on the date of the first loan disbursement. The first payment is due after the last disbursement for the loan period. Parents who wish to delay repayment on the PLUS loan should contact the Direct Loan Servicing Center.

### Alternative/Private Loans

Some banks offer credit-based alternative loans to students and parents who either do not qualify for the Direct or PLUS Direct loans or cannot receive enough money through these loan programs to cover their educational expenses. Terms of these private loans vary. Undergraduate borrowers are typically required to have a credit-worthy co-signer. The financial aid office strongly encourages students and parents to exhaust other sources of aid before pursuing an alternative loan. Interested individuals may obtain more information about alternative loan options from the financial aid website.

### JMU Scholarships

Website: <http://www.jmu.edu/scholarships/>

Many scholarships for students are established through the JMU Foundation and individual university departments. Scholarships are awarded either through the Office of Financial Aid and Scholarships or by the appropriate college or division according to established criteria. Awards are based upon merit and/or need. To be considered for need-based scholarships, students must complete the FAFSA. For information on specific scholarships, students should visit the scholarships website.

#### *Private Off-campus Scholarships*

Private off-campus scholarships include those awarded to students by outside (non-JMU) organizations. These scholarships are credited to the student's account upon receipt of the funds. If this type of scholarship is to be used to pay tuition and fees, the funds must be received prior to the payment due date for that semester.

Mail all off-campus scholarship checks to:

James Madison University Business Office

738 South Mason Street

MSC 3516

Harrisonburg, VA 22807

The student is responsible for compliance with the provisions of the scholarship (e.g., grade reporting and verification of attendance).

#### Virginia Military Survivors and Dependents Education Program (VMSDEP)

This program provides eligible students, as confirmed by the Virginia Department of Veterans Services (DVS), with waiver of all tuition and mandatory fees at a Virginia public college or university. In addition, as funds are available, eligible students may receive a stipend to offset other educational expenses, such as room and board.

#### Virginia Line of Duty Waiver

Students whose parent or spouse was disabled or killed in the line of duty while employed or serving as a public safety officer or firefighter with the Commonwealth of Virginia or one of its political subdivisions shall be entitled to free undergraduate tuition and the payment of required fees under certain conditions.

#### Student Employment

Website: <http://www.jmu.edu/student-employment>

JMU employs both graduate and undergraduate students in academic, administrative or service-oriented areas. Students must be degree-seeking and enrolled on at least a half-time basis during the academic year to be employed in these positions. They receive payment for their services via direct deposit twice a month. Wages earned in student positions are not applied directly toward the cost of tuition; however, they serve as a source of income for weekly living expenses. There are three work programs at JMU.

#### Federal Work-Study Program

Federal Work-Study jobs are part of the financial aid package for students who demonstrate financial need as determined by their FAFSA. Students who are offered Federal Work-Study will need to apply and interview with employers to secure a position; however, employment is not guaranteed. These jobs provide a student with the opportunity to earn a paycheck throughout the year. If the student reports FWS earnings as need-based employment on the FAFSA, then the money earned through this program is not counted as income when determining financial aid eligibility for that year.

#### Institutional Employment

Institutional employment positions are on-campus positions available to degree-seeking JMU students regardless of financial need. To obtain additional information concerning available on-campus positions, refer to JobLink at <http://joblink.jmu.edu>. There are approximately 2,000 Institutional Employment positions available on campus each year. Students may not work more than 20 hours per week in any on-campus position during the fall and spring semesters.

#### Off-Campus Part-Time Jobs

The Off-Campus Part-Time Job Program is designed to assist students in securing off-campus, part-time employment regardless of their financial aid eligibility. The program's coordinator works with local employers to promote hiring JMU students and to assist with advertising their opportunities. Additionally, the program is centered on creating real-world experiences for students that will not only increase self-knowledge but also develop marketable skills that will provide a solid foundation for securing career options beyond graduation.

#### University Withdrawal

If students withdraw from the university, the University Business Office may adjust their charges based upon their withdrawal date and the JMU Refund Policy. For the university refund policy, refer to the University Business Office.

#### Your Right To Know

Your personal safety and the security of the campus community are of vital concern to James Madison University. Information regarding campus security and personal safety, including topics such as crime prevention, sexual assault, available resources, the law enforcement authority of the James Madison University Police Department, emergency notification protocols, protocols for resident students who are reported missing, fire safety and residence hall fire statistics, and crime reporting policies can be found in the James Madison University Annual Security Report and Annual Fire Safety Report. The publications also contain reported crime statistics for the most recent three-year period that occurred on campus, in certain off-campus buildings or property owned or controlled by James Madison University or affiliates, and on public property within, or immediately adjacent to and accessible from, the university's Harrisonburg campus and three international campuses.

The reports are available from the JMU Department of Police and Public Safety website at <http://www.jmu.edu/publicsafety/clerycompliance/righttoknow.shtml>.

You can obtain a copy of these reports by contacting:

Department of Police and Public Safety, James Madison University

821 South Main Street, MSC 6810

Harrisonburg, VA 22807

You can request that a copy be mailed to you by calling (540) 568-6769/6913.

#### Non-Discrimination Statement

##### *Notice of Non-Discrimination and Equal Opportunity*

James Madison University does not discriminate on the basis of age, disability, race or color, national or ethnic origin, political affiliation or belief, religion, sex, sexual orientation, gender identity or expression, veteran status, parental status (including pregnancy), marital status, family medical or genetic information, in its employment, educational programs, activities, and admissions. JMU complies with all applicable federal and state laws regarding non-discrimination, affirmative action, and anti-harassment. The responsibility for overall coordination, monitoring and information dissemination about JMU's program of equal opportunity, non-discrimination, and affirmative action is assigned to the Office of Equal Opportunity. Inquiries or complaints may be directed to Office of Equal Opportunity:

James Robinson, Director, Office of Equal Opportunity, James Madison University

1017 Harrison Street, MSC 5802

Harrisonburg, VA 22807

(540) 568-6991

oeo@jmu.edu

JMU prohibits sexual and gender-based harassment including sexual assault and other forms of inter-personal violence. The responsibility for overall coordination, monitoring and information dissemination about JMU's Title IX program is assigned to the Title IX Coordinator. Inquiries or complaints may be directed to the Title IX Coordinator:

Amy Sirocky-Meck  
Title IX, James Madison University  
100 East Grace Street, Suite 4033, MSC 7806  
Harrisonburg, VA 22807  
(540) 568-5219      [titleix@jmu.edu](mailto:titleix@jmu.edu)

## Academic Standing and Continued Enrollment

Continued enrollment at JMU depends upon an undergraduate student's ability to maintain satisfactory academic progress toward attaining a degree. The university measures this ability by the student's cumulative grade point average.

To assist students in maintaining satisfactory progress, JMU has adopted academic standards designed to provide early identification of students who are experiencing academic difficulty and to provide timely intervention through academic support programs.

### Academic Good Standing

An undergraduate student who maintains a cumulative grade point average of at least 2.0 is considered to be in academic good standing and is eligible for continued enrollment at JMU.

#### Academic Notice

A student with a cumulative grade point average of 2.0 or above who earns a semester/term GPA below 2.0 is given a "academic notice". Academic notice alerts a student to the consequences of continued poor academic performance and is communicated to the student and the student's adviser. Academic notice does not appear on the student's permanent academic record, and the transcript notation for the semester/term will reflect "Academic Good Standing."

#### Academic Probation

Academic probation is an indication of serious academic difficulty and applies whenever a student's cumulative grade point average falls below 2.0. A student who is placed on academic probation at the end of a semester/term may enroll for the following semester/term; however, a student on academic probation will be restricted to a course load of no more than 13 credit hours each semester until their cumulative grade point average has improved sufficiently enough to remove them from academic probation. The university might also require students on academic probation to confer regularly with their academic advisers, participate in academic skills development programs, and/or utilize specific JMU academic resources.

#### Academic Suspension Threshold

A student will be placed on academic suspension alert or academic suspension if that student's cumulative grade point average falls below the academic suspension threshold for a student with their total number of hours for standing.

Total Number of Hours for Standing <sup>1</sup>	Cumulative GPA for Academic Suspension Threshold
1-27	less than 1.500
28-44	less than 1.650
45-59	less than 1.750
60-74	less than 1.850
75-89	less than 1.900
90-104	less than 1.994
105-119	less than 1.999
120 or above	less than 2.000

<sup>1</sup> Total Number of Hours for Standing includes all hours attempted at JMU plus:

- Credit hours transferred to JMU.
- Credit hours earned by departmental exam and AP credit.
- Credit hours for courses taken on a credit/no credit basis (whether the final grade was CR or NC). For instance, in the example below a student has attempted 60 credit hours at JMU and received 30 credits for transfer work and two hours of no credit work. The hours attempted plus the no credit and transfer hours place this student in the 92 credit hour category, even though the total number of hours earned is equal to 82. With a cumulative GPA of 1.991, the student is subject to suspension.

JMU Hrs Attempted Hrs	Trans Hrs	NC Earned	JMU Hrs. Earned	Cum. Hrs. Standing	Hrs for Pts Earned	Cum. Points Earned	Quality Cum. GPA
60	30	2	52	82	92	119.5	1.991

## Academic Suspension

A student will be placed on academic suspension if:

- their current term of enrollment is greater than the first term of enrollment and their cumulative GPA is below the academic suspension threshold the end of a spring semester.
- their cumulative GPA is below the academic suspension threshold at the end of a summer session, and their academic status was academic suspension at the end of the immediately preceding spring semester

As a rule, academic suspension will be invoked at the end of spring semester (and summer session for students who attend summer session); however, in exceptional cases where academic performance is persistently unsatisfactory, or in cases where students fail to meet continued enrollment or conditions, the university may choose to suspend students at the end of fall semester.

The period of academic suspension is a minimum of twelve months following a first suspension, and a minimum of twenty-four months following a second suspension. A student who is academically suspended for a second time is eligible to apply to return to JMU by agreeing to apply for the Transfer Equivalent Option (TEO) upon their approved return to JMU. Re-entry is not guaranteed.

#### Academic Dismissal

A student who is suspended a third time will be permanently dismissed from the university. No appeal of this dismissal will be considered, nor will a student dismissed for academic deficiency be allowed to exercise the Transfer Equivalent Option (TEO).

#### Academic Standing If Enrolled in Fewer than Nine Credit Hours During First Term of Enrollment

A student who takes fewer than nine credit hours in their first term/semester at JMU will not be reviewed for academic standing that term/semester.

## Adding a Course, Changing Sections or Changing Credit Options

Students may add a course and change sections or credit options according to deadlines and instructions published on the Registrar's website. Students should note that adding a course may result in a tuition increase.

Dropping and withdrawing both result in the termination of a student's enrollment in that course.

## Dropping a Course

Dropping a course must be completed before the drop deadline, which is the second Tuesday of a regular semester. There is no fee for dropping a course, and the dropped course will not appear on the student's transcript. Depending on the student's course load, dropping a course might result in a tuition reduction.

## Withdrawing from a Course

A student may terminate enrollment in a course by withdrawing from the course after the drop deadline but before the course adjustment deadline. A student who withdraws from a course will receive a grade of "W" for the course, and this grade will be recorded (and remain) on the student's transcript regardless of the status of the student in the course at the time of the withdrawal. Additionally, tuition charges will apply for a withdrawn course.

In extraordinary situations, a student unable to complete some course requirements after the course adjustment deadline (approximately one week after midterm grades are due for a regular semester) may request that the instructor consider awarding a grade of "WP" (Withdrawn Passing) or "WF" (Withdrawn Failing). A student should not assume that a late withdrawal will be provided by the instructor. There is no obligation for the instructor to assign a "WP" or "WF" grade. The instructor determines the form (e.g., verbal, written) and timing of requests for a "WP" or "WF" grade. The student must ensure that the request is made in an appropriate manner and at an appropriate time. In response to such a request, the instructor may choose to record a grade of "WP" or "WF," but is not obligated to do so and may record any grade other than "W." The course instructor may also suggest that the student contact the Office of the Dean of Students about withdrawing from the university. Withdrawing from a course will not result in a tuition reduction.

Students considering withdrawing from a course should be aware that graduate and professional schools and future employers might hold differing opinions on a student's withdrawal from a course. For this reason, a student should withdraw from a course only after serious consideration.

## Course Load

The university considers full-time enrollment in a term to be a minimum of 12 credit hours. In all programs, the normal load per semester is 15 or 16 credit hours. A student with a cumulative grade point average of 3.25 or better may register for as many as 21 credit hours per semester. Any student in academic good standing may take a maximum of 19 credit hours without securing special permission.

Students in academic good standing who wish to exceed these credit per semester limitations must secure permission from the head of the academic unit in which they are majoring. The university strongly recommends that a student who earns a semester grade point average of less than 2.0 not register for more than 16 credit hours the following semester. A student on probation may not take more than 13 credit hours per semester without appropriate approval.

### Academic Probation and Course Load

Students on academic probation must get the approval of the office of the dean of their major college if they wish to take more than 13 credit hours per semester. Students should note that an undergraduate course load of at least 13 credit hours a semester is required for a student to live in a residence hall.

### Summer Session Course Load

During summer session, undergraduate students are advised to take no more than six credit hours for each four-week term, nine credit hours for each six-week term and 12 credit hours for each eight- and ten-week term. Students are reminded that summer course work is intensive because of the condensed instructional time-frame and are encouraged to plan their summer schedules with the demanding workload in mind.

## Attendance

A student's participation in the work of a course is clearly a precondition to receiving credit in that course. Because of the wide variety of courses and teaching methods at JMU, the university recognizes that the nature of a student's participation in the work of a course cannot be prescribed on a university-wide basis. For this reason, classroom attendance is not a matter subject to regulation by the university. Attendance in class and the laboratory is a matter between the student and the faculty member in that class or laboratory.

### Absence Policy

Instructors' policies govern how many excused absences will be allowed and how these excused absences will be handled in their classes. Certain absences are often considered legitimate:

- Scheduled absences (known in advance at the start or within the first two weeks of the semester).
- Religious observance where the nature of the observance prevents student from attending class.
- Scheduled necessary medical procedures.
- Participation in intercollegiate athletic competitions.
- Functions or performance activity related to academics (music, debate, workshop, academic conferences, etc.).

Faculty are strongly encouraged to publish, as part of the course syllabus and/or discuss during the initial class session, how many excused absences will be allowed, any mandatory and/or unrepeatable components of the course, and the expected procedure for requesting and obtaining approval for scheduled absences.

Students are required to notify the faculty by no later than the end of the Drop-Add period the first week of the semester of potential scheduled absences and determine with the faculty if mutually acceptable alternative methods exist for completing the missed classroom, lab, clinical/field or other required activities. This allows students to drop the course if it is determined that missed academic activities cannot be rescheduled in a reasonable fashion or that the absences would prevent adequate mastery of the material. Students are to submit verification of scheduled absences to the faculty no later than the first class period of the second week of the semester. Examples of unexpectedly rescheduled absences (initially scheduled, then changed with limited notice) and unforeseeable unscheduled absences (compelling, verifiable circumstances beyond the student's control) include:

- Activity season extended due to achieving berth in playoffs (verified by athletic director).
- Death in immediate family (verified by funeral director and/or copy of obituary).
- Disaster services or armed services activation for duty (verified by copy of official notification).
- Inclement weather postponement of the event or postponement and rescheduling of the event by external parties, e.g., illness of featured speaker (verified by event coordinator).
- Jury duty or court-ordered appearance (verified by clerk of the court).
- Other unavoidable compelling verifiable absence.
- Student illness or injury (verified by health care provider).

Students are to notify the faculty of each unexpected absence and determine with the faculty if mutually acceptable alternative methods exist for completing or demonstrating mastery of missed learning activities within one week of becoming aware of the projected absence.

If required by the faculty, students are to submit verification of any absence to the faculty prior to the absence if possible and upon return to class if not possible prior to the absence. Faculty may consider the absence as unexcused if the student fails to comply with published notification and verification timeframes or procedures.

## Auditing

In order to audit a class, a student must have the permission of the instructor and the academic unit head offering the class. Audited courses will not affect a student's attempted and earned credit hours or grade point average, but tuition will be billed for the course.

## Catalog of Record

For General Education and university degree requirements, students are generally subject to the curricular and graduation requirements contained in the undergraduate catalog in effect upon their enrollment at JMU. A student who declares or changes a major, minor, preprofessional program or concentration will complete the requirements in effect for the catalog year in which the declaration or change was made. With approval from the academic unit overseeing the academic program, the catalog requirement term can be adjusted forward or backward.

## Aging Credit

With the exception of undergraduates enrolled in adult degree programs, students are expected to complete all baccalaureate major and degree requirements within seven years of their original entry date to JMU or previous higher educational institution(s). If required by the academic unit, academic work completed more than seven years prior to the students' anticipated graduation date might be subject to review by the major and minor academic units and the General Education Program for applicability to the undergraduate degree program. Additional standards may apply in programs leading to licensure or certification.

## Changes in Requirements

James Madison University is a progressive educational institution, and its offerings and requirements in the undergraduate catalog are under continual examination and revision. Revisions often affect currently enrolled students. Although the university attempts to alert students to these revisions through the academic advising process, individual reports of academic progress and various campus publications, responsibility for meeting all curricular and other graduation requirements rests with the students, who are encouraged to consult regularly with their program advisers as well as Career and Academic Planning.

## Classification

The classification of students depends upon the number of credit hours they have earned.

Classification	Credit Hours
First Year	Fewer than 28
Sophomores	28-59
Juniors	60-89
Senior	More than 89

## Course Adjustment

A course adjustment is any change to a student's registered course schedule. A course adjustment can include any of the following: changing a credit option, changing a section, adding a course, dropping a course or withdrawing from a course. Deadlines for processing specific course adjustments are stated on the Registrar's website. The end of the course adjustment period (approximately one week after midterm grades are due for a regular semester) is the deadline for withdrawing from a course and changing credit options for a semester course. Each student is responsible for knowing his/her registered course schedule and for making any desired course adjustments prior to the published registration deadlines.

## Confidentiality of Educational Records

### The Family Educational Rights and Privacy Act of 1974

James Madison University adheres to and annually informs students of the Family Educational Rights and Privacy Act of 1974, as amended. This act, with which the institution intends to fully comply, was designated to protect the privacy of educational records. Under the Family Educational Rights and Privacy Act (FERPA), students have certain rights with respect to their education records. These rights include:

The right to inspect and review the student's education records within 45 days of the day the university receives a request for access.

The student should submit to the registrar, dean, head of the academic unit or other appropriate official written requests that identify the record(s) he/she wishes to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

The student may ask the university to amend a record that he/she believes is inaccurate or misleading. The student should write the university official responsible for the record, clearly identify the part of the record he/she wants changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of his/her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted or outsourced institutional services or functions (such as an attorney, auditor, food service or bookstore provider, or collection agent); a person serving on the Board of Visitors; a volunteer performing services for the institution; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his/her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his/her professional responsibility. Upon request, the university may disclose education records without consent to officials of another school in which a student seeks or intends to enroll.

The following is considered "Directory Information" at James Madison University and may be made available to the general public unless the student notifies the Office of the Registrar in person or in writing within five days after the first day of class registration: Student's name, major and minor fields of study, college of major and year (first year, sophomore, etc.), enrollment status (full-time/part-time) including credit hours, dates of attendance, degree sought and time, degrees conferred, awards and honors conferred, participation in officially recognized activities and sports, weight and height of members of athletic teams, the most recent previous educational agency or institution attended by the student, and fraternity and/or sorority and educational societies.

Enrolled students may "opt in" to three additional data elements of directory information: address, email address and telephone number. By "opting in" to these additional data elements, the student is authorizing JMU to release this information to any third party entities who request any directory information on JMU students. If a student wishes to "opt-in" to these additional three elements, email registrar@jmu.edu.

Students have the right to file a complaint with the U.S. Department of Education concerning alleged failures by James Madison University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C. 20202-4605 or <http://www2.ed.gov/policy/gen/reg/ferpa/index.html>.

More detailed information concerning JMU's records policy is available from the James Madison University Policies Manual Policy 2112, The Family Educational Rights and Privacy Act, at <https://www.jmu.edu/JMUpolicy/>.

## Credit Hours

The JMU academic calendar is based on the semester system. The unit of credit is the credit hour. A credit hour represents one 50 minute class period (or its equivalent in other forms of instruction) each week in the semester for lectures, or two 50-minute class periods for each week in the semester for laboratory or fieldwork.

A minimum of 750 minutes of instruction or equivalent is required for each credit hour.

## Credit/No-credit Course Registration

The credit/no-credit option was established to encourage students to explore academic areas with which they are unfamiliar. Academic exploration allows students to fully integrate field-based learning activities into appropriate programs of study. The design of the credit/no-credit option allows students to participate in courses outside of their major and minor fields of concentration without jeopardizing their academic records. In some cases, the c/nc option might also help to reduce academic pressures and competition for grades.

Students electing to take courses under this option should be selective in choosing the courses that they take as credit/no-credit. Graduate and professional schools and future employers, however, might hold differing opinions of such a nontraditional grading system. For this reason, students should consult with their academic advisers for information concerning the inclusion of credit/no-credit course grades within their programs.

Students are eligible to take a course on a credit/no-credit basis if they have completed at least 28 credit hours at JMU and have attained a 2.25 cumulative grade point average or higher. Transfer students may take courses on the credit/no-credit option only if they have completed 28 credit hours with at least 14 hours at JMU.

JMU allows students to register for kinesiology activity courses on a credit/no-credit basis at any time without regard to minimum hours completed or grade point average. Also, grades for student teaching are assigned on a credit/no-credit basis. Except for field-based courses (which may be defined by an academic unit as credit/no-credit), the following courses may not be taken as credit/no-credit:

- Courses used to meet General Education requirements
- Courses used to meet declared major requirements
- Courses used to meet declared minor requirements
- Any course listed by subject name in the major or minor program, even if the course does not specifically satisfy a requirement for the major or minor
- Courses being repeated that were previously taken for a letter grade

Students should also keep in mind the following factors when considering the credit/no-credit option:

- Students can take up to 15 credit hours on a credit/no-credit basis.
- The university limits the maximum number of credit/no-credit courses a student can take to four credit hours per semester or one course of more than four credit hours per semester.
- Student teaching is not counted as a part of these credit/no-credit totals.
- Students registering for classes should complete the required paperwork with the Office of the Registrar for courses that they plan to take on a credit/no-credit basis, and all changes to and from the credit/no-credit option must be completed by the end of the course adjustment period.
- The credit/no-credit option will only apply to final grades. All course work and quizzes will be graded as if the student were taking the course for graded credit.
- Students taking a course on a credit/no-credit basis will only be identified to the instructor after final grades have been submitted.

Instructors will submit letter grades to the university registrar who will then change all grades of "A" through "C" to "CR" (credit) for those students enrolled under the credit/no-credit option. (The university makes exceptions to this process for field-based courses designated by the academic unit.) Students will receive credit hours, but they will not receive quality points for the work completed. Therefore, the grade of "CR" will not affect a student's cumulative grade point averages.

A grade of "NC" (no-credit) will be recorded for all grades of "C-" and below, and the student will not receive credit hours or quality points for the grade of "NC." The fact that the student took the course will remain on that student's transcript, but the grade assigned in that class will not affect that student's cumulative grade point average.

## Credit by Examination

College degrees represent growth and maturity in certain fundamental knowledge and skills rather than a mere accumulation of credit hours. In recognition of the fact that some persons may achieve academic competence through nontraditional means, such as private study, technical employment or prior instruction, JMU endorses the concept of credit by examination.

By permitting a student to earn credit by academic unit examination for knowledge already gained, highly motivated or academically advanced persons are able to accelerate their program. It is the student's responsibility to ascertain what preparation and background are necessary for taking advantage of this means of acceleration, before attempting an examination.

Any enrolled undergraduate student may apply to take an examination for credit in selected courses in the undergraduate curriculum. Permission to take an examination for credit must be obtained from the head of the academic unit in which credit is sought. A student will not be permitted to take the examination for credit for a course which satisfies:

- The student is presently enrolled in the course.
- The student has previously completed the course.
- The course is a prerequisite for a course in which the student is currently enrolled or has completed.
- The course is numbered at a lower level than other courses in which the student is currently enrolled or has previously completed, unless the express approval of the academic unit head is secured.
- The course appears previously on the student's record with a grade assigned due to a violation of the Honor System.

Each academic unit will use its own discretion in developing the form of the examination and in determining the procedure to be followed. Students may earn as many as 30 credit hours through credit by academic unit examination, with no more than 12 credit hours in any one discipline. To receive credit, a student must make a grade of "C" or better on the examination. Each academic unit shall determine what constitutes a "C" for that academic unit. No academic unit shall require a grade higher than a "C" for passing the examination. The examination for a course can be taken only once in a given semester. A nonrefundable fee must be paid prior to the administration of an examination for credit. (Refer to Tuition and Fees.) Each academic unit will determine its time schedule for giving examinations.

## Independent Study

Every academic unit at JMU offers a course designed to give capable students an opportunity to do faculty-supervised independent studies. Such courses often carry more than the normal three credit hours for a semester's work. In addition, these independent study courses allow especially capable students to work at their own, often accelerated pace.

Arrangements for independent study should be made with individual faculty members.

## Final Examinations

Students are expected to attend final examinations during the times scheduled for those examinations. Extenuating circumstances, however, might prompt faculty members to approve a student's request for an exception to attending the final examination. Students whose requests for exceptions are disapproved by the relevant faculty members have the right to appeal to the relevant academic unit head or academic dean. No appeal will be favorably considered without prior consultation with the faculty member.

### Final Examinations Missed Due to Inclement Weather or Emergency

In response to inclement weather and other emergencies, the university may be forced to cancel final exams. When the university closes due to weather or other types of emergencies, faculty will administer regularly scheduled final examinations at an official make-up time designated by the university unless otherwise announced in the course syllabus. The official make-up time will be designated as part of the closing announcement. Unless otherwise notified, make-up examination locations will be the same as locations for regularly scheduled exams.

If it is determined that exams cannot be given because of inclement weather or other emergency, faculty will assign final grades to students based on the exams, tests and projects completed prior to the regularly scheduled exam dates.

## Grade Review Procedure

Maintaining standards of excellence and the integrity of the teaching/learning process are important values to JMU faculty. The university and its faculty members also recognize that grades may sometimes be inappropriately assigned. If such disagreements occur, students have a right to voice their opinion concerning a particular course grade. Evaluation of student work and assignment of grades on the basis of academic criteria are the responsibilities and prerogative exercised by the faculty member. A faculty member has the responsibility to evaluate student performance on a fair and scholarly basis in accordance with university policy.

It is the student's responsibility to maintain all documentation for his/her classes, including copies of assignments and grades earned.

### Grade Change Procedure

If a student (graduate, undergraduate or post-baccalaureate) believes that a grade was assigned in error, because of a mistake in calculation or an error in recording a grade, the student should consult the faculty member (or faculty members, in the case of a jointly taught course) before the Friday of the second week of classes in the regular semester following the semester of the contested grade to resolve the discrepancy.

Requests for review of spring semester or summer session grades must be initiated no later than the Monday of the third week of classes in the subsequent fall semester. It is the student's responsibility to maintain all documentation for his/her classes, including copies of assignments and grades earned. If the faculty member agrees that a change should be made, the faculty member should initiate a Grade Change request through the MyMadison Faculty Tab.

The only basis for this type of change is an error in grade assignment or calculation.

If the faculty member does not agree to change a grade based on an error in recording the grade, the student may activate the grade review process listed below.

### Grade Review Process

If a student (graduate, undergraduate or post-baccalaureate) believes that a final course grade was unfairly awarded, that student may initiate the grade review process. Students should be aware that, as a result of review, a grade may be raised, lowered or left the same. Evaluation of student work and assignment of grades on the basis of academic criteria are the responsibilities of and prerogative exercised by the faculty member teaching that particular course. Grades should be assigned on a fair and scholarly basis. Grounds for grade review are limited to two categories.

- The grade was assigned in a manner other than that listed in the course syllabus or as amended by the faculty member with appropriate notice.
- The grade was assigned in a manner other than that used for other students in the class.

### Activating the Grade Review Process

To activate the grade review process, the student should follow these steps.

- The student submits a Grade Review Form (available from the Registrar's website) to the appropriate faculty member by Monday of the third week of classes in the regular semester that follows the semester for which the contested grade was given. The student should attach a written explanation of reasons for the dispute, including any documentation relating to the disputed grade. Requests for review of spring semester or summer session grades must be initiated no later than the Monday of the third week of classes in the subsequent fall semester.
- The student communicates with the faculty member by Friday of the third week of classes to attempt to resolve the concern.
- If the student and the faculty member reach an agreement that the grade should be changed, the faculty member changes the grade by initiating a Grade Change request through the MyMadison Faculty Tab.
- If no resolution is reached, the faculty member signs the Grade Review Form and records a written response on the reverse side of the form. The faculty member returns the original copy of this form to the student, retains a copy of the form for his/her personal records and forwards a copy to the relevant academic unit head by Friday of the fourth week of classes.
- The student must contact the relevant academic unit head by the Friday of the fifth week of classes to request review of statement and response.
- The academic unit head then meets with the student and confers with the relevant faculty member.
- The academic unit head signs the Grade Review Form and records a written response on the reverse side of the form by Friday of the seventh week of classes. The student receives the original copy of this form, the relevant faculty member receives a copy of the form and the sender retains a copy of the form.
- If all involved parties agree that the grade should be changed, the faculty member initiates a Grade Change request through MyMadison Faculty Tab.
- After the review process outlined has been completed, if the academic unit head and faculty member agree that a grade should not be changed, a student can also request that the form, documentation and responses be reviewed by the dean of the college in which the class was taught. The college dean's responsibility is to ascertain whether all parties have had an opportunity to present all relevant facts and have received a fair and impartial hearing at each level, and to review whether the faculty member has acted appropriately in assigning the grade. To enter this phase of the process, a student should follow these procedures.
- The student contacts the dean by Friday of the eighth week of classes and requests that the dean review the overall process.
- The college dean reviews the process to be sure the student and the faculty member have had a fair hearing, and whether the faculty member has acted appropriately in assigning the grade. If the relevant college dean believes that due process was not followed during the review process, or that the faculty member has not acted appropriately in assigning the grade, the dean consults with the relevant faculty member and academic unit head or cluster coordinator in an attempt to resolve the dispute.
- The relevant college dean sends a written response to all involved parties by Friday of the tenth week of classes. This written response is appended to the Grade Review Form. The dean returns the original copy to the student, retains a copy for him/herself and sends a copy to the relevant academic unit head and the relevant faculty member. If it is agreed that the student's grade should be changed, the relevant faculty member initiates a Grade Change request through the MyMadison Faculty Tab.

If the dean determines that the grade will not be changed, there is no further review available to the student. The entire process will not extend past the end of the semester following the contested grade with the exception of grades given for summer session courses.

### Special Circumstances



Students who spend a semester abroad should submit the Grade Review Form to the relevant faculty member by the Monday of the third week of classes in the semester following the semester during which the grade was given. These students must also notify the faculty member of their semester absence from campus.

Students can complete a written explanation of the reasons for the dispute and can submit relevant documentation upon their return to campus, but that student cannot submit the request after the end of that semester.

If a faculty member is not on campus when a student wants to initiate a grade review, the student should contact the academic unit head to begin the process. The academic unit head will contact the faculty member for his/her decision on whether the grade should be changed.

Grades for block courses are recorded at the end of the semester; therefore, a grade review process for a block grade should follow the same procedure as for a semester course.

## Graduation

### Graduation Requirements

The academic unit head, or designee, verifies completion of major and minor course requirements for graduation. The Office of the Registrar verifies completion of courses required for the final term, total credits earned, the General Education program, degree requirements and the cumulative GPA earned at the university, as well as other university-wide requirements.

To receive a degree from JMU, students must:

- Meet the General Education requirements.
- Have a minimum of 120 earned credit hours accepted by JMU.
- Have a cumulative grade point average of 2.0 or better at JMU.
- Have a cumulative grade point average of 2.0 or better in the major and minor subjects at JMU.
- Meet the major and degree requirements of one of the curricula leading to the degree for which they are candidates.
- Have been enrolled at JMU a minimum of two semesters.
- Have earned a minimum of 25% of credit hours at JMU (30 credits for degree programs of 120 credits).
- Have earned at least 50% of credit hours accepted by JMU from accredited senior (four-year) institutions of higher education, including JMU (60 credits for degree programs of 120 credits).

A student expecting to graduate at the end of any semester must file an Application for a Bachelor's Degree, available on the Registrar's website, with the university registrar as specified in the University Calendar. Responsibility for meeting graduation requirements rests with the student.

A student who has applied to graduate may participate in commencement exercises only if the student has fulfilled or is reasonably expected to fulfill all applicable graduation requirements prior to the date of the commencement exercises. A student who is reasonably expected to fulfill all applicable graduation requirements no later than the end of summer session may participate in the spring commencement exercises immediately preceding the summer term.

Attendance at commencement exercises is expected.

Permission to participate in (or actual participation in) commencement exercises does not mean or imply that a student has fulfilled all applicable graduation requirements.

### Graduation with Honors

Before becoming eligible for graduation with honors, a student must successfully complete the following:

- Enrollment at JMU for a minimum of four semesters (fall and spring).
- Completion of a minimum of 60 attempted and earned credit hours at JMU.
- A minimum cumulative grade point average of 3.50 on all course work completed at James Madison University, including any work completed at JMU as a dual enrollment student prior to undergraduate matriculation and/or any work attempted and earned beyond four semesters or 60 credit hours.

Graduation honors will be determined as specified based on all course work attempted and earned at JMU.

Cumulative Averages Required for Graduation Honors	
Honors	Average
Cum laude	3.50-3.699
Magna cum laude	3.70-3.899
Summa cum laude	3.9 and above

These standards apply only to students entering JMU for the first time in fall 2015 and thereafter. Requirements for graduation with honors for students who entered JMU prior to 2015 are regulated by the catalog in effect at the time they enrolled.

All grades received in all courses attempted at JMU will be used to calculate the grade point average in consideration for graduation with honors.

Graduation honors will be noted in the printed commencement program. The graduation honors printed in the program will be based on the grade point average at the end of the semester preceding the semester in which final graduation requirements are met. However, for students who participate in the May ceremony but complete requirements in summer session, the honors noted in the commencement program will be based on the grade point average earned at the end of the preceding fall semester. Final graduation honors recorded on the diploma and transcript will be determined by the grade point average at the end of the semester in which all graduation requirements are met.

### Graduation Awards

The title of Valedictorian is an honor bestowed by the Faculty Senate on behalf of the JMU faculty. Criteria were established by the Faculty Senate. It is given to the May graduate with the highest grade point average who has also earned at least 100 credit hours at James Madison University as of the fall semester prior to the student's May graduation. The student must have completed an average of at least 14 credit hours per fall and spring semester during his/her career at JMU. The grade point average will be calculated using grades recorded on the official transcript through the fall semester of the student's last year of undergraduate enrollment.

The Academic Excellence Award is an honor bestowed by the JMU Faculty Senate on behalf of the JMU faculty. Criteria were established by the Faculty Senate. It is for the student graduating in August or December who holds a grade point average that equals or exceeds that of the valedictorian and who has earned at least 100 credit hours at James Madison University. The student must have completed an average of at least 14 credit hours per fall and spring semester during his/ her career at JMU. The grade point average will be calculated using grades recorded on the official transcript through the spring semester of the student's last year of undergraduate enrollment. When more than one student qualifies for the Valedictorian or Academic Excellence Awards, each qualified student will be recognized.

### Grievance Procedure for Students

This policy applies to student grievances related to the instructional process that do not concern grades, discrimination or harassment. Policies for grievances concerning these matters are outlined elsewhere.

To initiate the grievance procedure, the student should submit to the academic unit head a written statement explaining the reason for the grievance. Supportive documentation should also be included. The academic unit head meets with the student and confers with the relevant faculty member. Following these meetings, the unit head initiates the process as follows.

Each academic unit head will appoint an advisory committee made up of faculty and students from the academic unit that will hear grievances of students. The advisory committee may take any of the following actions:

- Examine materials submitted by the student and the party grieved against ("respondent").
- Interview the student and the respondent.
- Interview any witnesses requested by the student, the respondent or the committee.
- Request additional materials from any person or entity relevant to the charges.
- Make a recommendation on the grievance to the academic unit head.

The academic unit head may accept the recommendation of the committee, reject the recommendation, or partially accept and partially reject the recommendation. The academic unit head will take any action he/she deems appropriate on the grievance.

- If the student or the respondent is dissatisfied with the action taken by the academic unit head, the action may be appealed to the dean. The decision of the dean is final.
- If the academic unit head is the party against whom the grievance is filed, the dean will receive the report of the committee and stand in the place of the head of the academic unit for the purpose of making the decision on the grievance. If the dean is the party against whom the grievance is filed, the Provost and Senior Vice President for Academic Affairs will handle any appeal.

Following the final disposition of the grievance, a brief written summary of the complaint and outcome is filed with the dean as per University Policy 3110.

Following exhaustion of campus-based procedures, students may direct complaints to the State Council of Higher Education for Virginia. Additional information is available from their website at <http://www.schev.edu/index/students-and-parents/resources/student-complaints>.

## Harassment

It is the established policy of JMU to provide a work and study environment for faculty and staff members and students free from all forms of harassment, intimidation and exploitation. Prohibited harassment is offensive verbal or physical conduct. Questions, assistance or violations related to this policy should be directed to the university's Office of Equal Opportunity, 1017 Harrison Street, (540) 568-6991.

As an alternative, the student may deal with harassment in any of the following ways. If a student believes that he/she has been harassed by a staff member, faculty member or a student employee, the student should take one or more of the following actions:

- Discuss the matter with the faculty or staff member involved, explaining why a particular comment or action was offensive.
- Discuss the matter with the immediate supervisor of the faculty or staff member, giving an account of the comment or action in question.
- If the student believes that he/she has been harassed by a student, the student should take one or more of the following actions:
- Discuss the matter with the accused, explaining why a particular comment or action was offensive.
- Bring a charge of harassment to the Office of Student Accountability and Restorative Practices.

If a student employee believes that he/she has been a victim of harassment, he/she should take one or more of the following actions:

- Discuss the matter with the accused, explaining why a particular comment or action was offensive.
- Discuss the matter with the immediate supervisor of the accused, giving an account of the comment or action in question.
- Contact the student employment office at (540) 568-3269.

Regardless of who the alleged harasser is, a student may discuss the matter with the Associate Vice President for Student Affairs, the director of the Counseling Center or the Office of Equal Employment, giving full details of the alleged harassment. The student will be advised of proper university procedures that can be pursued. If requested, complaints will be held in confidence and counseling will be provided. No investigation or action against the accused person will be taken on a student's behalf unless the student consents to be identified, if necessary, to the individual accused in connection with the investigation.

A student also has the option of filing a formal charge of harassment with the U.S. Department of Education. Contact information is available from the affirmative action officer at 1017 Harrison Street.

## Honor System

The academic program at JMU operates under an Honor System that dates back to the 1909-10 academic session. Students adopted the present Honor System in order to uphold individual and community integrity. Each student is expected to observe complete honesty in all academic matters and to report instances where another student has violated the Honor System.

A student Honor Council administers the Honor System, and every student who matriculates at the university, whether graduate or undergraduate, becomes a member of the Honor System. The university expects the cooperation of faculty members and administrators in upholding this Honor System. The Student Handbook provides full information on the Honor System, and the Honor Council office provides students with assistance in understanding Honor System policy. All incoming JMU students are required to complete an online Honor System Tutorial and test during their first semester.

The Honor Council encourages all members of the JMU community to familiarize themselves with the Honor Code and Honor System procedures.

## Inclement Weather or Emergency

When the university is closed due to inclement weather or other emergencies, all classes are cancelled. Policies regarding class cancellations are in the syllabus for each course.

### Makeup Days for Classes

When it is necessary to cancel classes due to weather or other emergencies, faculty have several options for making up the missed instructional time.

- Hold class at the regularly scheduled time on the official university make-up day, normally the Saturday immediately following the missed class.
- Accommodate the missed instructional time within remaining class meeting time.
- Hold class at a time acceptable to all class members other than the regularly scheduled time or the official make-up day. Time and location will be arranged by the academic unit.
- Hold class through electronic means.

## Major Information

Students entering JMU should confer with their advisers in order to determine a major program of study. If entering students have not decided on a specific major, they may register as undeclared. JMU encourages undeclared students to discuss their interests with representatives from the office of Career and Academic Planning, professors, academic unit heads and fellow students to find a major program best suited to each student's goals and interests.

Failure to do so could extend the time that students will need to fulfill graduation requirements. Students who would like assistance in identifying career options related to their specific majors can participate in the Major and Career Decisions Program through the office of Career and Academic Planning. The program helps students decide on career direction by assessing their career interests, skills and abilities as well as providing information about career options.

### Declaration of Major

All students must declare their major by the beginning of their sophomore year. To declare a major, students will make their request through the Major Minor Change link on the student center in MyMadison. The request will be forwarded to the academic unit they wish to enter. Academic units accept students on the basis of their academic records and on the satisfaction of other criteria the academic units might establish. Academic units assign advisers for students who are beyond the level of a first year student.

Transfer students who enter JMU with 30 or more credit hours must declare a major upon acceptance to the university.

### Change of Major

Students who would like to change their major will make their request through the Major Minor Change link on the student center in MyMadison. The request will be forwarded to the head of the academic unit they wish to enter. Academic units accept students on the basis of their academic records and on the satisfaction of other criteria the academic units might establish. Academic units assign advisers for students who are accepted as majors.

## Military Service

### Class Registration for Active Duty Students

James Madison University supports active duty students in the armed forces by providing assistance with class registration when necessary and by request. Active duty students needing assistance should provide a copy of their active duty orders to the Office of the Registrar prior to the first day of class to qualify for assistance under this policy. The Office of the Registrar will serve as an additional resource for the student and the academic unit(s) to assist with the creation of an appropriate class schedule to ensure the service member remains on track to degree completion in a timely manner.

### Section 103 Policy

In accordance with Section 103 of the Veterans Benefits and Transition Act of 2018, James Madison University has adopted the following policy for compliance, effective August 1, 2019:

James Madison University will allow an individual to attend and participate in a course of education if the individual provides a Certificate of Eligibility under Chapter 31 or Chapter 33. The individual is permitted to attend the course beginning the date the student provides the Certificate of Eligibility until the earlier date VA provides payment to the school or 90 days after the school certifies tuition and fees. James Madison University will not impose any penalty, including late fees, denial or access to classes, libraries or facilities, or require the student to borrow additional funds due to the inability to meet his or her financial obligations to the institution as a result of delayed payments for education assistance under Chapter 31 or Chapter 33. This policy only pertains to the VA payment of the tuition, comprehensive fee and individual course fees that are paid directly to the university. All other charges on a student's account, including but not limited to out-of-state tuition difference, remaining percentage of in-state tuition if not 100% eligible for Post 9/11, room rent, meal plan, parking fines and/or health center charges are required to be paid upfront by the student by the University Business Office deadline each semester. Late fees and holds may be assessed for these charges.

Section 103 allows the university to require additional actions in order to qualify for this policy. James Madison University requires Chapter 31 and Chapter 33 eligible students to submit their JMU Request for Veterans Educational Benefits form by the first Friday of the semester to the School Certifying Official to avoid a hold or late fee on the account for the VA issued tuition/fee payment. Additional documents – Student Agreement form, Certificate of Eligibility – are also required for first time benefit users at James Madison University.

### Short Term Military Leave

#### *For Mobilizations and Activations of One Day to Three Weeks*

Faculty members are expected to make reasonable academic accommodations or opportunities for students to complete course assignments and/or exams without penalty to the course grade for class absence(s) or missed deadlines due to mandatory military training or obligations. Students will provide faculty members with official military documentation (paper, electronic orders or a unit's memorandum) with as much advance notification as possible for absences that will result from temporal responsibilities of their military obligations. For time-sensitive state or federal emergencies/activations where written documentation may not be available until the end of the obligation, the student is responsible for securing those orders to provide to faculty members upon return to the university. For active duty deployments that exceed three weeks, students should refer to the university policy for "Students Called to Active Duty" on the Registrar's website.

### Support for Armed Services Active Duty

James Madison University supports students called to active duty in the armed services by providing for tuition relief and refunds, and for reinstatement of students whose documented service in the uniformed services has required their sudden withdrawal or prolonged absence from their enrollment in the institution. Included is service in the uniformed services whether voluntary or involuntary on active duty in the Armed Forces, including such service by a member of the National Guard or Reserve. When a JMU student is under call or ordered to active duty for a period of more than 30 days, the following provisions will apply.

## Academic Credit

If an enrolled student is deployed to active duty military service during the semester, the student will have three options concerning grades assigned for the semester in which the call to active duty occurs.

- If the student leaves at any time during the semester and elects to receive a full tuition refund, no notation of courses or grades will be recorded on the student's transcript.
- If the student elects to receive an "I" (Incomplete), the regulation regarding conversion of an "I" to "F" grade will be suspended until the student returns to campus. Should the student not return to JMU, the "I" will revert to a "W" (Withdrawal).
- If the student leaves at a point in the semester after which a significant amount of work has been completed, the student may request the assignment of a grade for work completed. This option requires joint agreement of the student and faculty member(s).

## Deposits

For new students, an enrollment deposit is required to confirm their acceptance of the offer of admission. If a student is deployed to active duty military service before beginning the planned semester of enrollment, the deposit will be refunded.

For returning students, deposits made with the intent of securing facilities or services in a future session will be refunded in full.

## Documentation

Students should complete Withdrawal or Leave of Absence forms and include a copy of the applicable military orders to qualify for the considerations detailed in this policy.

The Withdrawal Process is appropriate for students who are enrolled in a semester, are deployed to active duty military service and must begin that duty before the current semester has ended. Withdrawal forms are available through the Office of the Dean of Students located in Madison Union Room 300.

A Leave of Absence is appropriate for students who are deployed to active duty military service, but do not need to begin duty during a current semester; for example, if duty will begin during a future semester before classes begin. The Leave of Absence Form is available online from the Registrar's website.

## Room and Board

If an enrolled student is deployed to active duty military service during the semester, the student's dining and residence hall contract will be adjusted as follows:

- Board fees will be prorated from the dining hall opening date.
- A per diem refund of the room rent will be issued based on the student's official check-out date.

## Textbooks

When a student is called to active duty, a full refund for textbooks purchased for the semester in progress is available through the university bookstore by presenting the textbooks and a copy of the applicable military orders.

## Tuition Charges and Student Account Balances

If an enrolled student is deployed to active duty military service during the semester, the student can:

Drop all classes and all tuition charges will be waived with:

- Personal payments refunded
- Financial aid adjusted as required
- Financial aid refunds repaid by student if appropriate
- Maintain all or part of enrollment with:
- Tuition adjusted accordingly
- Financial aid adjusted as required
- Financial aid refunds repaid by student if appropriate

If there are unpaid student account balances at time of deployment, the university will work with individual students on payment arrangements. No collection actions will occur during deployment; however, student must resolve any unpaid balances prior to subsequent enrollment.

## Undergraduate Students

### Deferral of Enrollment

If an undergraduate student has been admitted to James Madison University and is called to active military duty or enlists in the National Guard before enrolling, the student may request a deferral of admission using the process below.

The student must submit a letter to the director of admissions requesting a deferment. In the letter the student should provide the reason for the request (call to active duty or National Guard boot camp will not end until after the start of the semester that the student intended to enroll) and indicate the term they wish to enroll (the term can be changed if needed).

The request is reviewed by the director of admissions who sends a letter notifying the student that his/her request has been granted and indicates when JMU expects the student to enroll. The director of admissions will also inform the following offices of the deferment: Registrar's Office; University Business Office; Financial Aid and Scholarships; Orientation Office; Residence Life, Career and Academic Planning; and University Advising (for transfer students).

During the semester prior to scheduled enrollment, JMU will send the student a letter explaining what needs to be done prior to the start of his/her enrollment at JMU.

If the student's discharge from the service is delayed, the student contacts the director of admissions and requests an extension of his/her deferment. The director will approve the delay and inform the following offices: University Business Office; Financial Aid and Scholarships; Orientation Office; Residence Life, Career and Academic Planning; and University Advising (for transfer students).

### Evaluation of Undergraduate Transfer Credits for Military Students

Credit will be awarded for those courses equivalent to courses offered at JMU in which the student has earned a grade of "C" or better.

The Office of the Registrar and the academic unit head of the program in which the student is majoring will determine the credits required for graduation.

With the exception of some Virginia community college degrees in General Studies, JMU General Education requirements will be waived for those students who have completed either the Associate of Arts, Associate of Science, or the Associate of Arts and Sciences degree at a Virginia community college. For the complete listing of degrees associated with a Virginia Community College that waive all General Education requirements, go to the Transfer Advising website at <http://www.jmu.edu/transfer>. Students who complete one of these associate degrees and are offered admission will receive junior-level status; however, due to varying major and degree requirements, junior-level status does not guarantee graduation in two years. For more details, consult the Office of Admissions or the JMU Virginia Community College Transfer Guide.

### Types of Credit Awarded

Type of Credit	Applies To	Reviewed By
Credits from other institutions of higher learning	All undergraduate degree seeking students	Office of the Registrar and the academic unit head of the major program of study
Learning acquired in military service	All Undergraduate degree seeking students	Office of the Registrar using the ACE guide recommendation on the military transcript
CLEP	Students in the Adult Degree Program	Adult degree program and the academic unit heads
DSST exams	Students in the Adult Degree Program	Adult degree program and the academic unit heads
Excelsior College examination	Students in the RN to BSN program	Nursing department and the Office of the Registrar
Individualized portfolio Evaluation	Students in the Adult Degree program	Adult Degree Program
DD-214	All undergraduate degree seeking students	Office of the Registrar

For questions pertaining to transfer credit for military education and training, contact the Office of the Registrar at (540) 568-6281 or [transfer\\_credit@jmu.edu](mailto:transfer_credit@jmu.edu).

## Re-entry

Formerly enrolled undergraduate degree-seeking students who have not attended JMU for one or more semesters and who wish to return to their studies at JMU are classified as re-entry students.

The re-entry process is contingent upon the student's length of absence and academic standing at the time of departure. To avoid delays in registration, the Intent to Enroll Form (for undergraduate students who have been absent from JMU for less than two years) or the Office of Admissions Re-entry Form (for students who have been absent for two or more years) must be submitted by the indicated deadline for the anticipated semester of return. All registration holds must be cleared before the student will be eligible to register.

### Re-entry after Absence of Less Than Two Calendar Years

#### Undergraduate Students in Good Standing

Students who left the university in good standing and who have been absent for one semester or more must submit an Intent to Enroll Form located at the Registrar's website.

#### Undergraduate Students on Academic Probation or Suspension

Students who were on academic probation or suspension when they left the university for active military duty, and who have been absent for one semester or more, must submit an Intent to Enroll Form directly to the Assistant Vice Provost for Academic Student Services. A personal statement describing the student's intended academic and study plans must accompany the form. Re-entry and continued enrollment are not guaranteed but are contingent upon review by an academic review committee chaired by the Assistant Vice Provost for Academic Student Services. Such review may result in denial or conditional re-entry.

## Re-entry after Absence of Two Calendar Years or More

Students who are eligible to apply for re-entry after an absence of two or more calendar years, regardless of their academic standing at the time of departure, must apply for readmission via the Office of Academic Student Services. Readmission is not automatic but subject to committee review of the application, the personal statement and evaluation of work completed at JMU, as well as work completed at other institutions during the student's absence from JMU.

If a degree-seeking student leaves James Madison University after earning a portion of General Education credits and earns an approved Virginia Community College System (VCCS) Associate Degree, JMU will accept it in fulfillment of General Education requirements. Students who earn the approved degree while on academic suspension status from James Madison University are only eligible to re-enter James Madison University by agreeing to apply for the Transfer Equivalent Option upon their approved return to James Madison University.

## Reinstatement into Specific Undergraduate Program of Study

When a student with a declared major wishes to return to the same program at the university after an absence of more than two years, the course work taken prior to withdrawal must be reviewed by an adviser/academic unit head prior to the student's re-enrollment. This counseling is required to assure that the previously completed course work is current and applicable to the major. The adviser will assist the student to develop an appropriate academic plan for degree completion.

Students without declared majors wishing to return to study should consult with an adviser in Career and Academic Planning to receive assistance in developing an academic plan.

## Graduate Students

### Deferral of Enrollment

If a graduate student has been admitted to James Madison University and is called to active military duty before enrolling, the student may request a deferral of admission using this process.

- The student must submit a request (i.e., letter or email) to the graduate program director requesting a deferment. In the communication, the student should provide the reason for the request (call to active duty) and indicate the term he/she wishes to re-enroll (the term can be changed if needed).
- The graduate program director approves the deferment and informs the director of graduate admissions that the deferment has been approved.
- The director of graduate admissions notifies the student that the request has been approved and informs the student to notify The Graduate School and their graduate program director at least 30 days prior to the first class day of the return semester.
- If the student's discharge from the service is delayed, the student contacts the director of graduate admissions and requests an extension of his/her deferment. The director of graduate admissions will approve the delay and inform the graduate program director.

### Leave of Absence

A military leave of absence is granted to graduate students deployed for active military service. The graduate program director of the program in which the student is enrolled must request a military leave of absence for a student in a graduate program. The request must be approved by the dean of The Graduate School. Continuous enrollment is granted for a specified time period that may not exceed four semesters total, excluding summer session. Any extension of the approved continuous enrollment period must be requested by the student 30 days prior to the deadline and approved by the dean of The Graduate School.

When a student on leave plans to resume graduate study, he/she must inform the graduate program director and The Graduate School at least 30 days prior to the first class day of the return semester. All registration holds must be cleared before the student will be eligible to register.

In the case of a military leave of absence, the time clock related to the time limit for the completion of the degree (i.e., master's and educational specialist students must complete all degree requirements within six years; doctoral students must complete all degree requirements within eight years) will be stopped at the semester in which the leave begins. The time clock will resume upon the student's return to the program. While all academic credit, including transfer credits taken before enrollment in the graduate program, will remain on the graduate transcript, courses originally approved to be counted toward the degree program which now fall outside of the original time limit must be reviewed and approved by the program director in terms of content relevancy. In some cases, additional course work may be warranted due to outdated information.

## Veterans Access, Choice and Accountability Act of 2014

James Madison University complies with veteran student regulations regarding tuition rates. The following individuals shall be charged a rate of tuition not to exceed the in-state rate for tuition and fees purposes:

- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in the Commonwealth of Virginia while attending a school located in the Commonwealth of Virginia (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge from a period of active duty service of 90 days or more.
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in the Commonwealth of Virginia while attending a school located in the Commonwealth of Virginia (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge from a period of active duty service of 90 days or more.
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same institution. The person so described must have enrolled in the institution prior to the expiration of the three-year period following discharge or release as described above and must be using educational benefits under either chapter 30, chapter 33, or chapter 31 of title 38, United States Code.
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in the Commonwealth of Virginia while attending a school located in the Commonwealth of Virginia (regardless of his/her formal State of residence) and the transferor is a member of the uniformed service who is serving on active duty.
- A spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the Commonwealth of Virginia while attending a school located in the Commonwealth of Virginia (regardless of his/her formal State of residence).
- An individual using educational assistance under chapter 31, Vocational Rehabilitation and Employment (VR&E) who lives in the Commonwealth of Virginia while attending a school located in the Commonwealth of Virginia (regardless of his/her formal State of residence) effective for courses, semesters, or terms beginning after March 1, 2019.
- The in-state tuition provisions do not apply to those individuals on active duty using benefits under the Post-9/11 GI Bill and Montgomery GI Bill-Active Duty.

Please visit the GI Bill website for more information regarding the Choice Act.

## Veterans Educational Benefits Grievance Procedure

The Virginia State Approving Agency (SAA), is the approving authority of education and training programs in Virginia. SAA investigates complaints of GI Bill beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact the SAA office via email [saa@dvs.virginia.gov](mailto:saa@dvs.virginia.gov).

## Misconduct in Research and Other Scholarly Work

Policy 2205, Misconduct in Research and Scholarship, applies to all individuals involved in the performance of scholarly and creative activity and research conducted at JMU, whether performed under external or internal funding. It applies to all scientists, trainees, technicians and other staff members, students, fellows, guest researchers or collaborators.

Misconduct as defined under this policy means fabrication, falsification, plagiarism or other practices that seriously deviate from those that are commonly accepted within the scientific and academic community for proposing, conducting or reporting research. Misconduct by a student under this policy may result in disciplinary action up to and including expulsion from the university, loss of fellowship or scholarship and potential criminal prosecution.

## Non-returning Students and Leave of Absence

Students who plan to leave JMU, either temporarily or permanently, must officially notify the university. To initiate a proper separation from JMU, students should visit the Registrar's website for more information.

## Prerequisite and Eligibility Requirements

Students should consult the appropriate catalog to determine prerequisite or eligibility requirements for course selections. Without special permission, students cannot take for credit a course for which the prerequisite has not been met or for which they are not eligible. In addition, students cannot take for credit a course that is a prerequisite to a course they have already taken. Many courses require other courses as prerequisites. Students should be aware that a course in which they receive a grade below "C" probably does not adequately prepare them to take a course which requires the first as a prerequisite. Before continuing on to a succeeding course, students should discuss their level of preparation with the instructor of the second course and decide whether or not they need to retake the first course to improve their understanding as well as their grade.

## Re-entry to the University

Degree-seeking students who have not attended JMU for one or more semesters and who wish to return to their studies at JMU are classified as re-entry students. The re-entry process is contingent upon the student's length of absence and academic standing at the time of departure.

To avoid delays in registration, the Intent to Enroll Form (for students who have been absent from JMU for less than two years) or the Undergraduate Re-entry Form (for students who have been absent for two or more years) must be submitted by the indicated deadline for the anticipated semester of return. The Intent to Enroll form and the Re-entry Form are available online. All registration holds must be cleared before the student will be eligible to register.

### Semester Deadline

Fall Semester.....	July 1
Spring Semester.....	November 1
Summer Session.....	April 1

## Re-entry after Absence of Less Than Two Calendar Years

### Students in Good Standing

Students who left the university in good standing and who have been absent for one semester or more, but less than two calendar years, must submit an Intent to Enroll Form to the Office of the Registrar.

Activation for students who take a leave of absence for documented medical or mental health reasons will be contingent on receipt of a letter from the attending physician indicating the student is able to attend classes. This letter must be received in the Office of the Dean of Students by the deadlines indicated previously.

### Students on Academic Probation

Students who left the university on academic probation, and who have been absent for one semester or more, must submit an Intent to Enroll Form directly to the Assistant Vice Provost for Academic Student Services, MSC 7506. A personal statement citing the reason for departure and interim activities must accompany the form. Re-entry and continued enrollment are not guaranteed, but are contingent upon review by an academic review committee chaired by the Assistant Vice Provost for Academic Student Services. Such review may result in denial or conditional re-entry.

### Students on Academic Suspension

Students who are placed on a first academic suspension may follow the appeal process stated in their suspension notification or apply for reentry after the suspension period. A personal statement citing the reason for departure and interim activities must accompany all Intent to Enroll Forms. Students must submit all documents to the Assistant Vice Provost for Academic Student Services, MSC 7506. Re-entry and continued enrollment are not guaranteed but contingent upon review by an academic review committee chaired by the Assistant Vice Provost for Academic Student Services. Such review may result in denial or conditional re-entry.

With prior approval from the dean of the major college and the Office of the Registrar, a suspended student may choose to take courses at another institution. Course work completed during the period of suspension may be considered as part of the criteria for re-entry, but courses taken at another institution cannot be used to raise the grade point average at JMU, nor will the courses automatically transfer to JMU. A maximum of 12 semester hours will be accepted as transfer credits. These hours will be considered once the student has been readmitted and has earned a minimum semester grade point average of 2.0 in at least 12 credit hours attempted during the semester of return.

## Re-entry after Second Suspension or Absence Exceeding Two Calendar Years

Students who are eligible to apply for re-entry after an absence of two or more calendar years, regardless of their academic standing at the time of departure, must apply for readmission through the Office of Academic Student Services. Readmission is not automatic but subject to committee review of the application, the personal statement citing the reason for absence and evaluation of work completed at JMU as well as work completed at other institutions during the student's absence from JMU.

If a degree-seeking student leaves James Madison University after earning a portion of General Education credits and earns an approved Virginia Community College System (VCCS) Associate Degree, JMU will accept it in fulfillment of General Education requirements. Students who earn the approved degree while on academic suspension status from James Madison University are only eligible to re-enter James Madison University by agreeing to apply for the Transfer Equivalent Option upon their approved return to James Madison University.

## Registration

Semester course listings are available on the university's internet accessible information system at <https://myjmadison.jmu.edu/>. The university expects all students to register on the dates indicated in the registration calendar.

Credit is not allowed in any course for which the student is not duly registered, and registration is not complete until all fees for the semester have been paid. Students must complete course work during the semester in which they are registered for a course.

## Student Assessment

James Madison University requires students to take a series of student outcomes assessments prior to their graduation. These assessments are held at three stages of students' academic careers, including:

- as entering students
- at the mid-undergraduate point when they have earned 45 to 70 credit hours, typically their sophomore year
- as graduating seniors in their academic major(s)

Testing at the first two stages occurs on scheduled Assessment Days in the fall and spring semesters. During these assessments, students are tested on their knowledge in general education areas such as history, science, mathematics and fine arts. In addition, students may also complete tests measuring critical thinking, cultural knowledge, and intellectual and

personal development. Testing of seniors in their major(s) occurs on the spring Assessment Day or is embedded in academic unit courses. The university encourages students to review program requirements for details.

The information gained during assessment makes it possible to compare students who have completed course work in certain areas to those who have not. Transfer students' scores are compared with the scores of students who began their studies at JMU. In addition, assessment in the majors allows programs to determine if the majors are achieving the goals and objectives the academic units have specified. Because these assessments are important to the improvement of JMU's academic and student affairs programs, students are required to participate.

Entering students who miss the scheduled assessments (fall Assessment Day) will receive a hold on their records and will be unable to register for spring courses or make fall course adjustments until such time as the assessments are completed. Students who miss the mid-undergraduate assessments (spring Assessment Day) will receive a hold on their records and will be unable to register for fall courses or make course adjustments until such time as the assessments are completed.

JMU does not report individual student scores; the university does, however, report aggregated test results to measure how programs and services contribute to student learning and development and for student progression based on competency attainment in selected programs. Assessment results are reported within JMU and to external audiences. Internally, group-level assessment results are shared with faculty committees and administrators across the campus to improve university programs. Externally, JMU releases findings on how students perform in general education areas. This information is used to compare the overall performance of JMU students to students from other universities in Virginia. As a result, each student has an impact on these overall scores. The Center for Assessment and Research Studies administers assessment days and works with faculty for assessment of all academic majors and student affairs programs.

## Semester Honors Lists

To qualify for the honor of being placed on the President's List, a student must earn a grade point average of 3.900 or above and be considered by the registrar to be carrying a full time course load of graded credit hours (i.e., exclusive of credit hours taken on a credit/no credit or audit basis).

To qualify for the Dean's list, a student must meet the President's List requirement for course load and earn a grade point average of 3.500- 3.899.

## Students Seeking Second Baccalaureate Degrees

### Students Currently Enrolled

To earn a second degree, students must:

- Earn a minimum of 150 credit hours, including a minimum of 60 hours at JMU.
- Meet all degree and university graduation requirements for both degree programs.
- Meet all prerequisite and course requirements in two different majors.

A student who has met graduation requirements for one degree may participate in the commencement activities for that degree and continue with the second degree provided the following occur:

- The student has officially declared the second degree and major prior to the submission of the graduation application for the first degree, and both degrees and majors appear on the student's academic transcript.
- At the time of completion of the first degree, the student must have completed at least 12 credit hours in the major required for the second degree. A student who has earned fewer credits may not continue with the second degree if he/she decides to complete the first degree and participate in commencement exercises.
- No lapse in enrollment (not including summer) occurs between the completion of the first degree and the continued pursuit of the second degree.

### Students Not Currently Enrolled

Students who have earned a baccalaureate degree from JMU or from another accredited college or university and want to pursue an additional bachelor's degree or major program have limited options. Students may earn a second baccalaureate degree at JMU in the following programs:

- Adult Degree (B.A., B.I.S. or B.S. with a major in Individualized Study)
- R.N. to B.S.N.

## Student Teaching

Student teaching should be a full-time experience. Only in exceptional cases will additional course work be approved during the student teaching period.

Moreover, student teachers cannot expect to work or participate in excessive extracurricular activities during their student teaching period as any interference with student teaching might lower the quality of the individual's performance. Students with problems or special needs must contact the Education Support Center. All student teaching grades are assigned on a credit/no-credit basis.

## Transcript

The permanent academic record or transcript is the official record of a student's grades earned to date, and it includes the date of graduation, degree received and date of withdrawal or dismissal, if applicable.

The Office of the Registrar may release a student's transcript upon receipt of an approved request from the student or former student.

## Transfer Equivalent Option Policy for Readmitted Students

A student who returns to JMU after a separation of twenty-four months and who maintains a minimum 2.0 GPA for 12 credit hours attempted at JMU after his/her return to JMU is eligible to apply for the transfer equivalent policy. This policy allows a student a quality point status equivalent to that of a transfer student admitted to the university.

The student's new GPA will initially be that attempted in the 12 credit hours taken upon readmission. In order to exercise this option, the student must submit a Transfer Equivalent Option (TEO) Form to the Assistant Vice Provost for Academic Student Services.

The following regulations govern this option:

- The option must be exercised within 30 days of receiving written correspondence from the Assistant Vice Provost for Academic Student Services indicating that TEO requirements have been met.
- A student with outstanding "I" grades is not eligible to apply.
- A student who leaves the university while in good standing is not eligible to apply.

Credit/no credit courses do not count toward the 12 attempted credit hours needed for application.

If a student's TEO requirements are met over multiple terms/semesters, and/or more than 12 credit hours are attempted while working toward application of TEO, eligibility for TEO will be determined by the average earned on all credit hours attempted after his/her return to JMU.

All grades will remain a part of the transcript. An eligible student will receive degree credit for only those courses for which grades of "C" or better were earned prior to re-entry.

Quality points earned for any course completed prior to readmission will not count in determining the new cumulative GPA.

A student whose application for the transfer equivalent policy has been approved may request that credit hours for pre-approved courses taken at another institution be transferred to JMU. The request will be reviewed by the office of the major college dean and the Office of the Registrar. The option will be extended only once during a student's enrollment at JMU.

A student interested in this option must apply for re-entry to the university through the Office of Academic Student Services according to established deadlines.

#### Semester Deadline

Fall Semester..... July 1  
Spring Semester..... November 1  
Summer Session..... April 1

#### Transfer of Credit from Other Institutions

A student wishing to earn credits at another institution, either during the summer or during a regular session, must obtain permission in advance of registration elsewhere. Multiple approvals may be required. For permission to transfer credit into a major or minor program, secure permission and an approving signature from the department head or coordinator for that area. For permission to transfer credit into the General Education Program, secure permission and an approving signature from the appropriate General Education program administrator. Approvals for General Education will be based on an evaluation of the extent to which the course meets the objectives of the relevant cluster and whether or not the student has already transferred the maximum allowed (see restrictions below). Course descriptions and/or syllabi must accompany all transfer requests for courses taken outside the Virginia Community College System. When all necessary approvals have been secured, students must submit the completed permission form to the Office of the Registrar for final approval. Approval for courses taken at VCCS institutions requires submission to the Office of the Registrar only.

For a student on academic suspension status, a maximum of 12 semester hours will be accepted as transfer credits. These hours will be considered once the student has been readmitted and has earned a minimum semester grade point average of 2.0 in at least 12 credit hours attempted during the semester of return.

The General Education program allows students to transfer credit for a particular course based on a comparison of course objectives and content at JMU with those at the other institution. Once students have enrolled for classes at JMU, however, they are expected to complete the General Education program here. The Associate Vice Provost for University Programs or a cluster coordinator must approve any exception to this policy.

After students have enrolled for classes, some restrictions will be applied to transferring in credit for the General Education program. These restrictions include the following policies: Students will be allowed to transfer in no more than three courses for General Education credit.

No more than one transferred course may be applied to any one cluster.

Transfer credit will not be awarded for course offerings in Cluster Four: Social and Cultural Processes, nor The American Experience (HIST 225, JUST 225 and POSC 225) due to the content and unique features of these courses.

Special exceptions to these policies will be reviewed on an individual basis. Such exceptions may include those students who wish to participate in study abroad programs or other special circumstances.

The student is responsible for having an official transcript sent to the Office of the Registrar when the work has been completed and final grades have been posted. Credit hours will be awarded for approved courses carrying a grade of "C" or better (2.0 quality points).

#### Undergraduate Grading System

Maintaining standards of excellence and the integrity of the teaching/learning process are important values to JMU faculty. Evaluation of student work and assignment of grades on the basis of academic criteria are the responsibilities and prerogative exercised by the faculty member. A faculty member has the responsibility to evaluate student performance on a fair and scholarly basis in accordance with university faculty.

The university makes grades available to students through the online student information system (MyMadison) at the end of each semester. Mid-semester grades, if assigned, in all courses are also made available through the online student information system (MyMadison) to new first year students. Grades are not mailed to students.

The academic achievement of a student in a specific course is expressed by letters as in the following table.

Grade	Description
A	Superior
B	Good
C	Average
D	Passing
F	Failure
I	Incomplete
CR	Credit for average or better work
NC	No credit awarded
WP	Withdrawal while passing
WF	Withdrawal while failing
W	Withdrawal

A course in which a grade of "F" is received does not result in earned credit hours, but does count as credit hours attempted in computing the grade point average. A course in which a grade of "NC", "WP", "WF" or "W" is received neither results in earned credit hours nor counts as credit hours attempted in computing the grade point average.

In certain circumstances, a grade of "I" (recorded by faculty and denoting incomplete work in a given course) will be given for a course. An "I" grade not resolved prior to the applicable incomplete grade deadline will automatically be converted to a permanent "F" grade at the end of the next regular semester. Any student receiving an "I" grade should follow the university policy on incomplete grades.

#### Grade Point Average

The university computes a student's grade point average for any period by dividing the number of quality points earned during that period by the number of credit hours attempted during the same period. For instance, during a period in which a student attempts 16 credit hours and earns 40 quality points, the student's GPA is 2.5.

A student's cumulative GPA is computed by dividing the total number of quality points earned at JMU by the total number of credit hours attempted at JMU.

#### Incomplete Grades

The "I" grade is used to indicate incomplete work in a given course and is awarded only when a student is unable to complete course work because of illness or another equally compelling reason.



Courses in which a student receives a grade of "I" must be completed by the end of the next regular semester, or the grade is recorded permanently as "F." (See the University Calendar for the dates by which grade changes must be reported to the Office of the Registrar.) A student seeking a grade of "I" must make that request to the relevant faculty member before the end of the semester in which that course is taking place.

## Quality Points

Letter grades and quality points express the academic achievement of a student in a specific course. Quality point values are earned for each semester credit hour. The grade of "B" in a three credit hour course earns nine quality points; the grade of "C" in the same course would earn six quality points.

Quality Points Earned	
Grade	Per Credit Hour
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00
D-	0.7
F	0
I (Incomplete)	0
CR (Credit for work which is at the 20 level or above)	0
NC (No credit awarded)	0
WP (Withdrawal while passing)	0
WF (Withdrawal while failing)	0
W (Withdrawal)	0

The following do not affect quality points earned, credit hours attempted or GPA:

Grades received at other institutions.

- Audited courses.
- "I," "CR," "NC," "W," "WP" or "WF" grades.

## Repeating Courses

A student may repeat any of the graded courses that he/she has taken during an undergraduate career at JMU. All grades will be included when calculating the student's grade point average. There are, however, certain exceptions to this rule.

Students may elect to repeat up to two courses during their enrollment as an undergraduate at JMU with a "repeat/forgiveness" option. As a result of the "repeat/forgiveness" option, the university will exclude the previous grade and credit hours earned for the repeated course when it calculates the student's cumulative GPA and earned credit hours total, regardless of whether the previous grade was higher or lower than the repeat attempt.

Both grades will appear on the transcript, and the recalculation of the cumulative GPA will occur after the "repeat/forgiveness" option attempt. The student must either declare the "repeat/forgiveness" option at registration or "edit" the course repeat option via MyMadison prior to the end of the course adjustment period. A student may not exercise the "repeat/forgiveness" option for courses in which that student was assigned a grade as a result of an Honor Code violation. Courses taught on a topic basis are generally repeatable; however, these courses may only be designated with a "repeat credit" option or "repeat/forgiveness" option if both course attempts have the same topic (i.e. a second attempt of the course HUM 200. Western Classics may only be assigned as a repeat credit or repeat/forgiveness credit if the original attempt of HUM 200 was taken with the topic "Western Classics").

All grades will appear on the student's transcript, but a course that has been repeated will only be counted once toward satisfying graduation requirements. Courses taken at other institutions do not qualify to be taken as "repeat forgiveness." Courses taken in a different JMU career (i.e. Continuing Education) and subsequently transferred to an undergraduate JMU career are not repeatable. Students may request approval to retake these courses utilizing the audit grading basis only.

## Withdrawal from the University

Students withdraw from the university when their enrollment is terminated before these students have completed the semester for which they registered. Students who decide to withdraw during the first three weeks of the semester must complete the Non-Returning/Leave of Absence Notice available at <https://www.jmu.edu/registrar/students/forms.shtml> and submit it to the Office of the Registrar. Students desiring to withdraw after the third week of the semester must contact the Office of the Dean of Students at (540) 568-6468 to schedule an appointment.

## Academic Terms and Definitions

**Degree Requirements** – A degree is an academic title conferred on students who complete a unified program of study. Degrees vary according to the major program. JMU offers eight undergraduate degrees that incorporate course requirements unique to the degree and major discipline. Majors culminating in Bachelor of Arts and Bachelor of Science degrees share common sets of course requirements appropriate to the degree with specific distinctions.

**Bachelor of Arts degree** – The B.A. is distinguished by its humanistic emphasis. Students who complete a B.A. may satisfy the degree requirements by taking courses that advance their understanding of human culture through analysis of ideas; perception of differences; appreciation of art and creative products through understanding art forms, beauty, and symmetry; knowledge of theories and principles of form, substance, argument and philosophy; understanding of the interaction between language and culture; and achievement of linguistic competency in a second language.

**Bachelor of Science degree** – The B.S. is distinguished by its scientific emphasis. Students who complete a B.S. may satisfy the degree requirements by taking courses that advance their understanding of the use of scientific analysis, experimentation and the application of scientific principles and facts in solving problems; understanding of the crucial role of mathematical reasoning; and understanding analysis and techniques in comprehending problems in the natural or social sciences.

**Degree Requirements** – Courses satisfying Bachelor of Arts and Bachelor of Science degree requirements are available from the Registrar's website.

**Program of Study Components** – A program of study, or course of study, refers to any set of courses and experiences identified by the university as satisfying the requirements of a program or program component for a student or students. The following terms describe programs of study at James Madison University.

**Major** – A coherent set of required and elective courses approved by the Board of Visitors and meeting state criteria that, when completed by a student, signifies a degree of preparation in a field or fields of study. The credit hour requirements for the major are set by the respective colleges and academic units and may not consist of less than 30 hours. A student must formally declare a major.

**Minor** – A cohesive set of required and elective courses that, when completed by a student, connotes knowledge and skills in a discipline, region or topic area, but not at the depth of a major. The minor is designed for students who are not majoring in the same area and typically requires between 18-24 credit hours, as set by the respective academic unit and college. A student must formally declare the minor for it to appear on the transcript of record. A minor is not required for graduation.

**Concentration** – A prescribed set of courses associated with a major or minor that is designed to focus a student's course of study according to interest and/or career goals. A concentration is not a required component of all majors and/or minors. The student must formally declare the concentration for it to appear on the transcript of record. The concentration will be noted on the transcript only after the student graduates.

**Cognate** – A set of courses outside the major that is designed to complement other components of the student's course of study and to support selected professional goals. A cognate is not a required component of a program. A student does not have to formally declare a cognate and it will not appear on the transcript of record.

**Core** – A defined group of courses within a particular major or minor that is required of all students completing that major or minor.

**Track** – A prescribed set of courses within a concentration. A track is not a required component of all concentrations. A student does not have to formally declare a track and it will not appear on the transcript of record.

**Pre-professional Program** – A defined set of courses or course options and requirements that serve as prerequisites to upper or graduate-level professional program components or courses. A pre-professional program may coincide with a major, minor or concentration, or it may be comprised by courses from two or more disciplines and concentrations.

**Pre-professional Advisory Program** – This program includes a set of recommended courses for students who wish to shape their undergraduate experience toward a related professional goal beyond the undergraduate degree, such as the pre-law, pre-medicine, pre-dentistry and pre-health programs. Pre-professional advisory programs appear on the transcript during a student's undergraduate career, but do not appear on the transcript after graduation.

**Pre-professional Licensure and Degree Program** – This program must be related to a student's major as part of a planned progress toward professional credentialing, such as the pre-professional teacher education programs. It creates a distinct set of knowledge or skills that qualifies one to practice in a particular area or work in a specific field. This designation appears on the transcript.

**Professional Program** – A defined group of courses or course options designed to prepare a student for a specific professional career, certificate or license. A professional program may coincide with a major, minor or concentration, or it may be comprised by courses from two or more disciplines and concentrations. The student must formally declare the professional program for it to appear on the transcript of record. The professional program will be noted on the transcript only after the student graduates.

**Licensure Program** – A set or sequence of courses and experiences required for a student to be eligible to obtain a license issued by an agency, group or professional organization.

**Certificate Program** – A prescribed set or sequence of courses that results in a student receiving a certificate issued by the university when the identified courses and experiences are completed satisfactorily and when all other conditions have been met in accordance with the definitions and policies governing certificates.

These definitions apply to all programs of study except in cases where program nomenclature specified by the accrediting agency differs from the nomenclature stated by James Madison University.

## Center for Materials Science

Dr. Samuel Morton, Director Phone: (540) 568-2723 Email: mortonsa@jmu.edu Location: 901 Carrier Drive, MSC 4502 Website: <http://csm.jmu.edu/materialsscience>

### Mission Statement

The educational mission of the Center for Materials Science is to develop and maintain an innovative cross disciplinary and multidisciplinary undergraduate program in materials science that will increase the maturation of students, their research experience and their employment opportunities. The mission includes the integration of undergraduate education with basic and applied research in materials science.

### Goals

- To develop an undergraduate cross disciplinary curriculum in materials science.
- To integrate undergraduate education with basic and applied research.
- To increase funding for applied and basic research in materials science. (Faculty and students focus on problems of interest to industry and government in materials processing, materials characterization, materials applications and thermal sciences including thermal structural interactions and infrared analysis.)

### Academic Advising

Faculty members in the Center for Materials Science are dedicated advisers who will assist students in developing a minor that will enhance their academic experience with the goal of improving their employment and post-graduate opportunities.

### Minor Requirements

The minor in materials science includes four major components:

- Choice of an entry-level introductory course in materials science.
- Lecture or laboratory course that emphasizes more specialized areas in materials science.
- Materials science electives that can include all specialized courses.
- Research or an additional materials science lecture or laboratory experience.

Courses for the minor are offered through the departments of chemistry, geology and environmental studies, integrated science and technology, mathematics, and physics.

*Choose one of the following: 3 Credit Hours*

MATS/PHYS/ CHEM 375. An Introduction to Materials Science 3.00

*Choose one of the following: 3 Credit Hours*

MATS/ PHYS 381. Materials Characterization (Lecture/Lab) 3.00

MATS/ ISAT 432. Materials Selection in Product Design 3.00

*Materials Science Electives: 9 Credit Hours*

Research or additional materials science laboratory course: 3 Credit Hours

**Total: 18 Credit Hours**

### Concentration Requirements

The concentration in materials science consists of 12 credits hours of course work approved by the student's adviser and by the director of the center. Appropriate courses may be chosen from materials science offerings in the areas of chemistry, geology and environmental studies, integrated science and technology, mathematics, and physics. This concentration must be pursued in conjunction with a designated major in chemistry, geology and environmental studies, integrated science and technology, biology, mathematics, and physics.

*Choose one of the following: 3 Credit Hours*

MATS/PHYS CHEM 375. An Introduction to Materials Science 3.00

*Materials Science Electives: 6 Credit Hours*

Research or Materials Science Laboratory Course: 3 Credit Hours

**Total: 12 Credit Hours**

### Research in Materials Science

*Register for Research in Materials Science under one of the following:*

CHEM 497. Undergraduate Research (in materials science, 2-4 credits)

GEOL 497. Problems in Geology 1.00 - 3.00 (in materials science, 1-3 credits)

ISAT 491. Senior Capstone Project I 1.00 and

ISAT 492. Senior Capstone Project II 2.00 and

ISAT 493. Senior Capstone Project III 2.00 (in materials science, 6 credits)

PHYS 498R. Undergraduate Research in Physics or Astronomy 1.00 - 4.00 (in materials science, 2-4 credits)

MATS 498R. Undergraduate Materials Science Research 1.00 - 3.00 (1-3 credits, repeatable to 6 credits)

*Materials Science Elective Courses*

GEOL 300. Introduction to Petrology (3, 3) 4.00

MATS 337/ PHYS 337. Solid State Physics 3.00

MATS 381/ PHYS 381. Materials Characterization (Lecture/Lab) 3.00 (Lecture/Lab)

PHYS 380. Thermodynamics and Statistical Mechanics 3.00 or

CHEM 331. Physical Chemistry I 3.00

MATS/ ISAT 432. Materials Selection in Product Design 3.00

CHEM 445. Polymer Chemistry 3.00

*Special topics in materials science registered under:*

CHEM 480. Selected Topics in Chemistry 1.00 - 4.00 each semester (materials science)

GEOL 398. Topics in Geology 1.00 - 4.00 (materials science)

ISAT 480. Topics in Integrated Science & Technology 1.00 - 4.00 (i.e., light metals)

MATH 483. Selected Topics in Applied Mathematics 3.00 (materials science)

MATS 498R. Undergraduate Materials Science Research 1.00 - 3.00

PHYS 497. Topics in Physics 1.00 - 4.00 (materials science)

## Center for Health and Environmental Communication

Dr. Peter Bsumek Email: bsumekpk@jmu.edu

Dr. Sharlene Thompson Email: thompsr@jmu.edu

Website: <http://www.jmu.edu/chec/>

The Center for Health and Environmental Communication (CHEC) is housed in the Communication Studies, School of. The CHEC utilizes the expertise of the school's faculty and students to facilitate original academic research, coordinate community outreach and advocacy projects, and serve as a community resource on matters related to understanding and improving public and private communication in the health and environmental contexts.

The CHEC recognizes that how we communicate is as important as what we communicate. Central to its mission is facilitating constructive and productive communication between experts and non-experts, between clients and providers, between communities, and between community members and decision makers.

## Institute for Innovation in Health and Human Services

Dr. Linda Plitt Donaldson, Director

Phone: (540) 568-2705

Email: [plittldx@jmu.edu](mailto:plittldx@jmu.edu)

Location: Health and Behavioral Studies Building, Room 5051B

Website: <http://www.iihs.jmu.edu>

### Mission

The Institute engages students in career preparation by promoting scholarship, providing interprofessional learning experiences, and connecting our campus with communities through innovative programs that advance quality of life.

The following centers, programs and activities connect our campus with communities while advancing scholarship and achieving exceptional learning experiences.

#### Alvin V. Baird Attention and Learning Disabilities Center

Director: Dr. Trevor Stokes, [stokestf@jmu.edu](mailto:stokestf@jmu.edu)

The mission of the Alvin V. Baird Attention and Learning Disabilities Center is to develop and promote evidence-based interventions for children and adolescents with attention and learning challenges, while educating families, teachers, students and professionals about best practices for their assessment and treatment. Attention and learning factors are present across a range of developmental and psychological disorders, which are the focus of activities at the Baird Center. The Baird Center operates two clinics:

##### Applied Behavior Analysis - Parent Child Interaction Therapy Clinic (ABA-PCIT)

The Applied Behavior Analysis – Parent-Child Interaction Clinic provides assessment and treatment intervention services as well as parent consultation, training and support for children with behavioral and neurodevelopmental disabilities such as autism, intellectual disability, attention deficit hyperactivity, oppositional defiant behavior, brain injury and cerebral palsy. The clinic is staffed by JMU faculty licensed as Behavior Analysts and Clinical Psychologists who work directly with children and families and also supervise students working in the clinic programs.

##### Interprofessional Autism Clinic (IPAC)

The Interprofessional Autism Clinic provides in-depth assessment and multi-disciplinary intervention for children ages 2-10 years old with Autism Spectrum Disorder or suspected Autism. The clinic is staffed with a licensed occupational therapist, a licensed speech and language pathologist, a licensed behavior analyst and clinical psychologist, in addition to graduate and undergraduate students enrolled in each of these academic programs. The clinic provides treatment as a simultaneous merge of methods from these disciplines while approaches are individualized to meet each child's unique needs.

##### Audiology Clinic

Director: Susan Ingram, [ingramsb@jmu.edu](mailto:ingramsb@jmu.edu)

The James Madison University Audiology Clinic (JMUAC) is part of the university's teaching, research and community service programs. The JMUAC, within the Department of Communication Sciences and Disorders and supported by the Institute for Innovation in Health and Human Services, provides quality hearing healthcare and education to children and adults from the JMU community and surrounding areas. Services are provided by graduate students under the direction of licensed and certified Clinical Doctors of Audiology

##### Blue Ridge Area Health Education Center

Director: Elisabeth Wallace, [wallacem@jmu.edu](mailto:wallacem@jmu.edu)

The Blue Ridge Area Health Education Center (AHEC) at JMU strives to improve the health of communities through education, collaboration and cooperation. It focuses on the health care needs of vulnerable populations. The AHEC fosters partnerships that utilize academic and community resources and directs these resources to health and human service gaps that exist within communities. The AHEC program has been a traditional link between academic health and human services programs and communities, utilizing student, faculty and other academic resources to the benefit of the communities.

##### Campus Suicide Prevention Center of Virginia

Director: Dr. Jane Wiggins, [wigginjr@jmu.edu](mailto:wigginjr@jmu.edu)

The goal of the Campus Suicide Prevention Center of Virginia is to reduce risk for suicide on Virginia's college and university campuses. Specifically, this program supports the individuals and teams on each campus as they work to build the infrastructure necessary to promote mental health for all students, identify and support those with mental health concerns, and effectively respond to individuals who are at risk for suicide.

##### Caregivers Community Network

Director: Kathy Guisewite, [guisewkf@jmu.edu](mailto:guisewkf@jmu.edu)

In partnership with the Valley Program for Aging Services (VPAS), Community Network (CCN) provides services, companionship and support for those who care for frail older family members. CCN also provides services for those with memory loss or Alzheimer's disease. CCN can help to give caregivers a break and provide valuable time for attention to family concerns. Services are evidence-based and customized for each individual.

##### Community Health Interpreting, Testing and Training Service

Program Coordinator: Natalia Alvarez, [alvarenj@jmu.edu](mailto:alvarenj@jmu.edu)      Director: Elisabeth Wallace, [wallacem@jmu.edu](mailto:wallacem@jmu.edu)

Linguistic and cultural barriers seriously compromise the quality of health care received by hundreds of Shenandoah Valley residents. To address this challenge, the Community Health Interpreting, Testing and Training Service (CHITTS) provides training to bilingual persons to serve as interpreters for persons with limited English proficiency during health care encounters. The program schedules interpreters upon request from area health care providers.

##### Counseling and Psychological Services

Director: Dr. Kelly Atwood, [atwoodkc@jmu.edu](mailto:atwoodkc@jmu.edu)

Counseling and Psychological Services (CAPS) is a teaching, research and service mental health clinic. CAPS offers affordable outpatient mental health services to the Harrisonburg and Rockingham County community while providing students in the Department of Graduate Psychology experience in assessment and treatment of psychological problems. CAPS is equipped to provide individual, couple, and family therapy as well as to conduct intellectual and psychological assessments across the lifespan.

##### Crossroads to Brain Injury Recovery

Director: Tamara Wagester-Subrick, [wagestx@jmu.edu](mailto:wagestx@jmu.edu)

Crossroads to Brain Injury Recovery, a partnership program, implements a multi-year region-wide grant to provide case management and supportive services to families and individuals recovering from brain injuries. It assists with access to services for re-learning daily living skills and with strategies for returning to school or work.

##### Early Impact Virginia

Director: Tim Estep, [esteptf@jmu.edu](mailto:esteptf@jmu.edu)

Head of Content Development: Heather Taylor, [taylor2hl@jmu.edu](mailto:taylor2hl@jmu.edu)

Meeting the ever-changing training and professional development needs of home visitors (family support professionals) in Virginia is a collaborative effort between the Virginia Department of Health, Early Impact Virginia, and JMU's Health Education Design Group (HEDG). The role of James Madison University is to design, develop and deliver, evaluate and assure the quality of training and professional development activities to meet the identified needs and priorities of Early Impact VA.

##### Future Forward

Director: Jolynne Bartley, [bartl2jx@jmu.edu](mailto:bartl2jx@jmu.edu)

Program Coordinator: Nancy Resendiz, [resendnx@jmu.edu](mailto:resendnx@jmu.edu)

The Future Forward program serves Spanish speaking limited English proficient students (5th-8th grade) in Harrisonburg City Schools through year round advocacy and supplemental educational support. The goal of the program is to ensure that all participating students reach challenging academic standards and graduate with a high school diploma or complete a GED that prepares them for responsible citizenship, further learning and productive employment. Students receive 1:1 tutoring support each week and bilingual (English/Spanish) "advocates" work with students and families to ensure students' needs are being met from the time they are preparing for middle school until they are preparing for high school and beyond.

### Futuro-Latino Drug Free Communities

Coalition Coordinator: Boris Ozuna, ozunauba@jmu.edu      Director: Elisabeth Wallace, wallacem@jmu.edu

Through a broad coalition of community, faith and school leaders as well as public officials, Futuro- Latino works to reduce and prevent alcohol and substance use among Latino youth throughout Harrisonburg and Rockingham County. The coalition evaluates local data to identify when and where potential underage drinking and drug use may occur and pursues a variety of environmental strategies to reduce availability and accessibility. The program supports development of youth leaders through national conferences as well as local leadership opportunities.

### Healthcare for the Homeless Suitcase Clinic

Program Coordinator: Emily Akerson, akersoek@jmu.edu

The Healthcare for the Homeless Suitcase Clinic provides health care at the point of contact in local shelters and human service agencies. Specifically, it provides on-site primary care services to homeless clients enrolled in local shelters while simultaneously providing case management services as needed. Staffed by a nurse practitioner and nurse case manager, this new model of healthcare delivery to homeless populations exemplifies a model of service that aims to break the cycle of homelessness by providing healthcare delivery with positive long term results.

### Health Education Design Group

Director: Tim Estep, estepf@jmu.edu

The Health Education Design Group (HEDG) produces educational media in partnership with Virginia agencies and JMU programs. HEDG brings together expert research and a skilled media production team to develop creative video and online educational and training materials for health-related projects. It also works with programs and agencies to plan and coordinate conferences and other live training sessions.

### Healthy Families Page County (HFPC) & Healthy Families Shenandoah County (HFSC)

Program Director: Emily Akerson, akersoek@jmu.edu

Program Manager: Yvonne Frazier, frazieyh@jmu.edu

Healthy Families programs are based on a national program model and the two that operate in IHHHS provide education, resources and support for the most vulnerable first-time parents in Page and Shenandoah Counties through voluntary home visiting services.

### Gus Bus Early Learning Program

Program Director: Jolynne Bartley, bartl2jx@jmu.edu

This initiative is a mobile literacy program serving low-income neighborhoods and day care centers in Harrisonburg, Rockingham County and Page County with a customized vehicle that provides a book exchange program, story time, nutritional support and resource referral information for families in need.

### Interprofessional Services for Learning Assessment

Director: Dr. Kelly Atwood, atwoodkc@jmu.edu

The ISLA program offers diagnostic evaluation, consultation and support services for adults enrolled in a college or university. Evaluation teams consisting of professionals from clinical psychology, communication sciences, clinical neuropsychology, special education and nursing identify areas of need and design positive ways to promote meaningful learning and educational experiences.

### Occupational Therapy Clinical Education Services

Director: Elizabeth Richardson, richaree@jmu.edu

A pediatric occupational therapy practice established to address a significant gap in locally available occupational therapy services, this clinic offers teaching, research, practice and service opportunities, and expands the interprofessional education and practice capacities of the university.

### Page County Integrated PCBH Program

Director: Dr. Tim Schulte, schulttj@jmu.edu

The Page county Integrated Primary Care and Behavioral Health Program is a partnership with IHHHS and Page Memorial Hospital (PMH) to integrate behavioral health and primary care services in a Rural Health clinic in Page County. This program provides interprofessional student education and training, research opportunities, and direct patient care using the integrated model. Behavioral health services include psychological testing and assessment, neuropsychological screening and testing, individual counseling and consultation with medical providers.

### Precious Time Program

Faculty Director: Melissa Leisen, leisenmc@jmu.edu

Program Director: Eric Schmucker, schmuced@jmu.edu

The Claude Moore Foundation awarded this program grant funds to provide respite care to families who have special needs children. This respite program relies on students from nursing, social work, psychology, and other health and human service majors to provide caregivers with supportive assistance in meeting the demands of their family responsibilities

### Promotores de Salud Program

Director: Elisabeth Wallace, wallacem@jmu.edu

Promotores de Salud, a Hispanic lay health promoter program, trains Hispanic women and men to be lay health resource persons in their community. Promotores focus on specific health issues within the Hispanic community, providing family, friends, neighbors and co-workers with effective and culturally-appropriate health information. The program provides a cultural bridge between Hispanic residents and health and human services providers, reducing health disparities and fostering healthy living for all in our community.

### Shenandoah Valley Child Development Clinic

Program Director: Kim Hartzler-Weakley, hartzlkm@jmu.edu

Clinic Director: Ginger Griffin, griffigl@jmu.edu

The Shenandoah Valley Child Development Clinic (CDC) provides individualized, cross disciplinary evaluations that may include medical, social work, nursing, educational, psychological, speech/language and audiology components depending upon the specialized needs of the child/adolescent.

Children/adolescents evaluated may have developmental, educational, emotional or behavioral concerns. The CDC provides care coordination services and assists families in decisions that address their developmental, educational, emotional or behavioral concerns. Services are provided on a sliding fee scale and Medicaid/FAMIS are accepted. Training opportunities are available in the CDC for students from a variety of disciplines.

### Shenandoah Valley Migrant Education Program

Program Director: Jolynne Bartley, bartl2jx@jmu.edu

Program Coordinator: Nancy Resendiz, resendnx@jmu.edu

The Migrant Education Program provides free, supplemental education services to children and youth aged 3-21 of migrant and highly mobile agricultural workers. Services include tutoring/mentoring, school readiness initiatives, dropout prevention activities, educational interpretations (Spanish/English) and facilitation of families' stabilization in the community. The SVMEP serves as a point of contact for the Hispanic Services Council, a networking organization of agencies interested in the Latino population.

### Speech-Language-Hearing Applied Laboratory

Director: Susan Ingram, ingramsb@jmu.edu

The JMU Speech-Language-Hearing Applied Laboratory, formerly referred to as the JMU Speech and Hearing Center, provides communication evaluation and treatment services to individuals with known or suspected speech and/or hearing impairments.

This center assists residents of the Shenandoah Valley ranging in age from infants to senior citizens. Hearing testing and aid advising is available for those with concerns regarding hearing. Evaluation and treatment of communication impairments, including speech, sound disorders, language impairments, voice disorders and stuttering problems, are additional services offered in the applied laboratory.

Graduate students supervised by faculty who are licensed audiologists or speech-language pathologists serve as clinicians in this lab.

#### Teen Pregnancy Prevention Program

Director: Kim Hartzler-Weakley, hartzlkm@jmu.edu

Program Coordinator: Kati Derrick, derrickc@jmu.edu

The Teen Pregnancy Prevention (TPP) program is designed to help teenagers make healthy choices and avoid risky behaviors with special emphasis on teen sexual activity and drug and alcohol use. TPP presents the best practices in school- and community-based prevention services.

#### The Health Place

Director: Emily Akerson, akersoek@jmu.edu

The Health Place, a satellite of the Institute for Innovation in Health and Human Services, promotes collaborative and interprofessional health and human services that are affordable, accessible, responsive to and advance the health needs of Page County residents.

#### Training/Technical Assistance Centers

Co-Directors: Cheryl Henderson, hendercl@jmu.edu and John McNaught, mcnaugjt@jmu.edu

The mission of Virginia's Training/Technical Assistance Centers (T/TAC) is to improve educational opportunities and contribute to the success of children and youth with disabilities (birth through 22 years). The centers provide quality training and technical assistance in response to local, regional and state needs. T/TAC services increase the capacity of schools, school personnel, service providers and families to meet the needs of children and youth. The Region 5 T/TAC serves as the fiscal agent for the Northwestern T/TAC Consortium, which includes the Region 4 T/TAC located at George Mason University.

#### Virginia PREIS

Director: Kim Hartzler-Weakley, hartzlkm@jmu.edu

The Virginia Personal Responsibility Education Innovative Strategies (VPREIS) project is a comprehensive, collaborative research project to develop and rigorously evaluate an interactive, self-paced online sexuality education curriculum designed to increase knowledge and skills, and change behaviors among vulnerable youth across Virginia. The curriculum will be implemented and rigorously evaluated using a randomized controlled trial design with youth serving sentences in Virginia's juvenile detention centers, attending alternative education and/or night school programs, and involved in Community Services Board programs. The primary objectives of the VOY program are to 1) reduce the frequency of sexual activity; 2) reduce the number of sexual partners; and 3) increase contraceptive use among participants.

#### Youth Data Survey

Director: Kim Hartzler-Weakley, hartzlkm@jmu.edu

IIHHS has been working with the community since 1996 to provide key data about local youth risk behaviors and produce information that enables the community to develop priority areas around youth issues. Every two years in the fall the survey is administered to half of all 8th, 10th, and 12th graders in Harrisonburg City and Rockingham County and a report is published in the summer following survey administration.

#### JMU Farm

Faculty Sponsor: Dr. Carole Nash

Phone: (540) 568-6805

Email: nashcl@jmu.edu

The JMU farm, located in Port Republic, consists of 12 hectares (30 acres) of second growth forest, 300 meters (1000 feet) of frontage on the North River (just upstream of the formation of the Shenandoah River) and an historic brick house. This facility is intended to:

- provide an ideal space in which to disseminate environmental information to school students and community groups.
- support on-going JMU student projects involving air quality, surface and ground water quality, and alternative energy systems.
- provide an inviting off-campus venue for workshops, meetings and symposia.
- The facility can be reserved for JMU-related events by contacting the Office of Academic Resources at (540) 568-3744.

#### Mahatma Gandhi Center for Global Nonviolence

Dr. Terry Beitzel, Director

Phone: (540) 568-5846 Email: GandhiCenter@jmu.edu; beitzedt@jmu.edu Location: Moody 107A, MSC 1205 Website: <http://www.jmu.edu/gandhicenter>

##### *Mission*

Our mission is to promote nonviolence and justice through education, scholarship and service.

##### *Leadership*

The Gandhi Center is led by advisory committees composed of faculty and community members who work closely with the director in articulating and implementing our vision. The Gandhi Center has sponsored two outstanding Nobel Laureate visits and encourages a range of center activities through its example and enthusiasm. The director reports to the head of the Justice Studies, Department of.

##### *Teaching*

Students can take courses for university credit through academic units in association with the Gandhi Center. The Gandhi Center brings students and faculty together for discussion, learning and outreach. Faculty and community members provide regular workshops and seminars designed to advance the study and understanding of nonviolent solutions to human conflict. Faculty affiliated with the Gandhi Center are invited to make use of the center's special topics course and to assist in sponsoring student-led volunteer projects. Our teaching and outreach reaches across disciplines, engaging students and faculty from across campus in the peace-making projects of the center. The center works closely with groups across campus with similar goals and assists in sponsoring lectures from visiting scholars who promote the goals of global justice.

##### *Research*

The Gandhi Center supports research across disciplines with particular emphasis on scholarship that bridges theory and practical application: theories and critiques of nonviolence; transnational and cross-cultural dimensions of nonviolence nonviolent praxis through everyday modes of living; alternative visions of nonviolent approaches to human relations and world affairs; and alternative moral and political theories. Additionally, nonviolent solutions to conflict from a variety of religious, social and cultural traditions are consulted as partners and heirs to the Gandhian traditions, as we seek the widest possible portfolio for understanding and ameliorating human conflict. We recognize the leadership and contributions of great men, women and groups of every nation and region in our mission. The center has hosted both student and international conferences and the Indian government has provided a scholar to serve as the Gandhi Chair. The center is an active participant in the international Peace and Justice Studies Association.

##### *Student Associates and Interns*

Recognizing that the work of our students is the lifeblood of the Gandhi Center, we facilitate and support a number of student-led and implemented programs. These have included a number of events and programs: gandhiFEST, The Global Nonviolence Peace Camp for Children; an international art contest, "Drawing Peace," "Journaling for Peace," "The Gandhi

Center Refugee Integration Partnership" and Alternative Weekend/Break building projects in the community. Service and the promotion of nonviolence are central for each volunteer and intern at the center. Students are asked to serve as associates at the center for at least one semester prior to applying for an internship. Internships may be taken for academic credit, at the discretion of the director. The program began in 2006.

#### *The Gandhi Award/Service Award*

The Mahatma Gandhi Global Nonviolence Award is bestowed upon individuals with global recognition who believe humans everywhere are to be peacemakers, support nonviolence, love their enemies, seek justice, share their possessions with those in need, and express and demonstrate these beliefs in their words, life and actions. The inaugural award was given in 2007 to the Most Reverend Desmond Tutu, Archbishop Emeritus of Cape Town, South Africa and 1984 Nobel Peace Laureate. The second award was given in 2009 jointly to former U.S. President and 2002 Nobel Peace Laureate Jimmy Carter and former first lady Rosalynn Carter.

The Service Award is presented to a local community member who advanced nonviolence and social justice. In 2013 Dr. Vida Huber and Dr. Howard Zehr were the inaugural recipients. PAX received the award in 2015.

#### *The Gandhi Statue*

The government of India has presented a larger than life-size bronze statue of Mahatma Gandhi as a gift to the university in recognition of the work of the Gandhi Center. The statue was dedicated and unveiled on October 2, 2008, the International Day of Nonviolence and the birth anniversary of the Mahatma, by His Excellency Ronen Sen, Ambassador of India to the United States of America. The statue, which is located on the ground floor of JMU's Rose Library, is the first of Mahatma Gandhi in the Commonwealth of Virginia.

## Nelson Institute for International and Public Affairs

Dr. Peggy S. Plass, Director

Phone: (540) 568-7151

Email: [plassms@jmu.edu](mailto:plassms@jmu.edu)

Location: Moody Hall, Room 213, MSC 1205

Website: <http://www.jmu.edu/nelsoninstitute>

#### *Mission*

Nelson Institute for International and Public Affairs is a concrete manifestation of James Madison University's commitment to meet both the educational requirements of its students in a changing world and its own need to respond to the "real world" challenges faced by society today.

#### *Goals*

The institute advances several university priorities:

- Offering quality academic programs.
- Being innovative in developing programs.
- Developing optimal student competencies in written and oral communication, critical thinking, information systems, and quantitative literacy.

#### *Activities*

The Nelson Institute Seminars provide justice studies majors and other interested JMU students the opportunity to engage in directed, practical, problem-solving exercises in the field of justice studies in small group ("task force") settings under the supervision of a faculty member.

The seminars provide a space where students are charged with finding a solution to a contemporary policy problem. They offer a unique opportunity for students to engage in policy-oriented research that integrates classroom instruction, out-of-class group learning activities, and civic engagement and service learning opportunities. The institute also provides students with the opportunity to present their findings to a regional or national audience.

As a complement to the seminars, the Nelson Institute brings guest speakers to JMU who are experts in the subject of the seminar to enhance the learning experience. Funding is made available to help students present their research at regional and national conferences as well as to travel to talk with government, NGO and private sector officials about the policy problem they are working on. Students present their results at a variety of venues including the College of Arts and Letters' student conference, Mad Rush, the conference organized by the Department of Foreign Languages and Literatures and Cultures, and regional conferences such as the Virginia Social Science Association meeting.

## African, African American and Diaspora Studies Minor

Dr. Mollie Godfrey, Coordinator

Phone: (540) 568-6103

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Dr. Besi Brilliant Muhonja, Coordinator

Phone: (540) 568-2500

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Website: <http://www.jmu.edu/africana>

The minor in Africana studies broadens students' world perspectives by enhancing their acquaintance with and understanding of the peoples, cultures, and institutions of Africa and the African Diaspora. The Africana program engages cross disciplinary approaches to understand and to encounter Africa and the African Diaspora in a global context. The cross disciplinary character of the program is further enhanced by the fact that courses taken to fulfill program requirements are drawn from several departments. From these course offerings, students will examine and engage with some of Africana studies key contributing disciplines, concepts, methods and topics including the development of new identities.

The minor program in Africana studies is open to all undergraduate students at JMU. Courses taken to complete the Africana studies minor can also be used to satisfy the student's major, as well as General Education requirements.

The Africana studies minor requires:

Successful completion of 19 credit hours according to the requirements listed below. No more than nine hours from a single discipline.

### Required Courses: 4 Credit Hours

AAAD 489. African, African American and Diaspora Studies Senior Research Experience 1.00 2

Choose five, one of which must be at the 400 level: 15 Credit Hours

AAAD 300. Special Topics in African, African American and Diaspora Studies 3.00

AAAD 400. Advanced Topics in African, African American and Diaspora Studies 3.00

AAAD 401. Internship in African, African American and Diaspora Studies 1.00-6.00

ANTH 280. Peoples and Cultures of Sub-Saharan Africa 3.00 (C)

ANTH 391. Study Abroad 1.00 - 6.00 (May be A, B, C, F)

ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C) 1

ARTH 210. African Art & Culture in the Humanities 3.00

HUM 252. Global Cultures [C2HQC] 3.00 (African Experience)

ARTH 312. African Art: Sub-Saharan 3.00

ARTH 418. Modern and Contemporary African Art 3.00

ARTH 419. Topics in African Art 3.00

ARTH 424. Arts of Ancient Egypt 3.00

ARTH 488. African-American Art 3.00

ARTH 489. Topics in Art History 3.00 1

EDUC 310. Teaching in a Diverse Society 3.00

ENG 260. Survey of African-American Literature [C2L] 3.00

ENG 302. Special Topics in Literature and Language 3.00

ENG 332. Studies in Popular Genres 3.00 1

ENG 358. Oral Literature 3.00 1

ENG 361. African-American Fiction 3.00

ENG 362. African-American Poetry 3.00

ENG 385. Special Topics in Film Study 3.00 1

ENG 408. Advanced Studies in African-American Literature 3.00

ENG 410. Advanced Studies in Author 3.00 1

ENG 412. Special Topic Seminar 3.00 1

ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00 1

ENG 432. Advanced Studies in African Literature 3.00

GEOG 335. Geography of Africa 3.00

GEOG 339. Geography of the Caribbean 3.00

HUM 252. Global Cultures 3.00 (African Cultures in the Humanities) 1

HIST 263. Africa 3.00

HIST 307\*\*. The Trans-Atlantic Slave Trade 3.00

HIST 341. Selected Themes in World History 3.00 (when appropriate)

HIST 355. African-American History to 1865 3.00

HIST 356. African-American History Since 1865 3.00

HIST 361\*\*. Class and Ethnicity in Africa 3.00

HIST 391. Travel Studies Seminar 3.00 (must be in Africa or in Diaspora) 1

HIST 436\*\*. Afro-Latin America 3.00

ANTH 436. Afro-Latin America 3.00 (C)

HIST 439. Selected Topics in American History 3.00 1

HIST 470. Modern Africa 3.00

HIST 489. Selected Topics in World History 3.00 1, 2

HRD 201. Leadership Styles Theory and Application 2.00 1

JUST 301. Special Topics in Justice Studies 3.00 1, 2

JUST 328. Race, Class and Justice 3.00

MUS 356. History of Jazz in America 3.00

POSC 326. Civil Rights 3.00

POSC 353. African Politics 3.00

POSC 361. Topics in International Relations 3.00 1

POSC 371. Topics in Comparative Politics 3.00 1, 2

REL 330. Religions of Africa and the African Diaspora 3.00 1

REL 336. African-American Religion 3.00

SOCI 336. Race and Ethnicity 3.00

SOCI 354. Social Inequality 3.00

SOCI 391. Study Abroad 1.00 - 6.00

SWA 101-SWA 490. Kiswahili

Total: 19 Credit Hours

### Footnotes

1 Course topic and content must focus on the peoples of Africa and/or the African Diasporas as well as be approved by the program coordinator(s). 2 Research must have an African and/or African Diaspora focus.

### Additional Information

Other appropriate courses not listed above may be considered for the minor. Consult with program coordinators.

In addition to taking these courses, students are encouraged to participate in travel or study programs to Africa, the Caribbean and other relevant areas. Students who want to earn credit hours through participation in an accredited travel/study program are encouraged to do so with prior approval of the coordinators.

## American Studies Minor

Dr. Laura Henigman, Coordinator

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Website: <http://www.jmu.edu/americanstudies/>

The minor in American studies fosters an understanding of the complexity of US, colonial North American and North American indigenous societies through employing a range of disciplinary approaches and topics. Students will enroll in the gateway course AMST 200. Introduction to American Studies [C2HQC], and then they will select from a list of courses drawn from a variety of disciplines including literature, history, the fine arts, philosophy and the social sciences.

The minor program in American studies is open to all undergraduate students at JMU. The requirement is the successful completion of 18 hours. Students must take five additional courses from the list below. No more than two courses may be from the same program. See the program coordinator for additional courses that may be substituted.

### Core Requirements

AMST 200. Introduction to American Studies [C2HQC] 3.00

Choose five: 15 Credit Hours

ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C).

ANTH 312. The Native Americans 3.00 (A)

ARTH 380. American Art to 1870 3.00 or ARTH 482. American Art from 1870

ARTH 484. Art of the Americas 3.00

ENG 342. Early American Literature 3.00

ENG 343. Antebellum American Literature 3.00

ENG 344. Late Nineteenth Century American Literature 3.00

ENG 352. The American Novel to 1914 3.00

ENG 356. Modern American Novel 3.00

ENG 357. Contemporary American Literature 3.00

ENG 360. Introduction to Ethnic American Literature 3.00

ENG 361. African-American Fiction 3.00

ENG 362. African-American Poetry 3.00

ENG 363. Native American Literature 3.00

HIST 303. Early America 3.00

HIST 304. Native Peoples of the United States 3.00

HIST 307\*\*. The Trans-Atlantic Slave Trade 3.00



HIST 310. American Business History 3.00  
 HIST 315. History of Sport 3.00  
 HIST 320. Women in U.S. History 3.00  
 HIST 322. The New South 3.00  
 HIST 323. The Old South 3.00  
 HIST 326. The Automobile in 20th Century America 3.00  
 HIST 327. Technology in America 3.00  
 HIST 330. U.S. Diplomatic History 3.00  
 HIST 338. U.S. Urban History 3.00  
 HIST 339. Selected Themes in U.S. History 3.00  
 HIST 350. Virginia 3.00  
 HIST 355. African-American History to 1865 3.00 or  
 HIST 356. African-American History Since 1865 3.00  
 HIST/REL 362. Introduction to U.S. Religious History 3.00  
 MUS 203. Music in America [C2VPA] 3.00  
 MUS 356. History of Jazz in America 3.00  
 PHIL 370. American Philosophy 3.00  
 POSC 330. American Political Thought 3.00

POSC 380. The U.S. Presidency 3.00  
 POSC 382. The Role of Religion in American Politics 3.00  
 POSC 384. Minority Group Politics 3.00  
 POSC 385. The U.S. Congress 3.00  
 REL 330. Religions of Africa and the African Diaspora 3.00  
 REL 332. Born Again Religion 3.00  
 REL 334. New Religious Movements 3.00  
 REL 336. African-American Religion 3.00  
 SCOM 346. Free Speech in America 3.00  
 SMAD 372. Media History 3.00  
 SOCI 318. Sociology of Immigration 3.00  
 SOCI 336. Race and Ethnicity 3.00  
 SOCI 341. Sociology of Education 3.00  
 SOCI 357. Sociology of Disasters 3.00  
 SOCI/ANTH 368. Contemporary American Culture 3.00  
 THEA 485. American Theatre 3.00  
**Total: 18 Credit Hours**

## Asian Studies Minor

Dr. Michael Seth, Coordinator Phone: (540) 568-7801 Email: sethmj@jmu.edu Website: <http://www.jmu.edu/asianstudies>

The purpose of this cross disciplinary program is to broaden the students' perspective by enhancing their understanding and appreciation of Asian culture and institutions. This program combines the offerings of several academic units, such as anthropology; art, design and art history; economics; English; geography; history; international business; foreign languages; political science; and religion and philosophy.

The minimum requirement for a minor in Asian studies is 18 credit hours. These 18 hours can include any of the following courses. Special topics courses not listed can be applied to the minor degree with approval of the program coordinator. A maximum of eight hours of Chinese, Japanese, Korean or Hindi language may be included to satisfy credit hour requirements of the minor.

### Courses

ANTH 197. Archaeology 3.00 (A,R)  
 ANTH 295. People and Cultures of East Asia 3.00 (C)  
 ARTH 430. Far Eastern Art 3.00  
 CHIN 101. Elementary Chinese I 3.00 - 4.00  
 CHIN 102. Elementary Chinese II 3.00 - 4.00  
 CHIN 231. Intermediate Chinese I 3.00  
 CHIN 232. Intermediate Chinese II 3.00  
 CHIN 300. Chinese Grammar and Communication 3.00  
 CHIN 397. Intensive Reading and Writing in Chinese I 3.00  
 ECON 312. Comparative Economic Systems 3.00  
 ENG 378. Studies in South Asian Literature 3.00  
 GEOG 334. Geography of East and Southeast Asia 3.00  
 GEOG 338. Geography of the Philippine Islands: Problems and Possibilities 3.00  
 HUM 200. Great Works [C2L] 3.00 (Asia)  
 HUM 252. Global Cultures [C2HQC] 3.00 (Cross-Cultural Perspectives – East Asian Humanities)  
 HUM 252. Global Cultures [C2HQC] (Cross-Cultural Perspectives – Global South Asia)  
 HUM 252. Global Cultures [C2HQC] (Cross Cultural Perspectives – Gandhi, Non-Violence and Global Transformation)  
 HIST 274. Modern East Asia 3.00  
 HIST 311\*\*. China to 1600 3.00  
 HIST 312\*\*. Japan Since 1600 3.00  
 HIST 371\*\*. India 3.00

HIST 375\*\*. History of Modern Southeast Asia 3.00  
 HIST 377\*\*. History of Korea 3.00  
 HIST 378\*\*. China in the Modern World 3.00  
 HIST 379\*\*. Family and Gender in East Asia 3.00  
 IB 298. Special Topics in International Business 3.00 (Business Environment in China and Southeast Asia)  
 IB 298. Special Topics in International Business 3.00 (Doing Business in China)  
 JAPN 101. Elementary Japanese I 4.00  
 JAPN 102. Elementary Japanese II 4.00  
 JAPN 111. Intensive Japanese I 6.00  
 JAPN 212. Intensive Japanese II 6.00  
 JAPN 231. Intermediate Japanese I 3.00  
 JAPN 232. Intermediate Japanese II 3.00  
 JAPN 300. Japanese Grammar and Communication 3.00  
 KOR 101. Elementary Korean I 3.00 - 4.00  
 KOR 102. Elementary Korean II 3.00 - 4.00  
 KOR 231. Intermediate Korean I 3.00  
 KOR 232. Intermediate Korean II 3.00  
 POSC 355. East Asian Politics 3.00  
 REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00  
 REL 314. Gandhi and the Other 9/11 3.00  
 REL 317. Exploring Gandhian Philosophy of Nonviolence  
 REL 318. Exploring Contemporary India  
 REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00  
**Total: 18 Credit Hours**

## Astronomy Minor

The minimum requirement for a minor in astronomy is 21 credit hours selected as follows:

### Astronomy Minor Electives

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars 3.00  
 ASTR 221. General Astronomy II: Star Systems, the Interstellar Medium, and Cosmology 4.00  
 ASTR 320. Astronomical Techniques 3.00  
 ASTR/PHYS 330. Relativity 4.00  
*Choose one of the following: 6 Credit Hours*  
 PHYS 140. College Physics I [C3PP] 3.00 and  
 PHYS 150. College Physics II 3.00 or  
 PHYS 240. University Physics I [C3PP] 3.00 and  
 PHYS 250. University Physics II 3.00  
*Choose one of the following: 2 Credit Hours*  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00 and  
 PHYS 150L. General Physics Laboratory 1.00 or  
 PHYS 240L. University Physics Laboratory I [C3PP] 1.00 and  
 PHYS 250L. University Physics Laboratory II 1.00  
*One course selected from the following: 3 Credit Hours*

GEOG 272. Planetary Geology (2, 2) 3.00  
 ASTR 480. Astrophysics 3.00  
 HON 300Z. Life Beyond Earth  
 PHYS 297. Topics in Physics 1.00 - 4.00 or  
 (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)  
 PHYS 397. Topics in Physics 1.00 - 4.00 or  
 (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)  
 PHYS 497. Topics in Physics 1.00 - 4.00  
 (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)  
 ASTR 297. Topics in Astronomy 1.00 - 4.00 or  
 (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)  
**Total: 21 Credit Hours**

## Biochemistry and Molecular Biology Minor

Dr. Jonathan Monroe, Coordinator

Phone: (540) 568-6649

Email: [monroejd@jmu.edu](mailto:monroejd@jmu.edu)

Dr. Gina MacDonald, Coordinator

Phone: (540) 568-6852

Email: [macdongx@jmu.edu](mailto:macdongx@jmu.edu)

Website: <http://www.jmu.edu/biology>

The biochemistry and molecular biology minor is open to students not majoring in biotechnology. The following are prerequisites for entry into the biochemistry and molecular biology minor program (some prerequisites are not shown; see the course descriptions).

### Prerequisites

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

Choose from the following:

CHEM 242L. Organic Chemistry Laboratory 2.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00 - CHEM 288L.

Integrated Inorganic/Organic Laboratory II 2.00

### Required Courses

BIO 240. Genetics (3,3) 4.00

BIO 480. Advanced Molecular Biology (2, 5) 4.00

BIO/CHEM 361. Biochemistry I 3.00

CHEM 362. Biochemistry II 3.00

CHEM 366L. Biochemistry Laboratory 2.00

Choose one of the following: 4-5 Credit Hours

CHEM 331. Physical Chemistry I 3.00 including CHEM 336L

CHEM 351. Analytical Chemistry 4.00

**Total: 20-21 Credit Hours**

## Biology Minor

Minor Adviser: Julia Stutzman

Students who declared a major in biology before Fall 2016 should consult with their adviser about course requirements. The biology minor is not available to biotechnology majors.

Students choosing to minor in biology must complete the following courses:

### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

Biology elective (300-level and above) 3-4 Credit Hours

**Total: 19-20 Credit Hours**

## Book Arts Minor

Ms. Dawn M. McCusker, Coordinator

Phone: (540) 568-6500

Email: [mccuskm@jmu.edu](mailto:mccuskm@jmu.edu)

Dr. Karin Tollefson-Hall, Coordinator

Phone: (540) 568-4304

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Website: <http://www.jmu.edu/cds/regional-and-area-studies/index.shtml>

The minor in book arts is a cross disciplinary program designed to broaden students' understanding of the value and role of the art of the book in general culture while enhancing written and visual creativity, artistic production, and the ability to think independently. Students enrolled in any degree program may minor in book arts by completing a minimum of 21 credit hours. The student's minor program is subject to the approval of the School of Art, Design and Art History director. A total of nine credit hours may be double counted between the minor and the major.

### Required Courses: 15 Credit Hours

ART 102. Two-Dimensional Design (0,6) 3.00

ART 104. Drawing I (0,6) 3.00

ART 276. Introductory Book Arts: Materials and Structures 3.00

ENG 415. Advanced Studies in Textuality and the History of the Book 3.00

Choose one of the following:

ENG 391. Introduction to Creative Writing – Nonfiction 3.00

ENG 392. Introduction to Creative Writing – Poetry 3.00

ENG 393. Introduction to Creative Writing – Fiction 3.00

Choose two of the following: 6 Credit Hours

ART 230. Introduction to Fiber Processes (0,9) 3.00

ART 232. Introduction to Fiber Arts: Structures 3.00

ART 234. Introduction to Fiber Arts: Surfaces 3.00

ART 260. Introductory Photography: Black and White (0,9) 3.00

ART 270. Printmaking: Screenprint (0,9) 3.00 or

ART 272. Printmaking: Relief and Intaglio 3.00

ART 274. Printmaking: Lithography (0,9) 3.00

ART 280. Sculpture (0,9) 3.00

ART 336. Pulp 3.00

GRPH 101. Digital Media Design I (0, 9) 3.00

ART/GRPH 375. Letterpress 3.00

ART/GRPH 376. Intermediate Book Arts: Concept, Content, Form 3.00

ENG 496. Advanced Topics in Creative Writing 3.00

**Total: 21 Credit Hours**

## British Communication and Media Minor

Prof. Dietrich Maune, Coordinator

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Email: [maunedx@jmu.edu](mailto:maunedx@jmu.edu)

Website: <http://www.jmu.edu/cds/regional-and-area-studies/index.shtml>

The cross disciplinary British communication and media minor enables students to expand their knowledge of communication and media in Great Britain, and to enhance their appreciation of the impact culture has on communication and media. Students must participate in the JMU semester or summer in London program to complete this minor.

The minor requires at least 18 credit hours, chosen from courses offered both at JMU and in London. Students may double-count a maximum of six credit hours toward both a major and this minor.

### Required Courses: 6 Credit Hours

SCOM 248. Intercultural Communication 3.00 1

SCOM/SMAD/WRTC 360L. British Media and Society 3.00 2

HUM 251L. British Media and Society 3.00 2

Elective Courses: 12 Credit Hours

Select at Least four of the following courses:

SCOM 347L. Communication, Diversity and Popular Culture 3.00 2

SMAD 301L. The Media Arts: Culture By Design 3.00 2 or SCOM 351. Visual

Rhetoric 3.00 or WRTC 351L. Visual Rhetoric 3.00 2 or ARTH 389. Topics in

Art History – The Media Arts: Culture by Design2

ENG/SMAD 463L. Film Adaptations 3.00 2 or SCOM 395. Film Adaptations:

British Literature and Film2

SCOM/SMAD 472L. Media and Politics 3.00 2 or THEA 449. London Theatre

3.00 2 or ENG 412N. Special Topic Seminar 3.00 2 or

HUM 200L. Great Works - London [C2L] 3.00 2

WRTC 314. Writing in the Public Sphere 3.00 2 or or

SCOM 321L. Writing in The Public Sphere 2

IDLS 486. Internship & Field Experience 1.00 – 6.00 2

**Total: 18 Credit Hours**

### Footnotes

1 Must be taken in Harrisonburg at JMU. Regularly offered in fall semesters. 2 Must be taken in London.

### Additional Information

Appropriate independent studies, directed projects, and Semester in London Faculty Member in Residence courses may be counted as part of the minor with approval by the minor coordinator. Students studying in London during the summer will need to complete one additional course, approved by the minor coordinator, following the student's return to JMU.

## Business Analytics Minor

Coordinator: Dr. Susan W. Palocsay

Business analytics is a technical approach to analyzing problems and making business-related decisions. It uses statistical methods, management science techniques, and mathematical modeling to forecast the implications of various choices and identify the best alternatives. Business analytics focuses on the effective use of data and information to

provide fact-based insights and drive positive business actions. The minor in business analytics prepares students to solve complex decision problems in a business environment with a combination of quantitative skills and hands-on expertise using current software applications.

Admission to the BSAN program is limited and competitive. Students seeking to add the BSAN minor must submit an application by October 1. Students will be admitted as a cohort each fall to start the BSAN program in the spring.

To be eligible to apply for admission, students must have completed the following:

- One introductory calculus course (MATH 205, MATH 231, MATH 235, ISAT 151 or equivalent)
- One statistics course (COB 191, MATH 220, MATH 285, MATH 318, ISAT 251 or equivalent)
- One economics course (ECON 200 or ECON 201)
- One business analytics course (COB 291) with a grade of "B-" or higher

In addition, a student must be able to take the 300-level BSAN courses on a schedule of one per semester in a three-consecutive semester period.

- A complete application to the minor includes the following:
- A letter of recommendation from COB 291 instructor
- A completed BSAN minor application form

Students may use transfer and/or college credits that have been accepted by JMU to meet competency requirements. Admission is based on an average of a student's highest grades in one course from each competency area and the letter of recommendation. Only grades earned at JMU and verified by the registrar will be used; transfer transcripts will also be reviewed. More emphasis will be placed on grades than on the recommendation letter. Following review by the BSAN Admission Committee, students will be notified about their acceptance into the minor. If accepted, students will be eligible to register for BSAN courses.

#### Required Courses

Choose one of the following: 3-4 Credit Hours

COB 191. Business Analytics I 3.00

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00

MATH 220. Elementary Statistics [C3QR] 3.00

MATH 285. Data Analysis 4.00

MATH 318. Introduction to Probability and Statistics 4.00

Other Required Courses

COB 291. Business Analytics II 3.00 1

BSAN 390. Statistical Modeling for Business Analytics 3.00

BSAN 391. Decision Modeling for Business Analytics 3.00

BSAN/CS 393. Data Mining for Business Analytics 3.00

Elective - Choose one of the following: 3 Credit Hours

CIS 463. Business Intelligence 3.00

ISAT 344. Intelligent Systems 3.00

ECON 385. Econometrics 3.00

FIN 475. Financial Modeling and Risk Analysis 3.00

MATH 322. Applied Linear Regression 3.00

MKTG 482. Marketing Analytics 3.00

**Total: 18-19 Credit Hours**

#### Footnote

<sup>1</sup> COB 191 and MATH 205 or equivalent are prerequisites for COB 291. A grade of "B-" or higher in COB 291 and junior or senior standing are prerequisites for taking the subsequent required courses (BSAN 390, BSAN 391, and BSAN 393/CIS 393) in the business analytics minor.

### Business French Minor

#### Courses

FR 300. Grammar and Communication 3.00

FR 308. Contemporary French Civilization 3.00

FR 320. French Oral and Written Communication 3.00

FR 330. Business French 3.00

FR 351. French/English Translation 3.00

One 300 or 400-level FR course 3 Credit Hours

**Total: 18 Credit Hours**

### Business German Minor

#### Courses

GER 300. Grammar and Communication 3.00

GER 308. Contemporary German Civilization 3.00

GER 320. Oral and Written Communication 3.00

GER 330. Business German 3.00

GER 341. Translation Competencies 3.00

GER 375. Business and Society in Germany 3.00

**Total: 18 Credit Hours**

### Business Italian Minor

#### Courses

ITAL 300. Italian Grammar and Communication 3.00

ITAL 308. Contemporary Italian Civilization 3.00

ITAL 320. Oral and Written Communication 3.00

ITAL 330. Business Italian 3.00

ITAL 375. Business and Society in Italy 3.00

ITAL 435. Translation Strategies 3.00

**Total: 18 Credit Hours**

### Business Spanish Minor

Adviser: Veronica Haun

Phone: (540) 568-6851

Email: haunvx@jmu.edu

The professional minor in business Spanish is intended for students who wish to consolidate and improve their knowledge of Spanish in several business areas. The main aim of the minor is to teach students how to use specific business terms in Spanish and to handle selling techniques, negotiation strategies, product presentations, commercial activities, marketing, and business correspondence in Spanish. Students acquire a greater knowledge of Spanish as well as deeper understanding of Spanish or Hispanic societies and their business cultures.

The minor comprises one linguistic component, one elective component, one translation/interpretation component and three profession-specific linguistic components.

#### Required Courses

SPAN 300. Grammar and Communication 3.00

SPAN 330. Business Spanish 3.00

SPAN 430. Advanced Business Spanish 3.00

One elective Spanish course: 3 Credit Hours

SPAN 307. Spanish Civilization 3.00

SPAN 308. Latin American Civilization 3.00

SPAN 311. Contrastive Linguistics 3.00

SPAN 320. Oral and Written Communication 3.00 or

SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00

SPAN 407. Aspects of Spanish Civilization 3.00

SPAN 447. Special Topics in Spanish Civilization and Culture 3.00

Choose one: 3 Credit Hours

SPAN 485. Business and Society in Latin America 3.00

SPAN 486. Business and Society in Spain 3.00

Choose one: 3 Credit Hours

SPAN 435. Translation Strategies 3.00

SPAN 436. Introduction to Interpretation 3.00

**Total: 18 Credit Hours**

### Chemistry Minor

The requirements for a minor in chemistry are 24 credit hours in chemistry, distributed as follows:

General Chemistry 8 Credit Hours

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 132. General Chemistry II 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132L. General Chemistry Laboratory 1.00

Organic Chemistry: One or two lectures and corresponding lab 4-8 Credit Hours

CHEM 241. Organic Chemistry I 3.00 and  
CHEM 241L. Concepts of Organic Chemistry Laboratory 1.00 or CHEM 241.  
Organic Chemistry I 3.00 and  
CHEM 242. Organic Chemistry II 3.00 and  
CHEM 242L. Organic Chemistry Laboratory 2.00  
*Physical Chemistry: One lecture and corresponding lab 5 Credit Hours*  
CHEM 331. Physical Chemistry I 3.00 and

#### Additional Information

In order to complete this minor, prerequisite courses in mathematics and physics are required. These courses collectively fulfill the nine-credit approved technical elective package for the Bachelor of Science in Engineering.

### Chinese Business Studies Minor

The Chinese business studies minor can be completed by taking one Chinese language course, POSC 371. Topics in Comparative Politics, HIST 341. Selected Themes in World History, IB 298 or IB 498–I. Business Environment in China and Southeast Asia, IB 298 or IB 498–II. Chinese Business Operations, and MKTG 380. Principles of Marketing. Note that business majors will take COB 300D rather than MKTG 380. MKTG 380 (or COB 300D) will be taken at JMU. The other five courses will be taken in conjunction with the JMU Study in China Program, and will be taught by professors or instructors from Chinese universities.

Students in this minor will:

- Become aware of China's history and culture.
- Learn about China's political, social and economic systems.
- Become familiar with China's government, and business operations.
- Understand China's economic role in Asia and the world.

### Christian Studies Minor

This minor is designed to provide students with a systematic and comprehensive understanding of the nature and history of Christianity as a religion of global significance. Students begin their studies by exploring the history, beliefs and practices of diverse Christian traditions, from the ancient to the modern. Additional courses address the complex relationship between Christianity and various facets of the contemporary world, such as politics, culture, religious pluralism, terrorism and race.

#### Required Courses

REL 202. Introduction to the New Testament 3.00

REL 340. Introduction to Christianity 3.00

REL 348. Christianity in Global Context 3.00

*Choose three courses from the following, at least two of which must be at the 300- or 400-level: 9 Credit Hours*

REL 201. Introduction to Hebrew Bible/Old Testament 3.00

REL 218. Philosophy of Religion 3.00

REL 240. Jesus and the Moral Life 3.00

REL 280. Religion and Science 3.00

CHEM 336L. Applied Physical Chemistry Laboratory 2.00 or  
CHEM 432. Physical Chemistry II 3.00 and CHEM 438L. Physical Chemistry  
Laboratory 2.00

*Analytical Chemistry 4 Credit Hours*

CHEM 351. Analytical Chemistry 4.00

An approved three-credit CHEM elective

**Total: 24 Credit Hours**

REL 324. Latin American Christianity 3.00

REL 325. Catholicism in the Modern World 3.00

REL 332. Born Again Religion 3.00

REL 336. African-American Religion 3.00

REL 360. History of Christian Thought 3.00

REL 363. Apocalypticism, Religious Terrorism and Peace 3.00

REL 380. Contemporary Theologies 3.00

REL 450. Religion and Society 3.00

REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00

**Total: 18 Credit Hours**

### Chronic Illness Minor

Dr. Christina Lam, Coordinator Phone: (540) 568-7616 Email: russelck@jmu.edu Website: <http://www.nursing.jmu.edu/chronicillness.html>

The cross disciplinary minor in chronic illness prepares students from any major to understand and respond to the impacts of chronic illness on the individual, family, health care system and society. Knowledge and strategies to address the prevention and the management of chronic illness across its trajectory will enhance the skills and abilities of students who plan to practice in any profession. The minor is open to all undergraduate students at JMU and requires a minimum of 18 credits with no more than six credits in the student's major counting toward the minor.

Deadlines for submission of the Application to Declare a Chronic Illness Minor are due to the Chronic Illness Minor Coordinator by:

- The last day of September for fall registration for the spring term.
- The last day of February for spring registration for the fall term.

#### Core Requirements

Students completing the nursing major must complete the core requirements prior to starting major courses

NSG 390. Impact of Chronic Illness 3.00

NSG 391. Living Successfully with Chronic Illness 3.00

*Elective Requirements: 6-12 Credit Hours*

(Select 12 credits. Students completing the nursing major select six credits.)

ANTH 360. Medical Anthropology 3.00 (C)

EXED 306. Lifespan Issues for Individuals with Disabilities 3.00

GERN/SOCI 280. Social Gerontology 3.00

GERN 305. Programs and Services for the Elderly 3.00

HTH 255. Chronic Disease and Disabilities 3.00 1

HTH 351. Health Behavior Change 3.00 1

IPE 490. Special Topics in Health and Human Services 0.00 - 4.00 (when topic is appropriate)

MSCI 390. The Combat Experience 3.00

KIN 424. Exercise and Nutrition in Chronic Disease 3.00 or

NUTR 455. Exercise and Nutrition in Chronic Disease 3.00

NSG 301. History Taking/History Telling: Narratives of Chronic Illness and Disability 2.00

PSYC 304. Death & Dying: Thanatology 3.00

NSG 306. Combating Childhood Obesity 1.00

NSG 308. Empowerment and Resilience 1.00

NSG 310. Helping Persons in Pain 2.00

NSG 313. Issues and Applications of Family Caregiving 1.00 - 2.00

NSG/IPE/SOWK 314. Rural Health: an Interprofessional Approach 3.00

NSG 318. Nursing, Chronic Illness and Health in a Global Context 2.00

NSG 319. Understanding Sexuality across the Health-Illness Continuum 2.00

NSG 320. Innovative Diabetes Health Education 1.00

NSG 322. Integrative Health Care 2.00

NSG 326. Care and Consideration for Children with Special Needs 1.00

NSG 328. Life, Death, and the In-Between 1.00

NSG 329. Best Practices in Diabetes Care 2.00

NSG 330. Medical Innovations 3.00

NSG 360. HHS in Costa Rica: Interprofessional Perspective 4.00

NSG 363. Health Care in Spain: A Cross Cultural Exploration of Illness and Wellness 4.00

NSG 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00

NSG 490. Special Studies 1.00 - 6.00 (when topic is appropriate) (credits vary) see chronic illness minor web page

NSG 490 Study Abroad Experiences (Australia, Kenya, Tanzania) (credits vary)

SOWK 332. Community Mental Health Practice 3.00

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> Health Sciences majors only

## Classical Studies Minor

Dr. Stephen Chappell, Coordinator

Phone: (540) 568-4708

Email: [chappesx@jmu.edu](mailto:chappesx@jmu.edu)

Website: <http://www.jmu.edu/classicalstudies/>

The minor in classical studies introduces students to the literature, culture, philosophy, history and languages of Greco-Roman civilization. The requirement is successful completion of 24 credits chosen from the following courses offered by participating academic units. Students who take Latin or Greek can apply up to 12 credit hours to the minor.

### Required Courses

*Choose one of the following: 3 Credit Hours*

HUM 250. Foundations of Western Culture [C2HQC] 3.00 (The Greek Experience)

HUM 250. Foundations of Western Culture [C2HQC] (The Roman Experience)

*Choose seven of the following: 21 Credit Hours*

GRK 101. Elementary Greek I 3.00 - 4.00

GRK 102. Elementary Greek II 3.00 - 4.00

GRK 231. Intermediate Greek I 3.00

GRK 232. Intermediate Greek II 3.00

LAT 101. Elementary Latin I 3.00 - 4.00

LAT 102. Elementary Latin II 3.00 - 4.00

LAT 231. Intermediate Latin I 3.00

LAT 232. Intermediate Latin II 3.00

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00

ARTH 322. Ancient Art 3.00

ARTH 340. Early Medieval Art 3.00

ARTH 424. Arts of Ancient Egypt 3.00

CLAS 100. Latin and Greek Roots of English Words 3.00

CLAS 265. The Individual and Society in Ancient Greece and Rome

CLAS 266. Greek and Roman Classics in Translation 3.00

CLAS 337. Human Values: The Classical Tradition

CLAS 360. Topics in Greek and Roman Culture 3.00

ENG 305. Mythology 3.00.

HIST 101. World History to 1500 [C2HQC] 3.00

HIST 369. Greek History, 3000 BC-AD 267 3.00

HIST 370. Byzantine Empire 3.00

HIST 391. Travel Studies Seminar 3.00

HIST 467. The Roman Republic 3.00

HIST 468. The Roman Empire 3.00

HIST 489. Selected Topics in World History 3.00 (when topic is related to Greece or Rome)

PHIL 340. Ancient Greek Philosophy 3.00

PHIL 460. Topics in Classical Philosophy 3.00

POSC 310. Political Theory: Ancient to Early Modern 3.00

REL 240. Jesus and the Moral Life 3.00

REL 344. Christianity in the Roman Empire

REL 346. Religions in Greece and Rome

REL 360. History of Christian Thought 3.00

REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00

**Total: 24 Credit Hours**

## Coaching Education Minor

Minor Requirements

This minor prepares students for the coaching profession on the high school and younger level by complying with the requirements of the National Council for Accreditation of Coaching Education at Level 3, intermediate coach. Evidence of CPR/first aid certification must be presented prior to beginning the coaching practicum. To enroll in the practicum, all of the minor courses except KIN 450 must be successfully completed (minimum of a "C") and the student's overall GPA must be 2.0. To complete the minor, students must:

- Complete the American Sport Education Program (ASEP) Coaching Principles course and earn ASEP certification (part of KIN 450).
- Earn a minimum grade of a "C" in each of the six courses and a "satisfactory" on the practicum (KIN 473).

### Courses

ATEP 205. Introduction to Athletic Training (2,2) 3.00

KIN 202. Biological Foundations of Kinesiology & Recreation 3.00

KIN 353. Maximizing Sports Performance 3.00

KIN 425. Concepts of Strength and Conditioning 3.00

KIN 450. Principles of Coaching 3.00

KIN 473. Practicum in Coaching 3.00

Kinesiology techniques of sport class (with coordinator approval) 2 Credit Hours

**Total: 20 Credit Hours**

## Creative Writing Minor

Dr. Paul Bogard, Coordinator

Phone: 540-568-6860

Email: [bogardpw@jmu.edu](mailto:bogardpw@jmu.edu)

Website: <http://www.jmu.edu/english/undergraduate/minors.shtml>

The cross disciplinary minor in creative writing is designed to encourage students to develop their writing talents across a number of literary forms and communication contexts.

Course offerings in poetry, fiction, creative nonfiction, scriptwriting, screen and playwriting give students the opportunity to shape the minor to suit a variety of artistic interests and professional objectives. With the choice of at least one course from a group involving advanced topics, narrative and poetic forms, media criticism and film analysis, students will gain informed perspectives on current issues affecting readers, viewers, writers and their creative works. These courses support the core workshop courses and are vital to competence in the field.

The minimum requirement for a minor in creative writing is 18 hours. Two courses may be double-counted between the minor and the major. Students electing this minor may acquire more information from the creative writing adviser of the Department of English, the School of Media Arts and Design or the School of Theatre and Dance.

### Required Courses

*Select four or five core courses from two or more departments: 12-15 Credit Hours*

ENG 391. Introduction to Creative Writing – Nonfiction 3.00

ENG 392. Introduction to Creative Writing – Poetry 3.00

ENG 393. Introduction to Creative Writing – Fiction 3.00

ENG 493. Advanced Creative Nonfiction 3.00

ENG 494. Advanced Poetry Writing 3.00

ENG 495. Advanced Fiction Writing 3.00

SMAD 250. Scriptwriting 3.00

SMAD 251. Screenplay Writing 3.00

SMAD 311. Feature Writing 3.00

SMAD 340. Advanced Screenplay Writing 3.00

SMAD 498. Senior Seminar in Media Arts and Design 3.00 (when topic is appropriate) 1

THEA 347. Playwriting 3.00

THEA 441. Senior Seminar in Theatre 3.00 (when topic is appropriate) 1

THEA 447. Advanced Playwriting 3.00

*Select one or two support courses from the following: 3-6 Credit Hours*

ENG 390. The Environmental Imagination 3.00

ENG 483. Narrative Form 3.00

ENG 484. Poetic Craft and Creativity 3.00

ENG 496. Advanced Topics in Creative Writing 3.00

SMAD 373. Media Analysis and Criticism 3.00

SMAD 463. Film Adaptations 3.00

THEA 481. Theory and Performance Studies 3.00

**Total: 18 Credit Hours**

### Footnote

<sup>1</sup> Students must check with the professor or creative writing coordinator to see if these courses are appropriate for this minor.

## Criminal Justice Minor

Dr. Peggy S. Plass, Coordinator

Phone: (540) 568-7151

Email: [plassms@jmu.edu](mailto:plassms@jmu.edu)

The cross disciplinary minor in criminal justice is designed for students who are preparing for careers in law enforcement, corrections, judicial administration or other areas related to the study or management of crime, either directly upon graduation or after further graduate training. The requirement for a minor in criminal justice is 21 credits. Students should allow a minimum of four semesters in which to complete the minor.

### Required Courses

CRJU 215. Introduction to Criminal Justice 3.00

CRJU 225. Ethics in Criminal Justice 3.00  
 Choose at least one course from each of the following units:  
*Human Behavior: 3 Credit Hours*  
 SOCI 304. Social Deviance 3.00 1  
 CRJU 325. Criminology 3.00  
 PSYC 250. Introduction to Abnormal Psychology 3.00 (Non PSYC majors only)  
 or PSYC 335. Abnormal Psychology 3.00 (PSYC majors) 1  
 PSYC/JUST 316. Human Development and Crime 3.00  
*Law and Procedure: 3 Credit Hours*  
 CRJU 321. Criminalistics 3.00  
 JUST 327. Criminal Law 3.00 1  
 CRJU 328. Criminal Procedure 3.00

CRJU 329. Criminal Investigation and Evidence 3.00  
*Institutions: 3 Credit Hours*  
 JUST 330. Corrections 3.00 1  
 CRJU 335. Law Enforcement 3.00  
 CRJU 337. Courts and the Judiciary  
 CRJU 340. Administration of Justice 3.00  
 Choose two additional courses from those listed above or from the following: 6  
*Credit Hours*  
 CRJU 301. Special Topics in Criminal Justice 3.00  
 CRJU 401. Internship in Criminal Justice 4.00  
**Total: 21 Credit Hours**

#### Footnote

1 Students majoring in this discipline may double count only one course as credit for the minor and that major.

### Data Analytics Minor

The minor in data analytics is designed for students majoring in a STEM field who want to gain additional technical competencies in statistical data analytic methods as it relates to their field of study. This minor will provide students with analytical and technical skills in the ethical use of data in research environments; application of statistical and probabilistic thinking to data analysis; data visualization and data management; and application of machine learning techniques to their own field of study. Although the minor is primarily intended for students majoring in one of the degree programs offered by the College of Science and Mathematics, any student that meets program requirements may take the minor.

The minor in data analytics is a minimum 18-hour credit program, and no more than six credits from the minor may be used to double-count with a major or another minor.

#### Required Courses: 12 Credit Hours

DATA 200. Introduction to Data 3.00  
 MATH 229. Introduction to Applied Statistics Using R 3.00  
 MATH 268. Data Analysis and Visualization 3.00  
 DATA/MATH 358. Introduction to Machine Learning 3.00

Choose at least six credit hours from one or more of the following foci: 6 Credit Hours

#### Mathematics/Statistics focus

MATH 248. Computers & Numerical Algorithms 4.00  
 MATH 300. Linear Algebra 3.00  
 MATH 309. SAS Programming and Data Management 3.00  
 MATH 322. Applied Linear Regression 3.00  
 MATH 327. Categorical Data Analysis 3.00  
 MATH 328. Time Series Analysis 3.00  
 MATH 368. Statistical Computing 3.00  
 MATH 421. Applied Multivariate Statistical Analysis 3.00  
 MATH 425E. Statistical Genomics 3.00  
 MATH 426. Probability and Mathematical Statistics I 3.00

#### Biological Sciences focus

BIO 204. Viral Genome and Bioinformatics (0,4) 2.00  
 BIO 342. Mathematical Models in Biology 3.00 or  
 MATH 342. Mathematical Models in Biology 3.00  
 BIO 346. Bacterial Discovery 2.00

BIO 454. Introduction to Biometrics (3, 1) 4.00 or  
 MATH 354. Introduction to Biometrics 4.00  
 BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
 BIO 481. Genomics (3, 3) 4.00  
 BIO 483. Bioinformatics (3, 3) 4.00

#### Earth Sciences focus

GEOL 360. GIS for the Geoscientist 3.00  
 GEOL 390. Laboratory Techniques in Geology (2, 2) 3.00  
 GEOL 406. Paleoclimatology and Paleogeography 3.00  
 GEOL 410. Engineering Geology (2, 2) 3.00  
 GEOL 440. Geophysics (3, 2) 4.00  
 GEOL 489. Quantitative Methods in Geology 3.00

#### Physical Sciences focus

PHYS 339. Introductory Nuclear Science 4.00  
 PHYS 344. Advanced Physics Laboratory I 1.00  
 PHYS 345. Advanced Physics Laboratory II 1.00  
 PHYS 346. Advanced Physics Laboratory III 1.00  
 PHYS 386. Robots: Structure and Theory 3.00  
 PHYS 390. Computer Applications in Physics 3.00  
 CHEM 351. Analytical Chemistry 4.00  
 CHEM 352. Instrumental Analysis 3.00 and  
 CHEM 352L. Instrumental Analysis Laboratory 2.00

**Total: 18 Credit Hours**

### Disability Studies Minor

Daisy Breneman, Coordinator Phone: (540) 568-4247 Email: brenemdl@jmu.edu  
 Dr. Susan Ghiaciuc, Coordinator Phone: (540) 568-1613 Email: ghiacisx@jmu.edu

The minor in disability studies engages students in an examination of the many ways disability is defined and constructed. Students will build knowledge of the political, rhetorical, social, educational, historical, legal and medical frameworks of disability through both classroom and experiential study in courses drawn from several disciplines. Students will examine the ways systems inhibit and promote full participation of people with disabilities, explore how communities define and reinforce norms, and understand disability as an inherent part of diversity and inclusivity.

The minor in disability studies is open to all undergraduate students at JMU. The introductory course DST 100 can be taken the same semester as core courses. More than one core course can be taken to count toward the overall credit requirement. No more than nine hours may be taken from a single discipline. No more than two courses may be double counted for a student's major/minor.

#### Required Courses (1 credit hour)

DST 100. Introduction to Disability Studies

Choose one of the following core courses (3 credit hours)

JUST 385. Disability and Justice 3.00  
 KIN 429. Special Topics in Adapted Physical Education 3.00  
 WRTC 430. Contemporary Rhetorical Theory and Practice 3.00: Disability  
 Rhetoric or SCOM 343. Contemporary Rhetorical Theory and Practice 3.00:  
 Disability Rhetoric  
 SOCI 335. Disability and Society 3.00  
 SOCI 375. Medical Sociology 3.00

Choose five of the following elective courses (15 credit hours)

ANTH 360. Medical Anthropology 3.00 (C)

ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C) : Sex and  
 the Social: The Cultural Politics of Reproduction  
 DANC 325. Dance in Community 3.00  
 HIST 306\*. A History of the Body in the West 3.00  
 HIST 476. History of Disability in Postwar Europe, 1945-1991 3.00  
 JUST 221. Social Justice Theories 3.00  
 SCOM 370. Introduction to Health Communication 3.00  
 SOCI 304. Social Deviance 3.00  
 SOCI 385. Madness and Society: the Sociology of Mental Health and Illness 3.00  
 SRM 242. Sociology and Psychology of Sport and Recreation 3.00  
 SRM 436. Facilities and Event Management 3.00

**Total: 19 Credit Hours**

### Entrepreneurship Minor

Chris Roeder, Coordinator Phone: (540) 568-3143 Email: roedercc@jmu.edu

The entrepreneurship minor is designed to introduce students from any discipline to the knowledge, skills and mindset necessary for successful new venture creation. The minor is open to students in any major except management, which offers a track in innovation and entrepreneurship.

Students who successfully complete the entrepreneurship minor will develop the knowledge base and skills needed for new venture creation and management. They will be able to:

- Understand entrepreneurship as a possible career path, its role in economic growth and opportunity, and its associated social benefits.
- Recognize/identify entrepreneurial opportunities that fit the individual student. Includes self-analysis in the context of possible entrepreneurial activities and demonstration of the ability to identify and analyze the attractiveness of potential markets.
- Develop a business model and create a business plan. This includes completing a clear and concise written plan that serves as a blueprint for creation of the proposed venture.
- Apply relevant financial and business principles to assess the need for start-up capital, conduct break even analysis and identify cash flow needed for future growth.
- Identify and evaluate various sources of funding.
- Articulate an effective pitch to gain support from investors, suppliers, customers or potential employees.
- Interact and collaborate with various stakeholders to develop and evaluate ideas, and grow those ideas to fruition.

#### Admission

To be considered for admission into the entrepreneurship minor students will need to submit an application packet by April 1 to the entrepreneurship minor coordinator in the Management Department. The application includes:

- Statement of interest
- One-minute "elevator pitch" video
- Resume
- Letter of recommendation
- Proof of good academic standing

JMU students submit applications for admission into the minor during the spring of their sophomore year. Enrollment in the initial course requirement occurs during the fall of their junior year. Transfer students who have four semesters of course work remaining after any given spring semester are eligible to apply.

Transfer students admitted to JMU for fall semester who are interested in applying for the ENTP minor will have two weeks after their notification of admission to submit their application to the minor coordinator. Selected students will be notified of their acceptance to the minor cohort two weeks prior to the start of fall semester classes.

Admitted students will begin as a cohort the following fall semester. Admitted students must be able to take the four required minor courses as a cohort, on a predetermined one per semester schedule for four consecutive semesters starting with the first semester of their junior year.

Students may request permission to count two three-credit electives from their major as their ENTP electives. These courses must be related to innovation and/or entrepreneurship and must be approved by the minor coordinator. All electives must be approved by the adviser, and students should check with an adviser for the most updated list of suggested electives, as the list can change.

#### Required Courses

MGT 310. Business Fundamentals for Entrepreneurs 3.00 (non-COB majors) or  
COB 300A. Integrative Business: Management 3.00 (required for non-MGT  
COB majors)

MGT 320. Management of Innovation and Technology 3.00 1

MGT 471. Entrepreneurship and Small Business Management 3.00

MGT 472. New Venture Creation 3.00

*Electives (choose two) (6 credit hours)*

ACTG 244. Accounting for Non-Business Majors 3.00

ENGR 498. Advanced Topics in Engineering 1.00-3.00 : Innovation2

ENGR 498. Advanced Topics in Engineering: Realization2

ENGR 498. Advanced Topics in Engineering: Innovation Exchange2

ENGR 498. Advanced Topics in Engineering: Social Entrepreneurship2

MGT 340. International Management 3.00

MGT 365. Fundamentals of Human Resource Management 3.00

MKTG 380. Principles of Marketing 3.00 (for non-CoB majors only)

NPS 300. Introduction to Nonprofits 3.00

NPS 320. Nonprofit Management 3.00

WRTC 340. Writing as Leading 3.00

**Total: 18 credit hours**

#### Footnotes

1 Engineering students may substitute ENGR 221 for MGT 320. 2 All ENGR courses are contingent on availability.

## Environmental Humanities Minor

Dr. Katey Castellano, Coordinator

Phone: (540) 568-3753

Website: <https://www.jmu.edu/environment/humanities.shtml>

This minor allows students to articulate broad historical and cultural views of the complex interactions among humans and the natural and material environment. Students will analyze and produce expressive, creative work that illustrates the complexity of human interaction with the environment.

Students select 18 hours as distributed below. No more than three courses can come from a single academic unit in the total hours selected. Students may double-count two courses in the minor with their major. At the discretion of the minor coordinator, science courses may be substituted into the minor.

#### Humanities and the Environment

*Choose four courses, no more than two from the same discipline: 12 Credit Hours*

ARCD 330. Materials and Methods I 3.00

ENG 221. Literature/Culture/Ideas [C2L] 3.00 (for minor credit when topic is "Environmental Literature")

ENG 371. Literature and the Environment 3.00

ENG 372. Ecocriticism and Environmental Ethics 3.00

ENG 390. The Environmental Imagination 3.00

ENVT 300. Topics in Environmental Humanities 3.00

ENVT 301. Internship in Environmental Humanities 3.00

ENVT 401. Studio or Independent Study in Environmental Humanities 3.00

GEOG 325. Environmental Ethics 3.00

HIST 270. Modern Middle East 3.00

HIST 304. Native Peoples of the United States 3.00 1

HIST 315. History of Sport 3.00

HIST 427. U.S. Environmental History 3.00

HIST 434. Recent America 3.00

INDU 392. Topics in Industrial Design 3.00 (for minor credit when topic is "Design and Sustainability")

REL/ENVT 366. Religion, Animals and the Environment 3.00

SCOM/WGSS 302. Third Wave Ecofeminism 3.00

SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00

WRTC 416. Rhetoric of Environmental Science and Technology 3.00 or SCOM

465. Rhetoric of Environmental Science and Technology 3.00

Approved Special Topics Courses

Approved Internship Programs

Approved Study Abroad Programs

Humanities/Social Science Elective

*Choose one: 3 Credit Hours*

ANTH 300. The Anthropology of Food 3.00 (C)

ANTH 307. Climate, Culture and Change 3.00

ANTH 430. Primate Conservation Biology 3.00 (B)

ARTH 380. American Art to 1870 3.00 (for landscape, painting, nationalism)

ARTH 464. Romanticism and Enlightenment 3.00

ENG 325. Romantic Literature 3.00

ENG 363. Native American Literature 3.00

ENG 496. Advanced Topics in Creative Writing 3.00 (Cavanagh's section)

HIST 326. The Automobile in 20th Century America 3.00

HIST 327. Technology in America 3.00

HIST 405. Travel and Exploration 3.00

HIST 443. Modern American Technology and Culture 3.00

HIST 453\*\*. Patterns of Global History 3.00

HIST 469. A History of International Development in the Twentieth Century 3.00

HUM 252. Global Cultures [C2HQC] 3.00 "Global South Asia" only

HUMN 301. Introduction to Natural Disasters Response 3.00

ISAT 421. Environmental Policy & Regulation 3.00

PPA 484. Environmental Regulatory Policy and Politics 3.00

SOCI 311. Sociology of the Environment 3.00  
 SOCI 354. Social Inequality 3.00  
 SOCI 358. Sociology of Consumption 3.00  
 WRTC 342. Writing Place 3.00  
 WRTC 358. Writing About Science and Technology 3.00  
 Science Elective  
 General Education courses may double-count for the minor.  
*Choose one: 3 Credit Hours*  
 ENVT 200. Environmental Systems Theory 3.00  
 GEOG 322. Agricultural Systems 3.00

GEOG 341. Wilderness Techniques 3.00  
 GEOL 102. Environment: Earth [C3NS] 3.00  
 GEOL 115. Earth Systems and Climate Change [C3NS] 3.00  
 GEOL 211. Introduction to Oceanography [C3NS] 3.00  
 HTH 352. Environmental Health 3.00  
 ISAT 100. Environmental and Energy Sustainability [C3PP] 3.00  
 ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00  
 NUTR 380. Global Nutrition 3.00  
**Total: 18 Credit Hours**

#### Footnote

<sup>1</sup> These four history courses are offered on a rotating basis. One will be offered each year. Each one contains substantial environmental material.

### Environmental Information Systems Minor

Dr. Steven P. Frysinger, Coordinator Phone: (540) 568-2710 Email: frysinsp@jmu.edu Website: <http://www.jmu.edu/EnvironmentalInfoSys>

The cross disciplinary minor in environmental information systems is designed for undergraduates interested in using computer and information management technology to solve environmental problems and improve environmental stewardship. Some examples of environmental information systems are database systems to track and report hazardous materials in factories, decision support systems to facilitate risk analysis and management, GIS-based natural resource inventory systems and automated business management systems to support and document environmental compliance.

The environmental information systems minor requires a minimum of 25 credit hours<sup>2</sup>. Core courses are intended to ensure knowledge of the foundation disciplines. Electives should be chosen in consideration of the student's particular interests within the general field of environmental information systems; the coordinator may approve other elective courses. Students are advised to check prerequisites of listed courses.

#### Required Courses

*Core Courses: 16-17 Credit Hours*

CS 149. Introduction to Programming 3.00 1  
 ISAT 340. Software Development 3.00 1  
 ISAT 320. Fundamentals of Environmental Science & Technology I 4.00 2  
 ISAT 321. Fundamentals of Environmental Science & Technology II 3.00  
 ISAT 426. Environmental Information Systems 3.00

*Elective Courses: 8-9 Credit Hours*

Students who have successfully completed ISAT 320 prior to fall 2016 will receive 3 credits for ISAT 320; if that is the case, the environmental information systems minor requires a minimum of 24 credit hours.

CS 159. Advanced Programming 3.00 1  
 CS 474. Database Design and Application 3.00 1  
 GEOG 215. Introduction to Geographic Information Science and Cartography 3.00  
 GEOG 366. Intermediate Geographic Information Science 3.00  
 GEOG 385. Principles of Remote Sensing 3.00  
 GEOG 466. GIS and Geographic Databases 3.00  
 ISAT 341. Machine Learning and Data Science 3.00  
 ISAT 420. Environmental Analysis and Modeling 3.00  
 ISAT 447. Interaction Design 3.00

**Total: 25 Credit Hours**

#### Footnotes

<sup>1</sup> Or equivalent by permission of director. <sup>2</sup> Students who have successfully completed ISAT 320 prior to fall 2016 will receive 3 credits for ISAT 320; if that is the case, the environmental information systems minor requires a minimum of 24 credit hours.

Note: CS 149, ISAT 252 or CIS 221 substitute for CS 139; CIS 331 substitutes for CS 159; CS 474 substitutes for ISAT 340; CIS 330 substitutes for CS 474.

### Environmental Management Minor

Dr. Steven P. Frysinger, Coordinator Phone: (540) 568-2710 Email: frysinsp@jmu.edu Website: <http://www.jmu.edu/environmentalmgt>

The cross disciplinary environmental management minor prepares students to apply the principles of environmental science and engineering to contemporary environmental problems in natural resource, industrial and public policy contexts. The minor is particularly suitable for students interested in professional careers in industrial environmental management, natural resources management, and environmental policy and planning. The environmental management minor strives to develop graduates who can apply science and technology to a broad range of practical environmental problems in professional settings. Students are expected to be literate and competent in the sciences and mathematics underlying environmental problem solving.

The environmental management minor requires a total of 29 credits, including prerequisite courses. Prerequisite courses may be fulfilled as part of the student's major.

#### Prerequisite

BIO 250. Ecology and Evolution (3,3) 4.00

*Three hours from one of the following:*

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00  
 MATH 285. Data Analysis 4.00  
 MATH 307. Principles of Probability and Statistics 3.00

#### Required Courses

Students who have successfully completed ISAT 320 prior to fall 2016 will receive 3 credits for ISAT 320; if that is the case, the environmental

management minor requires a total of 28 credits, including prerequisite courses.

ISAT 320. Fundamentals of Environmental Science & Technology I 4.00  
 ISAT 321. Fundamentals of Environmental Science & Technology II 3.00  
 CHEM 241. Organic Chemistry I 3.00  
 ENVT 400. Capstone Seminar in Environmental Problem Solving 3.00  
*Concentration Courses (See descriptions below) 9.00*

**Total: 22 Credit Hours**

#### Concentrations

Students completing the environmental management minor must concentrate in one of three areas: natural resources, industrial systems or environmental policy.

Students should be aware that some of the listed courses may have additional prerequisites.

Natural Resources

ISAT 424. Natural Resource Management 3.00

Choose two of the following courses:

BIO 402. Forest Ecology 4.00  
 BIO 456. Landscape Ecology (3, 3) 4.00  
 BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
 BIO 459. Freshwater Ecology (3, 3) 4.00  
 BIO 465. Environmental Toxicology (2, 4) 4.00  
 CHEM 354. Environmental Chemistry Field Camp 3.00  
 CHEM/GEOL 355. Geochemistry of Natural Waters 3.00

GEOG 340. Biogeography 3.00  
 GEOG 341. Wilderness Techniques 3.00  
 GEOG 342. Management and Protection of Natural Resources 3.00  
 GEOG 343. Wildlife Management 3.00  
 GEOL 340. Environmental Soil Science (2, 2) 3.00  
 ISAT 420. Environmental Analysis and Modeling 3.00  
 ISAT 425. Environmental Hydrology 3.00  
 ISAT 429. Sustainability: An Ecological Perspective 3.00

#### Industrial Systems

ISAT 422. Industrial Environmental Management 3.00

*Choose two of the following courses:*

HTH 352. Environmental Health 3.00  
 HTH 450. Epidemiology 3.00  
 ISAT 423. Environmental Remediation 3.00



ISAT 427. Industrial Hygiene 3.00  
ISAT 428. Industrial Ecology 3.00

#### Environmental Policy

ISAT 421. Environmental Policy & Regulation 3.00  
ISAT 422. Industrial Environmental Management 3.00 or ISAT 424. Natural Resource Management 3.00

Choose one of the following courses:

BIO 465. Environmental Toxicology (2, 4) 4.00  
ECON 305. Environmental Economics 3.00  
ECON 340. Economics of Natural Resources 3.00  
GEOG 325. Environmental Ethics 3.00

#### Environmental Science Minor

Dr. Bruce A. Wiggins, Coordinator Phone: (540) 568-6196 Email: wiginba@jmu.edu Website: <http://www.jmu.edu/environment/science.shtml>

Any student may elect this cross disciplinary minor. Students pursuing programs ranging from the physical, natural or social sciences to education, journalism or business could benefit from this broadly-based curriculum. The program draws from courses that focus on the application of scientific concepts and principles to the understanding of environmental problems and their solutions. The minor draws upon the expertise of faculty in the areas of biology, chemistry, geography, physics and integrated science and technology.

The environmental science minor:

- Provides a scientific background to those students interested in environmental law, environmental economics and environmental sustainability.
- Broadens the student's understanding of how sciences are linked to environmental questions.
- Complements any major by focusing on courses related to environmental issues.

The minimum requirement for a minor in environmental science is 24 credit hours taken from the four groups outlined below. Students wishing to complete more than one of the environmental minors (environmental management, environmental science and environmental studies) may receive dual credit for the capstone course (ENVT 400), but may not receive dual credit for any other courses that might be shared by the minors. Pre-approved study abroad and/or internship experiences may be substituted for one or more of the courses listed below.

No more than two courses from a single subject area can count toward the completion of the environmental science minor.

International studies and special topics courses with appropriate content may be counted (prior approval by the environmental science minor coordinator required).

#### Courses

##### Group 1. Introduction to Environmental Science: 3-4 Credit Hours

Can be double-counted with General Education.

BIO 250. Ecology and Evolution (3,3) 4.00  
GEOG 210. Physical Geography (2, 2) 4.00  
GEOL 102. Environment: Earth [C3NS] 3.00  
GEOL 110. Physical Geology [C3NS] 3.00  
GEOL 115. Earth Systems and Climate Change [C3NS] 3.00  
ISAT 100. Environmental and Energy Sustainability [C3PP] 3.00  
ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

##### Group 2. Advanced Environmental Science courses: 15 Credit Hours

BIO/GEOL 400. Geology and Ecology of the Bahamas 3.00  
BIO/GEOG 402. Forest Ecology 4.00  
BIO 452. Population Ecology (2, 4) 4.00  
BIO 453. Microbial Ecology and Evolution (2, 4) 3.00  
BIO 454. Introduction to Biometrics (3, 1) 4.00  
BIO 456. Landscape Ecology (3, 3) 4.00  
BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
BIO 459. Freshwater Ecology (3, 3) 4.00  
BIO 465. Environmental Toxicology (2, 4) 4.00  
BIO 466. Toxicology Seminar (3, 0) 3.00  
CHEM 353. Environmental Chemistry 3.00  
CHEM 354. Environmental Chemistry Field Camp 3.00  
CHEM 450. Nuclear and Radiation Chemistry 3.00  
ENGR 411. Fundamentals of Sustainable Engineering and Design 3.00  
ENGR 472. Biological Treatment Processes and Reactor Design 3.00  
ENGR 474. Physical Chemical Treatment Processes 3.00  
ENGR 478. Water Resources Engineering 3.00  
ENVT 200. Environmental Systems Theory 3.00  
GEOG 215. Intro to Geographic Information Science and Cartography 3.00  
GEOG 216. Earth Observation and GPS 3.00  
GEOG 290. Human-Environment Interactions 3.00  
GEOG 310. Environmental Issues 1.00 - 4.00  
GEOG 340. Biogeography 3.00  
GEOG 365. Cartography and Geospatial Visualization 3.00  
GEOG 385. Principles of Remote Sensing 3.00  
GEOL 211. Introduction to Oceanography [C3NS] 3.00  
GEOL 310 A - D. Environmental Impact 2.00 - 3.00, repeatable to 6 credits

GEOG/ISAT 429. Sustainability: An Ecological Perspective 3.00  
HIST 427. U.S. Environmental History 3.00  
ISAT 411. Energy Economics and Policy 3.00  
ISAT 420. Environmental Analysis and Modeling 3.00  
ISAT 423. Environmental Remediation 3.00  
ISAT 471. Transportation: Energy, Environment & Society 3.00  
PPA 484. Environmental Regulatory Policy and Politics 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00  
SOC1 311. Sociology of the Environment 3.00  
Other courses may apply by permission of the coordinator.

GEOL 320. Meteorology 3.00  
GEOL 340. Environmental Soil Science (2, 2) 3.00  
GEOL/CHEM 355. Geochemistry of Natural Waters 3.00  
GEOL 377. Earth Surface Processes (2, 2) 3.00  
GEOL 406. Paleoclimatology and Paleogeography 3.00  
GEOL 410. Engineering Geology (2, 2) 3.00  
GEOL 460. Hydrogeology (2, 2) 3.00  
ISAT 311. Role of Energy in Modern Society 3.00  
ISAT 320. Fundamentals of Environmental Science & Technology I 4.00  
ISAT 321. Fundamentals of Environmental Science & Technology II 3.00  
ISAT 420. Environmental Analysis and Modeling 3.00  
ISAT 423. Environmental Remediation 3.00  
ISAT 425. Environmental Hydrology 3.00  
ISAT 427. Industrial Hygiene 3.00  
ISAT 428. Industrial Ecology 3.00  
MATH 321. Analysis of Variance and Experimental Design 3.00  
MATH 322. Applied Linear Regression 3.00  
MATH 324. Applied Nonparametric Statistics 3.00  
MATH 328. Time Series Analysis 3.00  
MATH 421. Applied Multivariate Statistical Analysis 3.00  
PHYS 215. Energy and the Environment [C3PP] 3.00  
Group 3. Environmental Studies courses: 3 Credit Hours  
One of the following courses:  
ECON 305. Environmental Economics 3.00  
ECON 340. Economics of Natural Resources 3.00  
ENG 371. Literature and the Environment 3.00  
ENG 390. The Environmental Imagination 3.00  
GEOG 325. Environmental Ethics 3.00  
HIST 427. U.S. Environmental History 3.00  
ISAT 311. Role of Energy in Modern Society 3.00  
ISAT 421. Environmental Policy & Regulation 3.00  
ISAT 473. Local Agriculture and Farm Internships 4.00  
SCOM 354 or WRTC 326. Environmental Communication and Advocacy 3.00  
SOC1 311. Sociology of the Environment 3.00  
WRTC 416/SCOM 465. Rhetoric of Environmental Science and Technology 3.00  
Group 4. Capstone course  
ENVT 400. Capstone Seminar in Environmental Problem Solving 3.00 1  
**Total: 24-25 Credit Hours**

#### Footnote

<sup>1</sup> All students must complete the capstone course ENVT 400. Students must have completed 15 hours of their environment minor in order to enroll in the capstone.

#### Environmental Studies Minor

Dr. Rob Alexander, Coordinator Phone: (540) 568-3771 Email: alexanrw@jmu.edu Website: <http://www.jmu.edu/environment/studies.shtml>

The environmental studies minor provides a cross disciplinary education engaging socio-cultural, scientific and technical issues raised by the oft-conflicting needs and desires of globally interacting societies. Designed to complement any major, the goals of the environmental studies minor include:

- To help undergraduates develop an awareness of the cultural, political and scientific aspects of the world's environmental problems.
- To better prepare students for further study at the graduate or professional school level and careers in the expanding field of environmental professions.

### Overview of Requirements

The minimum requirement for a minor in environmental studies is a minimum of 21 credit hours taken from the three categories: Introduction to Environment and Environmental Science Literacy, The Socio-Cultural Context of Environmental Studies and the Senior Seminar capstone course. No more than two courses from a single subject (e.g., GEOG, GEOL, ANTH, ENG) may count toward completion of the minor. Students wishing to complete more than one of the environment minors (environmental management, environmental science and environmental studies) may receive dual credit for the capstone course but may not receive dual credit for any other courses that might be shared by the minors.

#### Courses

##### *Introduction to Environment and Environmental Science Literacy*

Fundamental to exploring the problems which emerge through the human/nature interaction is an understanding of core scientific concepts and processes that underlie natural systems. Therefore, minors will take an environmental science course that provides a broad survey of core concepts as well as an environmental science course that provides a targeted focus on an environmental science topic.

##### *Introduction to Environment*

Select one course, which can be double-counted with General Education:

- BIO 103. Contemporary Biology (3, 0) [C3NS] 3.00
- BIO 250. Ecology and Evolution (3,3) 4.00
- ENVT 200. Environmental Systems Theory 3.00
- GEOG 210. Physical Geography (2, 2) 4.00
- GEOL 102. Environment: Earth [C3NS] 3.00
- GEOL 110. Physical Geology [C3NS] 3.00
- GEOL 115. Earth Systems and Climate Change [C3NS] 3.00
- GEOL 210. Applied Physical Geology [C3NS] 3.00
- ISAT 100. Environmental and Energy Sustainability [C3PP] 3.00
- ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

##### *Environmental Science Literacy*

Select one course, which can be double-counted with General Education:

- BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00
- BIO 459. Freshwater Ecology (3, 3) 4.00
- GEOG 327. Climatology 3.00
- GEOL 211. Introduction to Oceanography [C3NS] 3.00
- GEOL 230. Evolution of Earth (3, 2) 4.00
- GEOL 310 A - D. Environmental Impact 2.00 - 3.00, repeatable to 6 credits
- GEOL 320. Meteorology 3.00
- GEOL 340. Environmental Soil Science (2, 2) 3.00
- ISAT 320. Fundamentals of Environmental Science & Technology I 4.00
- PHYS 215. Energy and the Environment [C3PP] 3.00

##### *The Socio-Cultural Context of Environmental Studies*

Environmental studies involves a breadth of knowledge regarding the intersections of social and natural systems and how human activity and thought, over time, reflect the tensions, challenges and opportunities of a human society embedded in a finite natural environment.

Select four courses (a minimum of 12 credit hours) from the following. Only two courses with the same course subject may be taken.

- ECON 305. Environmental Economics 3.00
- ECON 340. Economics of Natural Resources 3.00
- EDUC 455. Perspectives in Environmental Education 3.00
- ENG 221. Literature/Culture/Ideas [C2L] 3.00 (Lit, Nature, Env section only)
- ENG 371. Literature and the Environment 3.00
- ENG 372. Ecocriticism and Environmental Ethics 3.00
- ENG 390. The Environmental Imagination 3.00
- GEOG 290. Human-Environment Interactions 3.00
- GEOG 300. Population Geography 3.00
- GEOG 310. Environmental Issues 1.00 - 4.00 or GEOL 310 A - D. Environmental Impact 2.00 - 3.00, repeatable to 6 credits
- GEOG 322. Agricultural Systems 3.00
- GEOG 325. Environmental Ethics 3.00
- GEOG 427. Water Resources of the World 3.00
- GEOG/ISAT 429. Sustainability: An Ecological Perspective 3.00
- ISAT 429. Sustainability: An Ecological Perspective 3.00
- HIST 427. U.S. Environmental History 3.00
- ISAT 290. Introduction to Systems Thinking for Complex Problems 3.00
- ISAT 421. Environmental Policy & Regulation 3.00
- PPA 484. Environmental Regulatory Policy and Politics 3.00
- SCOM/WGSS 302. Third Wave Ecofeminism 3.00
- SCOM 354/WRTC 326. Environmental Communication and Advocacy 3.00
- SOCI 311. Sociology of the Environment 3.00
- SOCI 357. Sociology of Disasters 3.00
- WRTC 416/SCOM 465. Rhetoric of Environmental Science and Technology 3.00

Approved special topics courses

Approved internship programs

Approved study abroad courses

##### *Senior Seminar Capstone Course*

The culminating experience for the environmental studies minor is the combined capstone, co-taught by two faculty members from different fields and joined by the environmental science and environmental management minors. With a small size, opportunities for experiential field trips and engagement with current environmental challenges, ENVT 400 creates an all hands on deck opportunity to demonstrate competency in environmental studies and to make a difference with real environmental problems.

ENVT 400. Capstone Seminar in Environmental Problem Solving 3.00

**Total: 21-24 Credit Hours**

### Ethics Minor

The 18 hour minor in ethics offers students an opportunity for deeper study into respected ethical thinkers and how ethical theory from philosophy and religion can be used to understand our individual and social lives. Students are to choose six courses total from either of the lists below. At least one of the six must be from the philosophy list, and at least one of the six must be from the religion list. Philosophy or religion majors may double count two courses (6 credits) from their major toward the minor.

Other courses with a sufficiently ethical focus from philosophy, religion, or another department may be able to count towards the minor with the approval of the ethics minor coordinator.

#### Philosophy

- PHIL 262. Problems in Applied Ethics 3.00
- PHIL 330. Moral Theory 3.00
- PHIL 335. The Individual, the State, and Justice 3.00
- PHIL/WGSS 350. The Philosophy of Feminism 3.00
- PHIL 367. Topics of Philosophy of Law 3.00
- PHIL 440. Advanced Moral Philosophy 3.00

#### Religion

- REL 240. Jesus and the Moral Life 3.00
- REL 306. Women and Gender in Islam 3.00
- REL 309. Jihad in Islamic Traditions 3.00
- REL 315. Women and Religion 3.00
- REL 350. Islamic Law and Society 3.00
- REL/IA 363. Apocalypticism, Religious Terrorism and Peace 3.00
- REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00
- REL 450. Religion and Society 3.00

### Family Studies Minor

Dr. Terrence Fernsler, Minor Adviser Phone: (540) 568-6980 Email: fernslts@jmu.edu Website: <http://www.jmu.edu/socwork/familystudies.html>

The minor in family studies is designed for undergraduates seeking enhancement of their major, desiring to increase understanding of self and relationships, and seeking to make a positive contribution to society. A substantial knowledge of family-related issues, family processes, policies, laws, services and the interrelationship of families and societies will enhance majors in many fields including anthropology, early and middle education, health sciences, management, nursing, psychology, social work, and sociology. The minor encourages students to make connections between their major field and family studies.

The family studies minor requires a minimum of 18 credit hours with no more than six credit hours in the student's major. Note that some courses have prerequisites that must be completed before enrollment. Some courses may be restricted to students enrolled in particular majors.

One introductory course is required: either FAM 133 or SOCI 374. One course must be selected from each of these areas: Families in society, family and intimate relationships, and human development in the family. An additional course must be selected from any of the three areas or from family studies electives. A capstone course, FAM 400, is also required. At least four courses in the minor, including the introductory course, must be completed prior to enrolling in FAM 400.

#### Introductory course

Choose one of the following: 3 Credit Hours

FAM 133. The Contemporary Family 3.00  
SOCI 374. Sociology of Families 3.00

#### Families in Society

Choose one of the following: 3 Credit Hours

GERN/SOCI 280. Social Gerontology 3.00  
HIST 320. Women in U.S. History 3.00  
HIST 379\*\*. Family and Gender in East Asia 3.00  
HIST 466. The Family, 1400-1800 3.00  
NSG 390. Impact of Chronic Illness 3.00 4  
SOCI/WGSS 337. Sociology of Gender 3.00  
SOWK 338. Issues and Policies in Family Services 3.00  
SOWK 342. Child Welfare Services 3.00

#### Family and Intimate Relationships

Choose three credits from: 3 Credit Hours

HTH 372. Human Sexuality 3.00  
NSG 313. Issues and Applications of Family Caregiving 1.00 – 2.00 (service-learning) (1-2 credits)  
NSG 326. Care and Consideration for Children with Special Needs 1.00 (service-learning) (1-2 credits)  
PSYC 275. Psyc of Human Intimacy 3.00

PSYC 450. Psychology of Child Abuse and Neglect 3.00 1

SCOM 440. Family Communication 3.00 2

SOWK 340. Violence in Families 3.00 1

#### Human Development in the Family

Choose three credits from: 3 Credit Hours

EXED 306. Lifespan Issues for Individuals with Disabilities 3.00 3  
FAM 300. Child Development 3.00 1  
PSYC 304. Death & Dying: Thanatology 3.00 1  
PSYC 365. Developmental Psychology 3.00 1  
PSYC 475. Psychology of Adulthood 3.00  
SOWK 387. Working with Teens 3.00

#### Capstone

FAM 400. Issues and Applications 3.00

#### Additional family studies course

Choose three credits from one of the three topic areas above or one of the following: 3 Credit Hours

FAM 375. Grant Writing for Agencies 3.00  
FAM 386. Youth Empowerment Strategies (YES) 3.00  
FAM 487. Special Topics in Family Studies 3.00  
FAM 490. Special Studies in Family Studies 3.00

**Total: 18 Credit Hours**

#### Footnotes

1 Some courses in the minor have substantive overlap in focus and content. To ensure students gain a broad exposure to family functions and dynamics, some restrictions apply for overlapping courses. For the family studies minor, students may take either: SOCI 303, PSYC 304, PSYC 450, SOWK 340, PSYC 365 or FAM 300. 2 SCOM majors and minors only. 3 Special education non-teaching and chronic illness concentration students only. 4 Access may be limited.

#### Film Studies Minor

Kevin J. Reynolds, Coordinator

Phone: (540) 568-8183

Email: reynolkj@jmu.edu

The minor in film studies is designed for students who wish to extend their critical understanding of visual communication and narrative form by studying how movies tell stories, convey information and influence audiences. Because the program is cross disciplinary, it examines films as both art and entertainment, bringing together the literary traditions of English and the communication perspectives of media arts and design. Together, the aim is to explore cinema's pictorial "language," investigate its commercial consequences and evaluate its impact across cultures as a medium for enacting the human story.

Six credit hours may be double-counted between the minor and major. Information is available from the film studies adviser of Media Arts and Design or English.

#### Required Courses

ENG/SMAD 380. Introduction to Film 3.00  
Select no fewer than five courses from the following: 15 Credit Hours  
ENG 381. History of Film to 1960 3.00  
ENG 382. History of Film Since 1960 3.00  
ENG 383. Film Genre 3.00  
ENG 384. Film Authorship 3.00  
ENG 385. Special Topics in Film Study 3.00

SMAD 371. Narrative Media Studies 3.00

SMAD 460. Film and Society 3.00

SMAD 461. Film as Art 3.00

SMAD 462. Documentary in Film & Television 3.00

SMAD 463. Film Adaptations 3.00

SMAD 464. Contemporary American Film 3.00

SMAD 498. Senior Seminar in Media Arts and Design 3.00 (when topic is film)

**Total: 18 Credit Hours**

#### Geophysics Minor

The minor in geophysics is designed to provide adequate training for professional work or graduate school in geophysics in the broad sense. No more than 10 credits from the geophysics minor may be used to double count with a major. The requirements for the geophysics minor are a minimum of 21 credits, including at least one semester each of geology, mathematics and physics, distributed as follows:

#### Required Courses

Choose one of the following: 4 Credit Hours

GEOL 110. Physical Geology [C3NS] 3.00 and  
GEOL 110L. Physical Geology Laboratory [C3NS] 1.00 or GEOL 210. Applied  
Physical Geology [C3NS] 3.00 and  
GEOL 110L. Physical Geology Laboratory [C3T1G3] 1.00 or PHYS 140. College  
Physics I [C3PP] 3.00 and PHYS 140L. General Physics Laboratory [C3PP]  
1.00 or PHYS 240. University Physics I [C3PP] 3.00 and PHYS 140L. General  
Physics Lab I [C3T1G2] 1.00

Complete all of the following:

GEOL 440. Geophysics (3, 2) 4.00  
GEOL 442. Field Geophysics 3.00

MATH 238. Linear Algebra with Differential Equations 4.00

MATH 248. Computers & Numerical Algorithms 4.00

Choose one of the following elective courses: 3-4 Credit Hours

Additional elective courses permitted upon approval from minor adviser.

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars 3.00

CHEM 331. Physical Chemistry I 3.00

GEOL 410. Engineering Geology (2, 2) 3.00

GEOL 460. Hydrogeology (2, 2) 3.00

MATH 237. Calculus III 4.00

PHYS 260. University Physics III 3.00

**Total: 22-23 Credit Hours**

#### Note for Geology Majors

The geology major requires a sequence of math and physics courses (see major program for details). The following sequence of courses will satisfy the major requirements and is strongly recommended for students interested in geophysics. MATH 236 is a prerequisite for several courses included in the geophysics minor. PHYS 250. University Physics II 3.00 (and Lab)

MATH 235. Calculus I [C3QR] 4.00

MATH 236. Calculus II 4.00

PHYS 240. University Physics I [C3PP] 3.00 (and Lab)

#### Gerontology Minor

Dr. Terrence Fernsler, Minor Adviser

Phone: (540) 568-6980

Email: fernslts@jmu.edu

Website: <http://www.jmu.edu/socwork/gerontology.html>

The cross disciplinary minor in gerontology is designed for undergraduate students from any major seeking a focal area of study on issues and dynamics of human aging for personal understanding or career preparation. The minor program requires 18 credit hours, nine credits of required courses and nine credits of approved electives, with no more than six credit hours in the student's major.

#### Required Courses

GERN/SOCI 280. Social Gerontology 3.00  
(Health Services Administration majors may substitute HSA 290. Gerontology for Health Services Administration)  
GERN 305. Programs and Services for the Elderly 3.00 1  
GERN 495. Field Experience/Seminar in Gerontology (1, 6) 3.00 1  
*Elective Courses (Choose 9 credit hours from the following approved courses):*  
GERN/FAM/SOWK 375. Grant Writing for Agencies 3.00  
GERN 450. Palliative and Hospice Care: An Interdisciplinary Approach 3.00  
GERN 487. Special Topics in Gerontology 3.00  
GERN 490. Special Studies in Gerontology 1.00 - 3.00  
HTH 378. The Use & Effects of Drugs 3.00 1  
HTH 471. Health Aspects of Gerontology 3.00

IPE/NSG 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00  
NSG 310. Helping Persons in Pain 2.00  
NSG 313. Issues and Applications of Family Caregiving 1.00 - 2.00  
NSG 322. Integrative Health Care 2.00  
NSG 328. Life, Death, and the In-Between 1.00  
NSG 391. Living Successfully with Chronic Illness 3.00  
PSYC 304. Death & Dying: Thanatology 3.00 1  
BIO 301. Introductory Neuroscience 3.00 1  
*Major elective (a course supporting the student's major or related field of study with 50% of the course content in gerontology) 3 Credit Hours*  
**Total: 18 Credit Hours**

#### Footnote

1 Course has one or more prerequisites.

### Global Religion and Global Issues Minor

The minor is intended for students who want to better understand the role played by religion in contemporary global events: from religious terrorism to nonviolence, from the suppression of women to the advocacy of civil rights. In this minor, students will study major global religions and their impact on real-world social and political issues. The minor may be of particular interest to students in the social sciences but all students with an interest in the subject are welcome.

#### Required Courses

REL 101. Religions of the World [C2HQ] 3.00  
*One Global Religious Traditions course 3 Credit Hours*  
REL 250. Islamic Religious Traditions 3.00  
REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00  
REL 320. Judaism 3.00  
REL 330. Religions of Africa and the African Diaspora 3.00  
REL 348. Christianity in Global Context 3.00  
REL 388. Tibetan Buddhism 3.00  
*One Religion and Social/Political Engagement course 3 Credit Hours*  
REL 306. Women and Gender in Islam 3.00  
REL 309. Jihad in Islamic Traditions 3.00

REL 314. Gandhi and the Other 9/11 3.00  
REL 315. Women and Religion 3.00  
REL 350. Islamic Law and Society 3.00  
REL/IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
REL 366. Religion, Animals and the Environment 3.00  
REL 380. Contemporary Theologies 3.00  
REL 450. Religion and Society 3.00  
REL 488. Buddhism in the Modern World 3.00  
*Three electives chosen from either group 9 Credit Hours*  
**Total: 18 Credit Hours**

### Global Supply Chain Management Minor

Dr. Mert Tokman, Coordinator Phone: (540) 568-3020 Email: tokmanm@jmu.edu  
Dr. Nicole Radziwill, Coordinator Phone: (540) 568-2985 Email: radziwnm@jmu.edu

The global supply chain management minor is designed to provide a broad overview of the supply chain management and logistics functions in a global context. The minor is open to all COB, ISAT and ENGR majors.

The minor is comprised of two core courses (MGT 461. Introduction to Supply Chain Management and MKTG 462. International Logistics) and four electives that can be chosen from available classes in marketing, management, international business, integrated sciences and engineering.

#### Prerequisite

COB 300C. Integrative Business: Operations 3.00 (For COB Majors) or ISAT 211. Issues in Modern Production Systems 3.00 (For CISE Majors)

#### Core Courses: 6 Credit Hours

(On campus or Study Abroad):  
MGT 461. Introduction to Supply Chain Management 3.00  
MKTG 462. International Logistics 3.00

#### Electives: 12 Credit Hours

##### Marketing Majors

Choose two: (6 Credit Hours)  
MKTG 450. Business Marketing 3.00  
MKTG 460. Global Marketing 3.00  
MKTG 494. Marketing Internship 3.00 - 6.00  
Choose two from: (6 Credit Hours)  
ISAT 433. Foundations of Lean and Six Sigma 3.00  
ISAT 434. Industrial Informatics 3.00  
ISAT 435. Lean Six Sigma Applications 3.00

##### Management Majors

Choose two: (6 Credit Hours)  
MGT 325. Project Management 3.00  
MGT 340. International Management 3.00  
Choose two from: (6 Credit Hours)  
ISAT 433. Foundations of Lean and Six Sigma 3.00  
ISAT 434. Industrial Informatics 3.00  
ISAT 435. Lean Six Sigma Applications 3.00

##### International Business and other COB Majors

Choose two: (6 Credit Hours)  
IB 494. International Business Internship 3.00

MGT 340. International Management 3.00  
MKTG 460. Global Marketing 3.00  
Choose two from: (6 Credit Hours)  
ISAT 433. Foundations of Lean and Six Sigma 3.00  
ISAT 434. Industrial Informatics 3.00  
ISAT 435. Lean Six Sigma Applications 3.00  
*Integrated Science and Technology Majors*  
ISAT 330. Sustainable Manufacturing Systems 3.00  
ISAT 331. Cyber-Physical Industry 3.00  
Choose two from: (6 Credit Hours)  
ISAT 432. Materials Selection in Product Design 3.00  
ISAT 433. Foundations of Lean and Six Sigma 3.00  
ISAT 434. Industrial Informatics 3.00  
ISAT 435. Lean Six Sigma Applications 3.00  
ISAT 437. Technological Innovation and Sustainable Design 3.00  
ISAT 341. Machine Learning and Data Science 3.00 or ISAT 344. Intelligent Systems 3.00  
(Integrated Science and Technology students may receive credit for either ISAT 341 or ISAT 344, but not both)  
*Engineering Majors*  
Choose two from: (6 Credit Hours)  
ENGR 411. Fundamentals of Sustainable Engineering and Design 3.00  
ISAT 432. Materials Selection in Product Design 3.00  
ISAT 433. Foundations of Lean and Six Sigma 3.00  
ISAT 434. Industrial Informatics 3.00  
ISAT 435. Lean Six Sigma Applications 3.00  
ISAT 437. Technological Innovation and Sustainable Design 3.00

ISAT 330. Sustainable Manufacturing Systems 3.00 or ISAT 331. Cyber-Physical Industry 3.00  
(Engineering students may receive credit for either ISAT 330 or ISAT 331, but not both)

ISAT 341. Machine Learning and Data Science 3.00 or ISAT 344. Intelligent Systems 3.00  
(Engineering students may receive credit for either ISAT 341 or ISAT 344, but not both)

**Total: 18 Credit Hours**

## Historical Archaeology Minor

Dr. Dennis B. Blanton, Minor Adviser Phone: (540) 568-6171

Dr. Gabrielle M. Lanier, Minor Adviser Phone: (540) 568-3615 Website: <http://www.jmu.edu/cds/regional-and-area-studies/index.shtml>

The minor is designed for students interested in the sub-field of historical archaeology, a discipline that integrates the research interests and methods of archaeology and history. The minor is designed to complement existing majors in anthropology and history, and it may also be of interest to students in art history and public administration. While guided by the theoretical underpinnings of history and anthropology, the minor in historical archaeology is field- and research-oriented. Students enrolling in the program should anticipate courses that require significant effort outside of the classroom.

Two courses (six credits) may be double-counted between the minor and the student's major.

### Required Courses

ANTH/HIST 331. Historical Archaeology 3.00 (A)

ANTH 494. Field Techniques in Archaeology 4.00 - 8.00 (A,F)

HIST/ARTH 396. Introduction to Public History 3.00

Capstone research course

The personalized capstone course can take place over one or two semesters and will require the student to work closely with a faculty adviser. The project will require the student to define a research topic, establish a theoretical and methodological base for the project, gather data, interpret the results and prepare an appropriate statement of findings.

ANTH/HIST 496. Research Thesis 3.00

*Choose three of the following: 9 Credit Hours*

Of these, one course must be chosen from the history/anthropology options and one must be from the geology or geography options. 1

ANTH 410. Spatial Analysis for Anthropologists 4.00 (A,B and C)

ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)

HIST/ARTH 394. Introduction to Museum Work 3.00

HIST/ANTH/ARTH 492. Material Culture 3.00

HIST/ARTH 493. Historic Preservation 3.00

GEOL 340. Environmental Soil Science (2, 2) 3.00

GEOL 442. Field Geophysics 3.00

**Total: 22 Credit Hours**

### Footnote

<sup>1</sup> Access to geology and geography courses is competitive and will require some computer experience.

## Humanitarian Affairs Minor

Dr. Tara Parsons, Coordinator Phone: (540) 568-7645 Email: [parsontr@jmu.edu](mailto:parsontr@jmu.edu) Website: <http://www.jmu.edu/humanitarian>

The cross disciplinary humanitarian affairs minor provides students with a global perspective on the major humanitarian crises facing the human community today. Students will investigate the impacts of natural disasters, disease, hunger and famine, poverty, conflict, and national and international policies on the welfare of human communities around the world. They will also explore solutions to various humanitarian crises and evaluate the problems of practicing humanitarianism in the world today. Students will become acquainted with the organizations that address these crises and the challenges they face. Finally, students will acquire knowledge and skills that prepare them for careers in governmental and non-governmental organizations that address humanitarian issues. The minor in humanitarian studies is open to all undergraduate students at JMU.

### Core Requirements

HUMN 201. Introduction to Humanitarian Affairs 3.00

*Choose five of the following*

With no more than two from any single discipline:

HUMN/GEOG 301. Introduction to Natural Disasters Response 3.00

HUMN 302. Legal Issues in Humanitarian Affairs 3.00

HUMN 350. Special Topics in Humanitarian Affairs 1.00 - 3.00

HUMN/GEOG 360. GIS for Humanitarian Assistance 3.00

HUMN 490. Humanitarian Affairs Field Experience 3.00 <sup>1</sup>

ANTH 366. Anthropology of War 3.00 (A, C)

BIO 420. Medical Parasitology (3, 0) 3.00

ECON 270. International Economics 3.00

ENGR 471. Water in Africa 3.00

GEOG 280. Human Geography: The Cultural Landscape 3.00

GEOG 300. Population Geography 3.00

GEOG 322. Agricultural Systems 3.00

GEOG 323. Geography of Human Genetics, Infectious Diseases and Diet 3.00

GEOG 335. Geography of Africa 3.00

GEOG 339. Geography of the Caribbean 3.00

GEOG 345. Geography of Poverty 3.00

GEOG 375. Political Geography 3.00

ISAT 459. Awareness and Understanding of Chemical, Biological, and Radiological Weapons of Mass Destruction 3.00

IA 460. All Hazards Response And Management Systems 3.00

JUST 235. Justice in the Global Community 3.00

JUST 341. Gender and Justice 3.00

JUST 345. Restorative Justice 3.00

JUST 357. Environmental Justice 3.00

JUST/POSC 372. Ethics and International Politics 3.00

JUST 373. Rebuilding Post Conflict Societies 3.00

JUST/POSC 392. Peace Studies 3.00

NPS 300. Introduction to Nonprofits 3.00

NUTR 380. Global Nutrition 3.00

POSC 200. Global Politics [C4GE] 3.00

POSC/JUST 331. Human Rights in Theory and Practice 3.00

POSC 340. Politics of Development 3.00

POSC 347. Comparative Public Policy 3.00

POSC 348. The Politics of Cultural Pluralism 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 397. The Politics of International Economic Relations 3.00

PSYC 460. Community Psychology Within Developing Societies 3.00

SCOM 331. Communication and Conflict 3.00

SCOM 332. Mediation 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SOWK/SOCI 348. Introduction to Developing Societies 3.00

SOWK 375. Grant Writing for Agencies 3.00

WRTC 314. Writing in the Public Sphere 3.00

WRTC 484. Writing for Nonprofits 3.00

WRTC 486. Writing in the Community 3.00

**Total: 18 Credit Hours**

### Footnote

<sup>1</sup> When used for credit in the humanitarian affairs minor, the international experience must be approved and supervised by the minor coordinator.

## Interdisciplinary Social Science Minors

Dr. Alison D. Sandman, Coordinator Phone: (540) 568-6182 Email: [sandmaad@jmu.edu](mailto:sandmaad@jmu.edu) Website: <http://www.jmu.edu/history/iss.shtml>

The interdisciplinary social science minor offers a program of integrated study that exposes students to diverse methodologies, philosophies and controversies that define the social sciences. It is a required minor for secondary education students who wish to teach social studies. The ISS minor incorporates economics, geography, history and political science and is offered in two forms for secondary education students. Secondary education students will major in either history or political science and then complete the ISS minor that corresponds to the major. Through this minor and the completion of the B.A. degree in history or political science, students will gain the content knowledge necessary for success in secondary education in social studies. Students not selecting the secondary education licensure program may declare either form of the ISS minor.

## ISS Minor Requirements

To be licensed to teach secondary school social studies, the student must satisfactorily complete requirements for a baccalaureate degree in either history or political science and complete the ISS minor that is paired with that major.

### ISS for History Majors

HIST 225. U.S. History [C4AE] 4.00 1  
POSC 225. U.S. Government [C4AE] 4.00 1  
POSC 302. State & Local Gov 3.00  
POSC 335. Comparative Politics for Teachers 3.00  
*Choose one: 3 Credit Hours*  
ECON 200. Introduction to Macroeconomics [C4GE] 3.00 1  
ECON 201. Introduction to Microeconomics 3.00  
*Choose one: 3 Credit Hours*  
GEOG 200. Geography: The Global Dimension [C4GE] 3.00 1

GEOG 280. Human Geography: The Cultural Landscape 3.00  
*Choose one: 3 Credit Hours*  
GEOG 300 or 400 level 3.00  
ISS 330. Maps, Money and World Trade 3.00  
*Choose one: 3 Credit Hours*  
POSC 362. Political Behavior 3.00  
POSC 380. The U.S. Presidency 3.00  
POSC 385. The U.S. Congress 3.00  
POSC 386. The U.S. Judiciary 3.00  
**Total: 26 Credit Hours**

### Footnote

<sup>1</sup> May double count for General Education credit.

### ISS for Political Science Majors

HIST 225. U.S. History [C4AE] 4.00 (Must be completed for General Education credit)  
HIST 350. Virginia 3.00  
*Choose one: 3 Credit Hours*  
ECON 200. Introduction to Macroeconomics [C4GE] 3.00 1  
ECON 201. Introduction to Microeconomics 3.00  
*Choose one: 3 Credit Hours*  
GEOG 200. Geography: The Global Dimension [C4GE] 3.00  
GEOG 280. Human Geography: The Cultural Landscape 3.00 (should double count)  
*Choose one: 3 Credit Hours*  
GEOG 300 or 400 level 3.00

ISS 330. Maps, Money and World Trade 3.00  
*Choose one Regional Elective: 3 Credit Hours*  
HIST 201. Europe to 1815 3.00  
HIST 202. Europe Since 1815 3.00  
HIST 263. Africa 3.00  
HIST 269. Premodern Middle East 3.00  
HIST 270. Modern Middle East 3.00  
HIST 274. Modern East Asia 3.00  
*Choose one Transnational Elective: 3 Credit Hours*  
HIST 307\*\*. The Trans-Atlantic Slave Trade 3.00  
HIST 405. Travel and Exploration 3.00  
HIST 453\*\*. Patterns of Global History 3.00  
**Total: 22 Credit Hours**

### Footnote

<sup>1</sup> May double count for General Education credit.

## Jazz Studies Minor

Open to all undergraduate students at JMU, the jazz studies minor helps students majoring in other disciplines understand and perform the jazz art form. The minor requires the successful completion of 15 credit hours in specified music courses and five credit hours in jazz ensembles. Students must earn 50 percent of the required curriculum at JMU.

### Fundamentals: 15 credits total

MUS 240. Jazz Improvisation Laboratory I 2.00  
MUS 356. History of Jazz in America 3.00  
MUS 440. Jazz Improvisation Laboratory II 2.00 (repeat three times)  
*Choose one four-credit option:*  
MUS 140. Introduction to Music Theory and Aural Skills 4.00 or MUS 141. Music Theory I 3.00 and

MUS 143. Aural Skills I 1.00  
*Ensembles (choose from the following): 5 Credit Hours*  
MUAP 347. Jazz Ensemble 2.00  
MUAP 348. Jazz Band 1.00  
MUAP 355. Jazz Chamber Ensemble 1.00  
**Total: 20 Credit Hours**

## Latin American, Latinx and Caribbean Studies Minor

Allison Fagan, Coordinator Phone: (540) 568-6170 Email: faganae@jmu.edu Website: <http://www.jmu.edu/lacs>

This cross disciplinary minor helps students to acquire a deeper understanding of Latin America, the Caribbean and Latinos in the U.S. All minors must attain proficiency in Spanish, Portuguese or French at or above the intermediate level (SPAN 232/PORT 232/FR 232 or equivalent). In addition to the language requirement, the minor consists of 18 approved credit hours. Students must select courses in at least three different disciplines. Participants in the minor are encouraged to explore the possibility of studying in a Latin American or Caribbean country for a semester or summer session. See the website for changes in required courses.

### Courses

Students may take no more than nine credits (3 courses) in any discipline (i.e., ANTH, HIST).  
*Complete two courses from among the following: 6 Credit Hours*  
ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C).  
HIST 313. The History of Latinos in the United States 3.00  
HUM 252. Global Cultures [C2HQC] 3.00 1  
POSC 350. Latin American Politics 3.00  
SPAN 308. Latin American Civilization 3.00  
*Complete four additional courses from among the following: 12 Credit Hours*  
ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C).  
ANTH 325. Aztec, Maya & Their Predecessors 3.00 (A)  
ANTH 364. U.S./Latin American Borders 3.00 (C)  
ANTH 389. Ethnographic Experience in Dominica 3.00 (C)  
ANTH 391. Study Abroad 1.00 - 6.00 (May be A, B, C, F) 2  
ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C) 2  
ANTH/HIST 436. Afro-Latin America 3.00 (C)  
ANTH 490. Special Studies in Anthropology 1.00 - 3.00 (May be A, B or C) 2  
ARTH 484. Art of the Americas 3.00  
ECON 270. International Economics 3.00  
ECON 312. Comparative Economic Systems 3.00  
ECON 365. Economic Development 3.00

ECON 372. International Finance and Payments 3.00  
ECON 490. Special Studies in Economics 1.00 - 3.00 2  
ENG 360. Introduction to Ethnic American Literature 3.00<sup>2</sup>  
GEOG 339. Geography of the Caribbean 3.00  
GEOG 490. Senior Research or Field Practicum 3.00 2  
HIST 302\*\*. Latin American Urban History 3.00  
HIST 313. The History of Latinos in the United States 3.00  
HIST 341. Selected Themes in World History 3.00 2  
HIST 391. Travel Studies Seminar 3.00 2  
HIST 395. History Seminar 3.00 2  
HIST 399. Special Studies in History 3.00 2  
HIST 437\*\*. Latin America and Latin Americans through Film: Focus on the Twentieth Century 3.00  
HIST 444\*\*. Revolution and Social Change in Latin America 3.00  
HIST 445\*\*. A Cultural History of Latin America, the Caribbean, and the United States 3.00  
HIST 447\*\*. South America 3.00  
HIST 448\*\*. Gender in Latin America and the Iberian World 3.00  
HIST 489. Selected Topics in World History 3.00 2  
HUM 252. Global Cultures [C2HQC] 3.00 3  
LACS 490. Independent Study in Latin American, Latinx and Caribbean Studies 3.00

LACS 495. Special Topics in Latin American, Latinx and Caribbean Studies 3.00  
 POSC 350. Latin American Politics 3.00  
 POSC 371. Topics in Comparative Politics 3.00 2  
 POSC 397. The Politics of International Economic Relations 3.00  
 REL 380. Contemporary Theologies 3.00  
 REL 450. Religion and Society 3.00  
 SOCI 318. Sociology of Immigration 3.00  
 SOCI 391. Study Abroad 1.00 - 6.00 2  
 SOCI 490. Independent Study in Sociology 1.00 - 3.00 2  
 SPAN 308. Latin American Civilization 3.00  
 SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00

SPAN 385. Latin American Drama and Short Stories 3.00  
 SPAN 395. Latin American Poetry of the 20th Century 3.00  
 SPAN 401. Hispanic/Latinx Cinema for Spanish Conversation 3.00  
 SPAN 415. The Spanish-American Novel 3.00  
 SPAN 446. Special Topics in Spanish Literature 3.00  
 SPAN 465. Cinema and Literature 3.00  
 SPAN 485. Business and Society in Latin America 3.00  
 SPAN 490. Special Studies in Spanish 1.00 - 3.00  
 SPAN 492. Latinx Community Practicum 3.00

**Total: 18 Credit Hours**

#### Footnotes

1 HUM 252 is typically offered in several sections each semester; many of these sections do not focus on Latin America. Students must take the version focused on Latin America for HUM 252 to count as part of the Latin American studies minor. HUM 252 counts as a history course unless taught by faculty from another discipline. 2 Special topics or special studies course. It may count for the minor, but only if it deals with Latin America or the Caribbean. Contact the coordinator for approval. 3 Must be one of the following topics: Latin American Cultures or Brazilian Culture.

### Legal Spanish Minor

Adviser: Marianne Mason Phone: (540) 568-6327 Email: masonmx@jmu.edu

The minor in legal Spanish is designed for students who wish to improve and consolidate their knowledge of Spanish in several legal areas. Students acquire a basic understanding of the differences between common law and Roman law and investigate several branches of law such as civil law, labor law, criminal law and commercial law in Spanish-speaking countries. The main aims of the minor are to teach students how to use specific legal terms in Spanish and to manage legal documents such as contracts, as well as to prepare students to understand cultural differences and to identify and communicate terminology and phraseology needed for effective cross-cultural communication in the public safety arena. The minor provides a framework for learning the appropriate Spanish usage for thematic areas such as victim reporting, field interviews, investigations, traffic stops, armed and dangerous calls, medical emergencies, and public safety situations.

#### Required Courses

SPAN 300. Grammar and Communication 3.00  
 SPAN 360. Spanish for Public Safety 3.00  
 SPAN 370. Legal Spanish 3.00

SPAN 435. Translation Strategies 3.00 or SPAN 436. Introduction to Interpretation 3.00  
 SPAN 470. Advanced Legal Spanish 3.00  
 SPAN 495. Practical Spanish for Public Safety/Legal Spanish 3.00

**Total: 18 Credit Hours**

### Logic and Reasoning Minor

Dr. Tracy A. Luper, Coordinator Phone: (540) 568-6394 Email: lupherta@jmu.edu

Dr. Thomas R. Adajian, Coordinator Phone: (540) 568-6394 Email: adajiatr@jmu.edu Website: <http://www.jmu.edu/cds/regional-and-area-studies/index.shtml>

Logic and reasoning are central to human inquiry. The minor brings together several disciplines which take logic and reasoning as part of their subject matter, emphasize the core logical elements that are common across disciplines and show how to apply these common logical concepts and tools in different domains. The requirement for a minor in logic and reasoning is 18-19 credits: 12-13 credit hours from a set of core courses and six credit hours from electives.

#### Required Courses

PHIL 250. Introduction to Symbolic Logic 3.00  
 PHIL 310. Symbolic Logic 3.00  
 Choose one of the following: 6-7 Credit Hours  
 MATH 235. Calculus I [C3QR] 4.00 and MATH 245. Discrete Mathematics 3.00  
 Or MATH 227. Discrete Structures I 3.00 or CS 227. Discrete Structures I 3.00  
 and CS 327. Discrete Structures II 3.00

Choose at least two of the following: 6 Credit Hours

CS 444. Artificial Intelligence 3.00 (prerequisite CS 240)

MATH 424. Statistical Decision Theory 3.00 (prerequisite MATH 318)  
 PHIL 315. Logic and Legal Reasoning 3.00  
 PHIL 326. Introduction to Non-Standard Logics 3.00  
 PHIL 396. Philosophy of Physics 3.00 (prerequisite PHIL 101)  
 PHIL 397. Philosophy of Space and Time 3.00  
 PHIL 398. Philosophy of Quantum Theory 3.00  
 PHIL 410. Philosophy of Science 3.00

**Total: 18-19 Credit Hours**

### Medical Humanities Minor

Dr. Michael J. Klein, Coordinator Phone: (540) 568-3380 Email: kleinmj@jmu.edu Website: <http://www.jmu.edu/medical-humanities>

The cross disciplinary minor in medical humanities provides students with a humanistic and social study of illness, health and the body. Typically, we approach the human body from a medical, diagnostic model. But physicians have long recognized that this approach to health and well-being is not sufficient for understanding our somatic life. Drawing upon concepts found in the disciplines contributing to the minor, courses in the curriculum share the common focus of examining how individuals and institutions articulate and disseminate conceptions of the body, including constituent issues such as race, ethnicity, sexuality and gender.

Students select a minimum of 18 credit hours taken from a list of approved courses. No more than six credits from a single subject (e.g. ANTH, ENG, SCOM, SOCI) can count toward the minor.

#### Required Courses

Choose six courses from the following:

ANTH/SOCI 352. Birth, Death, Sex: Exploring Demography 3.00 (B,C)  
 ANTH 360. Medical Anthropology 3.00 (C)  
 ANTH 376. Anthropology of Reproduction 3.00 (C)  
 ENG/ WGSS 368. Women's Literature 3.00  
 ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00  
 GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet 3.00  
 HTH 372. Human Sexuality 3.00  
 HIST 306\*. A History of the Body in the West 3.00  
 IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00

ISAT 456. Ethical, Legal, & Social Implications of Biotechnology 3.00  
 ISAT/ WGSS 485. Gender Issues in Science 3.00  
 PHIL 262. Problems in Applied Ethics 3.00  
 PSYC 308. Health Psychology 3.00  
 REL 280. Religion and Science 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SOCI 336. Race and Ethnicity 3.00  
 SOCI/ WGSS 337. Sociology of Gender 3.00  
 SOCI 375. Medical Sociology 3.00  
 SOCI 385. Madness and Society: the Sociology of Mental Health and Illness 3.00  
 WRTC 458. Scientific and Medical Communication 3.00  
 WRTC 488. Writing in the Health Sciences 3.00

**Total: 18 Credit Hours**

### Medical Spanish Minor

Adviser: Diana Galarreta Phone: (540) 568-6128 Email: galarrdf@jmu.edu

For health service professionals, knowledge of medical Spanish is no longer an option but a necessity. Unless they have a reasonable level of Spanish, communication with patients whose only language is Spanish will be difficult. Courses in medical Spanish are therefore hugely relevant today. The minor in medical Spanish is intended for all future health service

professionals, including physicians and their assistants, nurses, pharmacists, dentists, physical therapists, occupational therapists, medical laboratory technicians, emergency medical technicians, medical aides, medical interpreters, healthcare industry professionals and psychologists. The minor comprises one linguistic component, one elective component, one translation/interpretation component and three profession-specific linguistic components.

#### Required Courses

SPAN 300. Grammar and Communication 3.00  
 SPAN 365. Medical Spanish 3.00  
 SPAN 475. Advanced Medical Spanish 3.00  
 SPAN 476. Culture and Medicine in Latin America 3.00  
 One elective Spanish course: 3 Credit Hours  
 SPAN 307. Spanish Civilization 3.00  
 SPAN 308. Latin American Civilization 3.00

SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00  
 SPAN 407. Aspects of Spanish Civilization 3.00  
 SPAN 447. Special Topics in Spanish Civilization and Culture 3.00

*Choose one: 3 Credit Hours*

SPAN 435. Translation Strategies 3.00  
 SPAN 436. Introduction to Interpretation 3.00  
 SPAN 494. Practical Medical Spanish 3.00

**Total: 18 Credit Hours**

## Medieval and Renaissance Studies Minor

Dr. Peter J. Eubanks, Coordinator

Phone: (540) 568-3511

Website: <http://www.jmu.edu/medren>

This minor focuses on the period from the fall of Rome (5th century C.E.) to 1700. The minor allows students to take courses in art history, English, history, music, philosophy, political science, religion and some languages, including medieval languages such as Old English and Middle English in the original or in translation, and elementary and intermediate courses in Arabic, Greek and Latin. Other languages may also be counted for credit with the approval of the instructor. Introductory (i.e., 100 and 200 level) modern language courses are not permitted for credit.

The minor requires 18 credits total from the list below, with the following restrictions. The 18 credit hours must include courses from at least three distinct disciplines. Note that all foreign language courses (ARAB, FR, GER, ITAL and LAT) fall into the single discipline of foreign languages and literatures. At least four of the six required classes must be taken from the intermediate or advanced categories. It is recommended that students take one introductory course before taking the 300 or 400 level classes.

Other courses with significant Medieval and/or Renaissance content may be counted toward the minor with the approval of the coordinator. In addition, students interested in pursuing a three-credit hour focused individual research project should contact individual faculty members with whom they might wish to work to determine the feasibility of this option in their particular cases. Only one such independent study will count toward the minor.

Approval of the minor coordinator will also be required in the following two cases. First, courses with an asterisk will count toward the minor only if their content is focused on the Medieval and/or Renaissance periods. Second, because the content of HUM 200, HUM 250 and HUM 252 may vary, the minor coordinator will determine the appropriate disciplinary category for these courses.

#### Required Courses

##### Introductory

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
 HIST 101. World History to 1500 [C2HQC] 3.00  
 HUM 200. Great Works [C2L] 3.00 \*  
 HUM 250. Foundations of Western Culture [C2HQC] 3.00 \*  
 HUM 252. Global Cultures [C2HQC] 3.00 \*  
 HIST 201. Europe to 1815 3.00  
 HIST 269. Premodern Middle East 3.00

##### Intermediate

ANTH 333. Celts, Viking and Tribal Europe: Art & Culture From 500 to 1100 AD 3.00 (A)  
 ARTH 313. Masterpieces of Italian Renaissance Art 3.00 (Semester in Florence only)  
 ARTH 320. Travel Study in Art History 3.00  
 ENG 302. Special Topics in Literature and Language 3.00 \*  
 ENG 311. Medieval Literature and Culture 3.00  
 ENG 313. Sixteenth Century British Literature 3.00  
 ENG 315. Seventeenth Century British Literature 3.00  
 ENG 316. Early Modern Drama 3.00  
 ENG 317. Shakespeare's Tragedies and Romances 3.00  
 ENG 318. Shakespeare's Comedies and Histories 3.00  
 HIST 383\*. Early England 3.00  
 MUAP 380. Collegium Musicum 1.00

PHIL 342. Medieval Philosophy 3.00  
 POSC 310. Political Theory: Ancient to Early Modern 3.00  
 REL 300. Selected Topics in Religion 3.00 \*  
 REL 305. Islamic Religious Tradition 3.00  
 REL 360. History of Christian Thought 3.00

##### Advanced

ARTH 340. Early Medieval Art 3.00  
 ARTH 446. Renaissance Art and the East 3.00  
 ARTH 448. Studies in Leonardo and Michelangelo 3.00  
 ARTH 449. Topics in Renaissance Art 3.00  
 ENG 410. Advanced Studies in Author 3.00 \*  
 ENG 412. Special Topic Seminar 3.00 \*  
 FR 446. Special Topics in French Literature 3.00 \*  
 GER 436. Studies in German Literature 3.00 \*  
 HIST 463. Tudor-Stuart England 3.00  
 HIST 464. Renaissance and Reformation 3.00  
 HIST 466. The Family, 1400-1800 3.00  
 HIST 473. Early Modern Islamic Empires 3.00  
 HIST 477. Medieval Europe 3.00  
 HIST 489. Selected Topics in World History 3.00  
 ITAL/ENG 437. Studies in Italian Literature 3.00 \*  
 MUS 373. Music History 3.00 1  
 PHIL 460. Topics in Classical Philosophy 3.00 \*

#### Footnote

\*Courses with an asterisk will count toward the minor only if their content is focused on the Medieval and/or Renaissance periods. 1 MUS 373 is intended for music majors and is not appropriate for students lacking expertise in reading music.

## Middle Eastern Communities and Migrations Minor

Dr. Shah Mahmoud Hanifi, Coordinator

Phone: (540) 568-1743

Email: [hanifism@jmu.edu](mailto:hanifism@jmu.edu)

Website: <http://www.jmu.edu/mecm>

This minor concentrates on social and political issues involving Muslim, Christian and Jewish populations in their own right and in relation to one another in the territory between the Nile and Indus rivers during the modern period. The program is also designed to accommodate consideration of other communities including Hindu and other South Asians, Anatolian and Central Asian Turks, and Mediterranean peoples in the larger area stretching from North Africa to Southeast Asia as well as Middle Eastern diaspora communities in Europe and the Americas from the ancient period to the present.

The cross disciplinary orientation of the program emphasizes comparison and a synthesis of local, regional, trans-national and global perspectives. The program provides an intellectual foundation that can be usefully applied and built upon in graduate school, the private sector or government service.

Students are required to take 18 credits comprised of six credits of core course work and 12 credits of electives. Students may take no more than nine credits from an academic unit.

#### Additional Information

The College of Arts and Letters departments offer a number of courses listed generically, usually at the 300- and 400-level (including disciplinary capstone and methodology courses, often numbered 395) that can also count toward the MECM minor under certain circumstances.

#### Core Courses

*Choose two: 6 Credit Hours*

HUM 252. Global Cultures [C2HQC] 3.00 (Islamic Civilization)  
 HIST 269. Premodern Middle East 3.00 1

HIST 270. Modern Middle East 3.00 2

*Choose any of the following to fulfill the remaining 12 credits:*

Regular Offerings  
 Department of Foreign Languages, Literatures and Cultures



ARAB 101. Elementary Arabic I 4.00 1  
 ARAB 102. Elementary Arabic II 4.00 2  
 ARAB 111. Intensive Arabic I 6.00 3  
 ARAB 212. Intensive Arabic II 6.00 3  
 ARAB 231. Intermediate Arabic I 3.00 1  
 ARAB 232. Intermediate Arabic II 3.00 2  
 FL 490. \*\* Special Studies in Foreign Languages 1.00 - 4.00 7  
 HUM 252. Global Cultures [C2HQ] 3.00 (Turkey: Meeting of East and West)  
 PERS 101. Elementary Persian I 3.00 - 4.00 1  
 PERS 102. Elementary Persian II 3.00 - 4.00 2  
 PERS 231. Intermediate Persian I 3.00 1  
 PERS 232. Intermediate Persian II 3.00 2  
 School of Art, Design and Art History  
 ARTH 332. Islamic Art and Architecture 3.00 6  
 ARTH 424. Arts of Ancient Egypt 3.00 6  
 ARTH 439. Topics in Medieval Art 3.00 1  
 ARTH 440. Jerusalem 3.00 6  
 ARTH 446. Renaissance Art and the East 3.00 6  
 Department of Anthropology and Sociology  
 SOCI 342. Social Movements in the Middle East 3.00  
 Department of History  
 HIST 269. Premodern Middle East 3.00 1  
 HIST 270. Modern Middle East 3.00 2  
 HIST 372\*\*. Afghanistan in Regional and Global Systems 3.00 6  
 HIST 373. History of the Ottoman Empire, 1453-1922 3.00 6  
 HIST 473. Early Modern Islamic Empires 3.00 6  
 HIST 485. Colonialism in the Middle East and South Asia 3.00 6  
 Department of Philosophy and Religion  
 REL 201. Introduction to Hebrew Bible/Old Testament 3.00  
 REL 202. Introduction to the New Testament 3.00  
 REL 305. Islamic Religious Tradition 3.00 5  
 REL 320. Judaism 3.00 5  
 REL 350. Islamic Law and Society 3.00 6  
 HEBR/REL 131-132. Elementary Biblical Hebrew 4.00 6

HEBR/REL 231-232. Intermediate Biblical Hebrew 4.00 6  
 Department of Political Science  
 POSC 354. Politics of the Middle East 3.00 1

**Total: 18 Credit Hours**

**Additional Courses**

The following three-credit courses are offered at varying intervals and can count toward the MECM minor if they are structured to include substantial content relating to the foci and goals of the program. Contact the program coordinator to apply one of these courses to the MECM minor.

Department of Anthropology and Sociology  
 SOCI 311. Sociology of the Environment 3.00  
 SOCI 321. Politics in Society 3.00  
 SOCI 348. Introduction to Developing Societies 3.00  
 SOCI 360. Social Movements 3.00  
 School of Art, Design and Art History  
 ARTH 419. Topics in African Art 3.00  
 Department of English  
 ENG 430. Advanced Studies in Comparative Literature 3.00  
 ENG 433. Advanced Studies in Arabic Literature 3.00.  
 Department of Foreign Languages, Literatures and Cultures  
 ARAB 330. Business Arabic 3.00  
 ARAB 339. Literatures of the Islamic World 600-1500 A.D. 3.00  
 ARAB 340. Intermediate Arabic Conversation 3.00  
 ARAB 400. Advanced Arabic Writing and Conversation 3.00  
 ARAB 447. Special Topics in Arabic Civilization and Culture 3.00  
 ARAB 448. Special Topics in Arabic Linguistics 3.00  
 Department of Political Science  
 POSC 340. Politics of Development 3.00  
 POSC 361. Topics in International Relations 3.00  
 POSC 371. Topics in Comparative Politics 3.00  
 Department of Philosophy and Religion  
 REL 300. Selected Topics in Religion 3.00 7  
 REL 309. Jihad in Islamic Traditions 3.00 6

**Footnotes**

1 Offered every fall semester. 2 Offered every spring semester. 3 Offered May-June summer term only. 4 Offered every third semester. 5 Offered fall or spring semester. 6 Offered every two years. 7 Offered every fall and spring.

**Modern European Studies Minor**

Dr. John A. Scherpereel, Coordinator Phone: (540) 568-3933 Email: scherpja@jmu.edu Website: <http://www.jmu.edu/mes/minor.shtml>

The minor in modern European studies provides a cross disciplinary understanding of social dynamics in Europe from the Enlightenment (18th century) through the present. Modern European studies minors will be prepared for careers in public, private, non-profit and educational institutions and will be able to apply critical insights on European culture, thought, history and society in their professions. All minors must attain proficiency in French, German, Italian, Spanish or another European Union language at or above the intermediate level (FL 232 or above).

Students must complete 18 credit hours in addition to the language requirement. These 18 credit hours must include six core credits and 12 elective credits. Six elective credits must cover culture and thought, and six elective credits must cover history and society. The minor's 18 credits must be distributed across at least three disciplines and must include at least one history course.

**Core**

*Choose two from the following: 6 Credit Hours*

HIST 202. Europe Since 1815 3.00  
 HIST 382\*. Europe in the 20th Century 3.00  
 POSC 344. Politics of the European Union 3.00  
 POSC 345. Politics of Western Europe 3.00  
 POSC 346. Politics of Central and Eastern Europe 3.00

*Culture and Thought Electives*

Choose two from the following: 6 Credit Hours

ARTH 313. Masterpieces of Italian Renaissance Art 3.00 (Semester in Florence)  
 ARTH 314. Masterpieces of Spanish Art [C2VPA] 3.00 (Semester in Salamanca)  
 ARTH 315. Masterpieces of British Architecture  
 ARTH 316/316L. Masterpieces of British Art 3.00 (Semester in London)  
 ARTH 372. Modern Art From 1900-1945 3.00  
 ARTH 460. Nineteenth Century Art 3.00  
 ARTH 469. Topics in Nineteenth Century Art 3.00  
 ARTH 472. Modern Art Since 1945 3.00  
 ENG 325. Romantic Literature 3.00  
 ENG 327. Gothic Literature 3.00  
 ENG 329. Victorian Literature 3.00  
 ENG 330. Nineteenth Century British Novel 3.00  
 ENG 340. Modern British and Irish Literature 3.00  
 ENG 341. Contemporary British and Irish Literature 3.00  
 ENG 375. Irish and Anglo-Irish Literature 3.00

ENG 412L. The London Theatre (London only) or THEA 449L. The London Theatre (London only) or HUM 200L. Great Works - London [C2L] 3.00 The London Theatre (London only)  
 FR 308. Contemporary French Civilization 3.00  
 FR 446. Special Topics in French Literature 3.00 2  
 FR 465. French Cinema 1930-1980 3.00  
 FR 466. Contemporary French Cinema 3.00  
 GER 266. Contemporary German Literature in Translation  
 GER 307. History of German Civilization 3.00  
 GER 308. Contemporary German Civilization 3.00  
 GER 405. The Age of German Classicism 3.00  
 GER 425. Modern German Literature 3.00  
 GER 465. German Cinema 3.00  
 ITAL 308. Contemporary Italian Civilization 3.00 or ITAL 425. Modern Italian Literature 3.00  
 ITAL 446. Special Topics in Italian Literature 3.00 2  
 ITAL 465. Italian Cinema 3.00  
 ITAL 490F. Special Studies in Italian 3.00  
 PHIL 344. Existentialism 3.00  
 PHIL 375. Nineteenth Century Philosophy and Theology 3.00  
 PHIL 390. Special Topics in Philosophy 3.00 2  
 PHIL 468. Phenomenology 3.00  
 POSC 316. Contemporary Political Theory 3.00  
 POSC 321. Political Theory and Ideology 3.00  
 REL 375/PHIL. Nineteenth Century Philosophy and Theology 3.00

SMAD 463L. Film Adaptations 3.00  
 SPAN 307. Spanish Civilization 3.00  
 SPAN 335/335S. Introduction to Spanish Literature 3.00  
 SPAN 405. Spanish Novels of the 19th and 20th Centuries 3.00  
 SPAN 406. Spanish Drama of the 19th and 20th Centuries 3.00  
 SPAN 461. Post War Literature in Spain 3.00  
 SPAN 465/465S. Cinema and Literature 3.00

History and Society Electives

*Choose two of the following: 6 Credit Hours*

GEOG 332. Geography of Europe 3.00  
 HIST 202. Europe Since 1815 3.00 3  
 HIST 301\*. European Military History 3.00  
 HIST 308\*. Contemporary Italian Civilization 3.00  
 HIST 321\*. European Women's History 3.00  
 HIST 341. Selected Themes in World History 3.00 2  
 HIST 382\*. Europe in the 20th Century 3.00 3

HIST 384\*. England and the Empire-Commonwealth 3.00  
 HIST 388\*. Germany Since 1871 3.00  
 HIST 478. Eastern Europe 3.00  
 HIST 486. Europe Since 1914 3.00  
 HIST 487. World War II 3.00  
 HIST 488. The Holocaust in Global Context 3.00  
 HIST 489. Selected Topics in World History 3.00 2  
 SMAD/SOCM/WRTC 360L. British Media and Society 3.00  
 POSC 344. Politics of the European Union 3.00 3  
 POSC 345. Politics of Western Europe 3.00 3  
 POSC 346. Politics of Central and Eastern Europe 3.00 3  
 POSC 371. Topics in Comparative Politics 3.00 2, 3  
 POSC 371S. Special Studies Salamanca 3.00  
 POSC/SCOM/SMAD 472L. Media and Politics 3.00 (London only)

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> This course is taught every other fall on campus and is occasionally offered as part of JMU's short-term Study Abroad Summer Program in Berlin. <sup>2</sup> This course may only be used in the minor when its topic is relevant to the minor. Questions should be directed to the minor coordinator. <sup>3</sup> This course may not be double-counted toward the minor.

### Music and Human Services Minor

Dr. Jesse Rathgeber, Coordinator Phone: (540) 568-5279 Email: rathgejc@jmu.edu

This minor will prepare students for vocational and avocational opportunities to use music performance, education, entrepreneurship and community engagement skills to serve diverse populations in human service settings. Students with interest and musical backgrounds are welcome.

Requirements for the minor are 18 credits: 15 credit hours from a set of core courses and three credits from electives.

#### Courses

MUS 206. Introduction to Global Music [C2VPA] 3.00  
 MUS 429. Introduction to Intentional Music 1.00  
 MUS 430. Music and Human Services: Experiences and Practicum 2.00  
 MUED 431. Psychology of Music 3.00  
 MUED 485. Teaching Music to Students with Special Needs 3.00  
 PSYC 250. Introduction to Abnormal Psychology 3.00 1 or PSYC 335. Abnormal Psychology 3.00 2

*Choose three credits from the following: 3 Credit Hours*

EXED 200. Foundations of Exceptional Education 3.00  
 EXED 300. Educational Technology for Students with Disabilities 1.00  
 EXED 306. Lifespan Issues for Individuals with Disabilities 3.00  
 EXED 440. Classroom Management and Professional Collaboration 3.00  
 EXED 443. Assistive Technology Use for Individuals With Disabilities 3.00  
 DANC 325. Dance in Community 3.00  
 MUS 150. Introduction to Technological Applications in Music 1.00

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> Access limited; additional sections offered during the summer. <sup>2</sup> Only offered to psychology majors or through transfer credit.

### Music Industry Minor

Open to all JMU undergraduate students, the music industry minor provides students majoring in other disciplines with a foundation for exploring career opportunities in the entertainment industry. The minor requires successful completion of MUI 221. Survey of Music Industry; MUI 231. Legal Aspects of Music Industry and of an additional 12 elective credit hours. Students must earn 50 percent of the required curriculum at JMU.

#### Required Courses

MUI 221. Survey of Music Industry 3.00  
 MUI 231. Legal Aspects of Music Industry 3.00  
 MUI 250. Portfolio Review 0.00

*Electives – Any MUI course may count in this category: 12 Credit Hours*

MUI 324. Introduction to Audio Devices 3.00  
 MUI 330. Music Publishing 3.00  
 MUI 400. Multitrack Rec Tech I 3.00  
 MUI 405. Logic Pro 3.00

MUI 315. Songwriting 3.00  
 MUI 411. Audio Postproduction 3.00  
 MUI 422. Concert Production & Promotion 3.00  
 MUI 430. Artist Management 3.00  
 MUI 435. Marketing of Recorded Music 3.00  
 MUI 440. Entrepreneurship in Music Industry 3.00  
 MUI 492. Internship in Mus Ind 3.00 - 6.00

**Total: 18 Credit Hours**

### Non-Profit Studies Minor

Dr. Terrence Fernsler, Minor Adviser Phone: (540) 568-6980 Email: fernslds@jmu.edu Website: <http://www.jmu.edu/socwork/nonprofit.html>

The nonprofit studies minor prepares students from a variety of disciplines to understand the unique role of nonprofit organizations in American society. Emphasis is placed on history, theory, legal issues and management topics. The minor includes a capstone seminar and a field experience in a nonprofit agency with the focus to be determined in conjunction with the adviser.

#### Required Courses

NPS 300. Introduction to Nonprofits 3.00 1  
 NPS 320. Nonprofit Management 3.00 1  
 NPS 400. Internship/Practicum in Nonprofit Studies 4.00 - 6.00 1

NPS 450. Nonprofit Studies Capstone Seminar 3.00 1  
 Major elective (discipline specific) 3.00 2  
 Elective 3.00 2

**Total: 19-21 Credit Hours**

#### Footnotes

<sup>1</sup> Course has one or more prerequisites. <sup>2</sup> A course to be determined in consultation with the nonprofit studies adviser.

### Political Communication Minor

Dr. Valerie A. Sulfaro, Coordinator Phone: (540) 568-3997 Email: sulfarva@jmu.edu Website: <https://www.jmu.edu/commstudies/minors.shtml>

The program in political communication is designed for those students wishing to supplement their major programs with an emphasis on communication skills, knowledge and abilities specifically relevant to participation in political environments. Students must complete a core set of courses, an internship in the field of political communication and a selection of electives.

All political communication minors are required to take a PCOM internship in the Department of Political Science or the Department of Communication Studies. Before enrolling for a PCOM internship, students should have attained junior status, completed the PCOM core requirements and taken at least one upper level PCOM course. Some academic units may have additional prerequisites for their internship course. All SCOM majors with a minor in PCOM are required to take SCOM 495 for their PCOM internship requirement (and to have met the prerequisites for this course). POSC, INTA and PPA majors minoring in PCOM must complete POSC 493 to fulfill the internship requirement. All other majors may take either

POSC 493 or SCOM 318 as a means of satisfying their internship. Before pursuing any internship, students must consult with the PCOM coordinator to ensure that the internship is suitable for the minor.

For majors in SCOM who minor in PCOM, a maximum of six credits of course work from the minor can be counted toward the requirements for the major. For SMAD majors, only three credits from the minor may be counted toward the major.

There is no limit on double counting between the POSC major and the PCOM minor. All students must complete 25-26 credit hours for the minor.

#### Required Courses

POSC 225. U.S. Government [C4AE] 4.00

POSC/SCOM/SMAD 472. Media and Politics 3.00 1

SCOM 353. American Political Culture and Communication 3.00

*Choose one of the following: 3-4 Credit Hours*

POSC, PPA and INTA majors:

POSC 493. Political Communication Internship 4.00

SCOM majors (3 credits):

SCOM 495. Internship in Communication Studies 3.00-6.00, repeatable to 6 credits

Non-POSC and Non-SCOM majors:

POSC 493. Political Communication Internship 4.00 or SCOM 318. Practicum in Communication Studies 1.00 - 6.00

*Choose one of the following: 3 Credit Hours*

POSC 365. American Political Campaigning 3.00 2

*Choose one of the following: 3 Credit Hours*

SCOM 352. Communication and Social Movements 3.00 3

SCOM 453. Political Campaign Communication 3.00 3

*Choose two of the following: 6 Credit Hours*

POSC 300. Politics and Film 3.00

POSC 362. Political Behavior 3.00

POSC 382. The Role of Religion in American Politics 3.00

POSC 383. Women and Politics in Comparative Perspective 3.00

POSC 384. Minority Group Politics 3.00

POSC 385. The U.S. Congress 3.00

SCOM 342. Argument and Advocacy 3.00

SCOM 346. Free Speech in America 3.00

SCOM 354. Environmental Communication and Advocacy 3.00

SCOM/WRTC/WGSS 420. Feminist Rhetorics 3.00

SCOM 431. Legal Communication 3.00

**Total: 25-26 Credit Hours**

#### Footnotes

1 POSC 472 will not count toward this requirement. 2 If both POSC 365 and POSC 369 are taken, one may be counted as an elective. 3 If both SCOM 352 and SCOM 453 are taken, one may be counted as an elective.

## Robotics Minor

Dr. Kevin Giovanetti, Coordinator Phone: (540) 568-6353

Email: [giovankl@jmu.edu](mailto:giovankl@jmu.edu)

Website: <http://www.jmu.edu/cs/minors/robotics-minor>

The cross disciplinary minor in robotics is intended to offer STEM majors and students with an interest in science and technology a fundamental understanding of scientific and technical issues involved in the design, construction and application of robots.

#### Educational Goals

- Students will have a basic understanding of robot control systems, sensors, motion, circuits and the overall design of robots.
- Students will be able to design and develop autonomous robots and robot control software.
- Students will develop an understanding of how advances in robotics technology can be used in diverse real-life applications.
- Students will learn to work on a cross disciplinary team developing a technical product.

#### Required Courses

##### Basic Preparation 1

Choose one of the following: 3-4 Credit Hours

CS 149. Introduction to Programming 3.00

IA 241. Introduction to Programming and Data Science 3.00

ISAT 252. Programming and Problem Solving 3.00

Choose one of the following: 3-4 Credit Hours

The 20 credit hour option is only available with the selection of MATH 232.

MATH 232. Calculus with Functions II 3.00 or MATH 235. Calculus I [C3QR] 4.00

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] 4.00

Choose one of the following: 4 Credit Hours

Students who have completed the physical principles area of Cluster Three with a course not listed below should meet with the minor adviser.

PHYS 140. College Physics I [C3PP] 3.00 and PHYS 140L. General Physics Laboratory [C3PP] 1.00

or

PHYS 240. University Physics I [C3PP] 3.00 and PHYS 240L. University Physics Laboratory I [C3PP] 1.00

or

ISAT 152. Topics in Applied Physics in ISAT 4.00

##### Core Course

*Choose one of the following: 3 Credit Hours*

CS 354. Introduction to Autonomous Robotics 3.00

PHYS 386. Robots: Structure and Theory 3.00

PHYS 387. Theory and Basic Principles of Mobile Robot Construction and Control 3.00

##### Electives

At least one elective must be from a different department from the core course.

*Choose at least six credits from the following: 6-8 Credit Hours*

CS 444. Artificial Intelligence 3.00

ENGR 440. Mechatronics 3.00

ISAT 331. Cyber-Physical Industry 3.00

ISAT 344. Intelligent Systems 3.00

MATH 238. Linear Algebra with Differential Equations 4.00

MATH 248. Computers & Numerical Algorithms 4.00

MATH 341. Non-Linear Dynamics and Chaos 3.00

PHYS 371. Digital Electronics 2.00

PHYS 372. Microcontrollers and Their Applications (2, 4) 2.00

PHYS 388. Robots for Humanity 3.00

*Robotics Project Course*

CISE 481. Robotics Project Summary 1.00 2

**Total: 20-24 Credit Hours**

#### Footnotes

1 A basic preparation course may be waived by the minor adviser if a student has completed a comparable course or experience. 2 CISE 481 is intended to summarize a capstone robotics project experience. In order to register for CISE 481 students must have completed or be enrolled in an approved capstone, special topics, or independent study course that involves a robotics project. At the discretion of the robotics minor adviser, students may also qualify for CISE 481 by completing an internship, research experience or professional project that entails robotics design and/or development. Consult the minor adviser for more information.

## Russian Studies Minor

Dr. Stephany G. Plecker, Coordinator

Phone: (540) 568-3578

Email: [pleckesg@jmu.edu](mailto:pleckesg@jmu.edu)

Website: <http://www.jmu.edu/russianstudies>

This minor offers students a broad, cross disciplinary perspective on Russian culture, history, political institutions, economy and geography. It deepens the students' understanding and knowledge of the Russian and non-Russian peoples of the former Soviet Union, and prepares them for careers in teaching, government and international business.

The Russian Studies minor requires 18 credits with a minimum of six credits of Russian language. Students must take courses in at least three different disciplines.

#### Courses

ECON 312. Comparative Economic Systems 3.00

HIST 385\*. The Russian Empire to 1881 3.00

HIST 386\*. Russia and the Soviet Union from 1881 to 1991 3.00

HIST 474. Stalinism in Theory, Practice, and Memory 3.00

HIST 475. Modern Russia 3.00

HUM 200. Great Works [C2L] 3.00 (Russian Literature in Translation)

RUS 300. Grammar and Communication 3.00

RUS 308. Introduction to Russian Civilization 3.00

RUS 315. Russian Phonetics 3.00

RUS 320. Russian Oral and Written Communication 3.00

RUS 400. Advanced Conversation 3.00

RUS 438. Studies in Russian Literature 3.00

*Students may include one course from the following:*

ECON 490. Special Studies in Economics 1.00 - 3.00

FL 490. \*\* Special Studies in Foreign Languages 1.00 - 4.00 (Russian)

Special topics courses can be applied to the minor with approval of the program coordinator. Students may also earn credit by studying in a program in Russia or any of the former Soviet states.

## Science, Technology and Society Minor

Dr. Shannon Conley-Phillips, Coordinator

Phone: (540) 568-2601

Email: conleysn@jmu.edu

Science, technology and society (STS) is an internationally recognized field of cross disciplinary study that integrates philosophical, social scientific and humanistic studies to better understand the natural and human-built world. The minor offers students the opportunity to critically examine science, technology and medicine as methods for reasoning about and acting upon the natural world as expressions of human cultures, past and present.

Students learn to scrutinize the ideas, reasoning, values, practices and artifacts embedded in the world they inhabit today. They explore how choices made within various historical, social, economic and political contexts sometimes influence the development of science, technology and medicine. They also see how the adoption and diffusion of ideas, artifacts and techniques can then influence individuals, society, politics and culture. Courses in this minor draw students together from diverse majors across the campus and encourage open inquiry into the role of science and technology in society.

The minor in STS is open to all undergraduate students at JMU. Courses taken to complete the STS minor can also be used to satisfy the student's major and General Education requirements. The STS minor requires 18 credit hours with at least one course each from the history, sociology and ISAT courses listed.

### Required Courses

*Choose one: 3 Credit Hours*

ISAT 131. Technology, Science, and Society 3.00

HIST 327. Technology in America 3.00

SOCI 315. Technology and Society 3.00

### Elective Courses

*Choose five from at least four different programs/majors: 15 Credit Hours*

ANTH 360. Medical Anthropology 3.00 (C)

CS 330. Societal and Ethical Issues in Computing 3.00

GEOG 322. Agricultural Systems 3.00

GEOG 325. Environmental Ethics 3.00

GEOG/ISAT 429. Sustainability: An Ecological Perspective 3.00

HIST 305\*. History of Science and Christianity 3.00

HIST 306\*. A History of the Body in the West 3.00

HIST 326. The Automobile in 20th Century America 3.00

HIST 327. Technology in America 3.00

HIST 404\*. Science and Society in Early Modern Europe 3.00

HIST 405. Travel and Exploration 3.00

HIST 427. U.S. Environmental History 3.00

HIST 443. Modern American Technology and Culture 3.00

GEOG 490. Senior Research or Field Practicum 3.00

HIST 490. Special Studies 3.00

**Total: 18 Credit Hours**

ISAT 231. Political Economy of Technology and Science 3.00

ISAT 311. Role of Energy in Modern Society 3.00

ISAT 411. Energy Economics and Policy 3.00

ISAT 421. Environmental Policy & Regulation 3.00

ISAT 456. Ethical, Legal, & Social Implications of Biotechnology 3.00

ISAT 471. Transportation: Energy, Environment & Society 3.00

ISAT 477. Complex Systems and How They Fail 3.00

PHIL 396. Philosophy of Physics 3.00

PHIL 397. Philosophy of Space and Time 3.00

PHIL 398. Philosophy of Quantum Theory 3.00

PHIL 410. Philosophy of Science 3.00

SOCI 311. Sociology of the Environment 3.00

SOCI 366. Sociology of Knowledge 3.00

SOCI 375. Medical Sociology 3.00

WGSS/ISAT 485. Gender Issues in Science 3.00

WRTC 358. Writing About Science and Technology 3.00

WRTC 416 or SCOM 465. Rhetoric of Environmental Science and Technology 3.00

WRTC 458. Scientific and Medical Communication 3.00

**Total: 18 Credit Hours**

Special topics courses not listed can be applied to the minor with prior approval of the program coordinator.

## Spanish-English Translation and Interpretation Minor

Adviser: Marianne Mason

Phone: (540) 568-6327

Email: masonmx@jmu.edu

Translation and interpretation are two of today's fastest growing professions. An obvious requirement for anyone wishing to enter these professions is the ability to speak two languages fluently. Students who wish to make a positive impact as a translator or interpreter, however, require more than just the ability to speak two languages well. What they need is the linguistic, cultural and technical expertise they can only get from courses designed specifically to prepare them for the demands of these challenging professions. In the minor in translation and interpretation, students take their first steps toward acquiring this expertise.

The minor comprises one linguistic component, one elective component and four profession-specific linguistic components for a total of 18 credit hours.

### Required Courses: 9 Credit Hours

SPAN 300. Grammar and Communication 3.00

SPAN 435. Translation Strategies 3.00

SPAN 436. Introduction to Interpretation 3.00

*One elective Spanish course: 3 Credit Hours*

SPAN 307. Spanish Civilization 3.00

SPAN 308. Latin American Civilization 3.00

SPAN 312. Translation Competencies 3.00

SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written

*Communication (for Heritage Speakers) 3.00*

SPAN 407. Aspects of Spanish Civilization 3.00

SPAN 447. Special Topics in Spanish Civilization and Culture 3.00

SPAN 476. Culture and Medicine in Latin America 3.00

SPAN 477. Culture and Medicine in Spain 3.00

SPAN 485. Business and Society in Latin America 3.00

SPAN 486. Business and Society in Spain 3.00

*Choose one: 3 Credit Hours*

SPAN 310. Introduction to Spanish Linguistics 3.00

SPAN 311. Contrastive Linguistics 3.00

SPAN 315. Spanish Phonetics 3.00

SPAN 404. Spanish in the United States 3.00

SPAN 448. Special Topics in Spanish Linguistics 3.00

*Choose one: 3 Credit Hours*

SPAN 494. Practical Medical Spanish 3.00

SPAN 495. Practical Spanish for Public Safety/Legal Spanish 3.00

SPAN 496. Translation/Interpreting Internship 3.00

**Total: 18 Credit Hours**

## Special Education Non-Teaching Minor

Program Coordinator: Dr. Laura Desportes

Phone: (540) 568-4527

Email: desportx@jmu.edu

The non-teaching minor program in exceptional education is designed for students in other major fields who wish to acquire professional knowledge related to assisting individuals with disabilities but who do not want to pursue Virginia teaching licensure. All students seeking to complete the minor must meet with the non-teaching program adviser to develop an approved program of study.

### Required Courses

EXED 200. Foundations of Exceptional Education 3.00 (Prerequisite for all EXED courses. Offered online in the summer)

*Complete two survey courses:*

EXED 310. Survey of Emotional Disturbance 3.00

EXED 320. Survey of Learning Disabilities 3.00

EXED 330. Survey of Intellectual Disabilities 3.00  
 EXED 375. Overview Study of Autism Spectrum Disorders 3.00 1  
 EXED 305. Characteristics of Acquired Brain Injury 3.00  
*Select nine credits from electives:*  
 EXED 303. Foundations of Classroom and Behavior Management 3.00  
 EXED 306. Lifespan Issues for Individuals with Disabilities 3.00  
 EXED 309. Supporting Community Access for Adults with Disabilities 3.00  
 EXED 401. Issues in Exceptional Education 1.00 - 3.00  
 EXED 443. Assistive Technology Use for Individuals With Disabilities 3.00  
 EXED 455. Collaborative Teaching for Learners with Disabilities 3.00  
 EXED 465. Perspectives of Early Childhood Special Education 3.00  
 EXED 490. Special Studies in Special Education 1.00 - 3.00 each semester 2  
 CSD 420. Introduction to Sign Language 3.00

CSD 421. Sign Language II 3.00  
 KIN 313. Adapted Physical Education 3.00 3  
 TESL 426. Concepts in First and Second Language Acquisition 3.00

#### Autism Certificate Courses

Students completing the autism certificate must complete these three courses in sequential order. No other electives must be completed if a student chooses this option. Not permitted in enrolling in EXED 375.  
 EXED 416. Overview and Assessment of Autism Disorders 3.00  
 EXED 417. Communication, Language and Sensory Issues of Learners with ASD and/or on the Adapted Curriculum 3.00  
 EXED 418. Challenging Behaviors, Positive Behavioral Supports, Functional Behavioral Assessment and Behavior Intervention Plans 3.00

**Total: 18 Credit Hours**

#### Footnotes

1 Permitted only if the student is not enrolling the autism series (EXED 416, EXED 417, EXED 418). 2 Independent study must be approved and supervised by individual faculty. 3 For kinesiology majors only; KIN 310 is a corequisite.

### Sport Communication Minor

Dr. Isaac Woo, Coordinator Phone: (540) 568-3815 Email: woocw@jmu.edu

This minor consists of course work offered in communication studies, media arts and design, and kinesiology for students with an interest in sports media and communication.

Due to enrollment limitation in required courses, admission to JMU does not guarantee admission to the sport communication minor. Students interested in this program must apply for a limited number of spaces while first completing KIN 242 and SCOM 260. The Communication Studies, School of reviews applications for admission to the sport communication minor. Students should complete the application (available from the school website) and submit it by email to scom@jmu.edu. Students will receive an email acknowledging receipt of their application, which should be kept. Applications are due by November 15 (fall semester) and April 15 (spring semester). Students who have applied by these deadlines will be notified of the admission decision at the end of the semester in which they complete KIN 242 and SCOM 260. Admission is granted to the most qualified students as determined by their performance in these courses.

Students who are not admitted may file one additional application before the next regular academic year. Students reapplying must apply in two consecutive years of enrollment at the university. If a student reapplies after retaking KIN 242 and/or SCOM 260 (whether repeat or repeat/forgive), the school will look only at the highest grades earned when evaluating their second application. Because of the curriculum sequence, it typically takes four consecutive semesters to complete the minor. Rising seniors typically cannot complete the minor by graduation. Some required courses are offered only one semester a year. Once admitted, a student cannot retroactively apply more than nine hours of SCOM courses, including SCOM 260, to this minor. This minor is open to any student at the university including SCOM majors, however, SCOM majors are limited to double counting no more than six credits to both their major and minor.

#### Required Courses

KIN 242. Introduction to Sport Communication 3.00  
 KIN/SCOM/SMAD 243. Sport Communication Techniques: Broadcasting 3.00  
 KIN/SMAD 244. Sport Communication Techniques: Writing and Reporting 3.00  
 SCOM 260. Introduction to Public Relations 3.00  
 SCOM 318. Practicum in Communication Studies 1.00 - 6.00  
 SCOM 365. Sports Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00

*Choose one of the following: 2-3 Credit Hours*

KIN 304. History and Philosophy of Physical Education and Sport 2.00  
 KIN 329. Social Aspects of Sport 3.00  
 SCOM/WGSS 348. Communication and Gender 3.00  
 SCOM 342. Argument and Advocacy 3.00  
 SCOM 347. Communication, Diversity and Popular Culture 3.00  
 SCOM 350. Organizational Communication 3.00  
 SCOM 370. Introduction to Health Communication 3.00

**Total: 23-24 Credit Hours**

### Substance Abuse Education Minor

Katherine Ott Walter, Adviser Phone: (540) 568-8972 Email: ottwalmk@jmu.edu

This cross disciplinary substance abuse education minor provides the student with the foundational knowledge and skills necessary to assist communities in designing evidenced-based prevention/education programs to encourage healthy attitudes and behaviors towards alcohol, tobacco and other drugs. Course work in this minor will help prepare the student for the Certified Prevention Professionals-ATOD exam, which they can take after one year of prevention-related paid work experience and additional prevention-specific training. Students must complete 18 credit hours from the categories outlined below. Students must take one of the Alcohol, Tobacco and Other Drugs (ATOD) specific courses. The remaining 15 credits must be selected from the additional courses listed below, preferably one from each category. No more than three courses may be taken from a single subject area (PSYC, HTH, SOWK, etc.), and no more than three courses can count for both the student's major/additional minor and the substance abuse education minor.

#### Required Courses

*Alcohol, Tobacco and Other Drugs (ATOD) (Must select one of the following courses): 3 Credit Hours*

HTH 378. The Use & Effects of Drugs 3.00  
 SOWK/FAM/GERN 487. Special Topics 3.00 1  
 PSYC 285. Drugs and Behavior 3.00

*Select five courses from the list of courses below (No more than three courses may be taken from a single subject area, i.e., PSYC, HTH, SOWK, etc.): 15 Credit Hours*

#### Prevention, Education and Service Delivery

HTH 351. Health Behavior Change 3.00  
 JUST 221. Social Justice Theories 3.00  
 JUST 301. Special Topics in Justice Studies 3.00 1  
 JUST 345. Restorative Justice 3.00  
 PSYC 250. Introduction to Abnormal Psychology 3.00  
 PSYC 308. Health Psychology 3.00  
 PSYC 335. Abnormal Psychology 3.00  
 SOWK 386. Youth Empowerment Strategies (Yes) 3.00  
 SOWK 387. Working with Teens 3.00  
 SOWK 487. Special Topics 3.00 1

#### Communication

SCOM 370. Introduction to Health Communication 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 WRTC 484. Writing for Nonprofits 3.00  
 WRTC 486. Writing in the Community 3.00  
 WRTC 488. Writing in the Health Sciences 3.00

#### Community Organizing

FAM/GERN/NPS/SOWK 375. Grant Writing for Agencies 3.00  
 NPS 300. Introduction to Nonprofits 3.00  
 Public Policy and Environmental Change  
 PPA 359. Policy Analysis 3.00  
 PPA 462. Social Welfare and Local Government Policy 3.00  
 WRTC 326. Environmental Communication and Advocacy 3.00 or SCOM 354.

Environmental Communication and Advocacy 3.00  
 SOWK 335. Social Policy 3.00  
 HTH 420. Global Perspectives on Alcohol and Drug Policies 3.00 2

#### Planning and Evaluation

HTH 458. Health Program Planning and Evaluation 3.00

**Total: 18 Credit Hours**

#### Footnotes

1 When topics are minor related, to be approved by the coordinator. 2 Offered in summer only.

## Teaching English to Speakers of Other Languages: Non-Licensure TESOL Minor

Coordinator: Dr. Katya Koubek

Phone: (540) 568-6760

Email: [koubekex@jmu.edu](mailto:koubekex@jmu.edu)

The Teaching English to Speakers of Other Languages (TESOL) program is designed to enable students to complete the TESOL non-licensure minor or the TESOL PK-12 licensure. Both programs prepare students to work effectively in promoting English language acquisition of children and adults who are not native English speakers. These programs also promote development of skills in cross-cultural competence and draw heavily upon theories of linguistics, research on social and cultural variables that influence second language acquisition, and the knowledge required to facilitate second language learning.

Candidates currently enrolled in initial teaching licensure programs may be able to complete the TESOL requirements in conjunction with completing their other preparation program. With careful planning, dual licensure is possible. Candidates interested in dual licensure should consult with the TESOL coordinator and the other program area adviser for more information.

### Non-Licensure TESOL Minor

The non-licensure minor program in TESOL is designed for students in various fields, who wish to acquire professional knowledge related to teaching English to speakers of other languages, but who do not want to pursue Virginia teaching licensure. Students will acquire skills in cross-cultural competence, understand and implement more equitable and effective ways of working with English learners (ELs), and become familiar with the processes of first and second language acquisition. Students will gain a foundational knowledge of effective teaching practices to assist and assess ELs. The TESOL non-licensure minor requires a minimum of 19-20 credit hours; 16 credits are required core courses and 3-4 credits are electives selected in consultation with a program adviser.

#### Required Courses

EDUC 310. Teaching in a Diverse Society 3.00

LED 430. Development, Assessment and Instruction of Literacy: K-12 3.00

TESL 426. Concepts in First and Second Language Acquisition 3.00

TESL 428. Assessment for Curriculum Development in English as a Second Language 3.00

TESL 385. Practicum in TESOL 1.00-3.00

TESL 470. Instructional Strategies for Teaching English as a Second Language 3.00 1

Electives (choose one): 3-4 Credit Hours

EDUC 300. Foundations of American Education 3.00

EDUC 370. Instructional Technology 3.00 (Lab course)

ENG 308. Introduction to Linguistics 3.00

EXED 303. Foundations of Classroom and Behavior Management 3.00

LED 435. Literacy Development and Instruction for English Language Learners 3.00 2

Total: 19-20 Credit Hours

#### Footnotes

<sup>1</sup> This course has an additional one credit practicum, TESL 385. <sup>2</sup> This course has an additional one credit practicum, TESL 383.

## Telecommunications Minor

Dr. Mohamed Aboutabl, Adviser

Phone: (540) 568-7589

Email: [aboutams@jmu.edu](mailto:aboutams@jmu.edu)

Website: <http://www.jmu.edu/cs/minors/telecom-minor/index.shtml>

The cross disciplinary minor in telecommunications is designed to augment the student's major program with a package of courses that will prepare the graduate to obtain a position as a telecommunication/network professional and fill a societal need in one of the fastest growing areas of technology.

The program is developed as a minor principally for three major programs: computer science, integrated science and technology (for students not in the telecommunications concentration), and computer information systems. However, the program is open to any undergraduate with some computer background and an interest in telecommunications.

The telecommunications minor will instill knowledge of:

- Telecommunication terminologies, standards, policies and procedures.
- Basics of data transmission, digital signal processes and signaling hierarchies.
- Architectures, communications protocols and components of LANs, WANs and internetworks.
- The TCP/IP and ATM protocol suites.
- Switching, routing and traffic management in inter-networked environments.
- Voice, video and data transmission over IP and ATM.
- Application development for the internet.
- Distributed object systems programming and management.

Students are encouraged to check prerequisites. At most, four courses can be used to satisfy both the telecommunications minor and a student's major requirements.

#### Required Courses

ISAT 460. Tcp/Ip Networks 3.00

ISAT/CS 461. Internetworking 3.00

Choose one of the following: 3 Credit Hours

CIS 320. Computing and Telecommunications Networks 3.00

ISAT 360. Introduction to Networking & Security 3.00

Choose one of the following: 3-4 Credit Hours

CIS 221. Principles of Programming 3.00

ISAT 252. Programming and Problem Solving 3.00

Choose one of the following: 3 Credit Hours

CS 458. Cyber Defense 3.00

CS/ISAT 462. Network Applications Development 3.00

ISAT 465. Wireless Networking, Security and Forensics 3.00

Total: 18-19 Credit Hours

## Theatre Minor

Theatre Minor Adviser: Zachary Dorsey

Email: [dorseyza@jmu.edu](mailto:dorseyza@jmu.edu)

Phone: (540) 568-4551

The School of Theatre and Dance offers a minor with options in theatre or dance. No audition or portfolio review is required for the theatre minor or dance minor. A grade of "C" or better must be achieved in all School of Theatre and Dance courses that apply to a minor in the School of Theatre and Dance.

#### Courses

Choose one of the following: 3 Credit Hours

THEA 171. Performance Production 3.00

THEA 273. Design Aspects of Performance 3.00

Choose one of the following: 3 Credit Hours

THEA 210. Introduction to Theatre [C2VPA] 3.00

THEA 211. Performance Analysis 3.00

Electives: 15 Credit Hours

Electives selected from the theatre-designated courses with the approval of the minor adviser

Total: 21 Credit Hours

## Urban and Regional Studies Minor

Dr. Henry A. Way, Coordinator

Phone: (540) 568-8186

Email: [wayha@jmu.edu](mailto:wayha@jmu.edu)

The minor in urban and regional studies prepares students for careers or graduate training in government. While satisfying the B.A. or B.S. requirements of their chosen major, students may complement that major with a 24 credit hour minor in urban and regional studies drawn from the following courses.

#### Required Courses

GEOG 376. Urban Geography 3.00

POSC 360. Urban Politics 3.00

ECON 475. Regional Economics 3.00

Choose from the following: 12 Credit Hours

Must be in a discipline other than the student's major.

ECON 326. Public Finance 3.00

ECON 340. Economics of Natural Resources 3.00

GEOG 315. Field Studies in Geography 3.00

GEOL 310 A - D. Environmental Impact 2.00 - 3.00, repeatable to 6 credits

GEOL 340. Environmental Soil Science (2, 2) 3.00

POSC 302. State & Local Gov 3.00

POSC 495. Internship in Political Science 4.00  
SOC1 352. Birth, Death, Sex: Exploring Demography 3.00

SOCI 361. Sociology of Organizations 3.00  
**Total: 24 Credit Hours**

## Women's, Gender and Sexuality Studies Minor

Dr. Mary Thompson, Coordinator Phone: (540) 568-3758 Email: thompsmx@jmu.edu Website: <http://www.jmu.edu/womenstudies>

This is an 18-credit hour cross disciplinary program that explores the scholarship related to gender and equity issues affecting women. In particular, women's, gender and sexuality studies is concerned with gender as it intersects with multiple categories such as race/ethnicity, sexuality, economic class and age. This concern is framed by recognition of increased globalization and technological growth impacting social institutions and gendered identities. Students in women's, gender and sexuality studies will develop academic frameworks for understanding gender, diversity and social justice; they will acquire knowledge and skills that prepare them for careers in advocacy and communications. This minor includes one required course, WGSS 200.

### Required Courses

WGSS 200. Introduction to Women's, Gender and Sexuality Studies [C5SD] 3.00

*Choose five of the following: 15 Credit Hours*

ANTH 360. Medical Anthropology 3.00 (C)

ANTH 370. Topics in the Anthropology of Gender 3.00 (C)

ANTH/WGSS 376. Anthropology of Reproduction 3.00 (C)

ENG 327. Gothic Literature 3.00

ENG/WGSS 368. Women's Literature 3.00

ENG/WGSS 369. Feminist Literary Theory 3.00

ENG/WGSS 370. Queer Literature 3.00

ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00

ENG/WGSS 466. Advanced Studies in Women's Literature 3.00

HIST 320. Women in U.S. History 3.00

HIST 321\*. European Women's History 3.00

HIST 326. The Automobile in 20th Century America 3.00 1

HIST 327. Technology in America 3.00 2

HIST 448\*\*. Gender in Latin America and the Iberian World 3.00

HIST 449\*. Women and Fascism 3.00

HIST 466. The Family, 1400-1800 3.00

ISAT/WGSS 485. Gender Issues in Science 3.00

JUST/WGSS 341. Gender and Justice 3.00

JUST 385. Disability and Justice 3.00 1

MSCI/WGSS 355. American Women At War 3.00

PHIL/WGSS 350. The Philosophy of Feminism 3.00

POSC/WGSS 383. Women and Politics in Comparative Perspective 3.00

PSYC 310. The Psychology of Women and Gender 3.00

REL 306. Women and Gender in Islam 3.00

REL 315. Women and Religion 3.00

SCOM/WGS 302. Third Wave Ecofeminism 3.00

SCOM/WGSS 348. Communication and Gender 3.00

SOCI 336. Race and Ethnicity 3.00 1

SOCI 337. Sociology of Gender 3.00

SOCI/WGSS 347. Queer Theories of Gender and Inequality 3.00

SOCI 354. Social Inequality 3.00

SCOM/WRTC/WGSS 420. Feminist Rhetorics 3.00

SPAN 455. Women in Hispanic Literatures 3.00

WGSS 300. Special Topics in Women's, Gender and Sexuality Studies 3.00 3

WGSS 325. Gender and Violence 3.00

WGSS 400. Issues and Research in Women's, Gender and Sexuality Studies 3.00

WGSS/HTH/NSG 417. Women's Global Health and Human Rights 3.00

WGSS 490. Special Studies in Women's, Gender and Sexuality Studies 3.00

WGSS 492. Internship in Women's, Gender and Sexuality Studies 1.00 - 3.00

WGSS 495. Special Topics in Women's, Gender and Sexuality Studies 3.00

**Total: 18 Credit Hours**

### Footnotes

1 Final project must take gender as its topic 2 If research project addresses issue of gender. 3 May be repeated as topic varies.

## World Literature Minor

Dr. Debali Mookerjee-Leonard, Coordinator Phone: (540) 568-3751 Email: mookerdx@jmu.edu

The cross disciplinary minor in world literature is designed for students who wish to extend their critical understanding of literature and other artistic productions beyond the confines of Anglo-America and offers them the opportunity to study literary and artistic productions from Africa, Asia, the Caribbean Islands, continental Europe, Latin America, the Middle East and a special interest area (Native America, African America, Asian America, Immigrant Britain). By offering a broad yet substantial introduction to literature and other arts produced beyond their traditional experience, the minor provides students with a bridge to understanding new cultures and languages. It aims to equip students with the critical and analytical skills necessary to reflect upon and appreciate these artistic practices as well as to develop a clear understanding of social context and artistic expression by encouraging them to think outside the local and on a more global level. The minor provides a good foundation for students to meet the challenges of graduate studies in comparative literature, world cinema and cultural studies/history.

The minimum requirement for a minor in world literature is 18 hours. Six credit hours may be double-counted between the minor and the major or general education courses. In addition to the gateway course, ENG 239, students can take one 200-level course to count toward the minor. The English, Department of and the Foreign Languages, Literatures and Cultures, Department of (FLLC) offer a range of courses which will fulfill the minor. FLLC offers students the opportunity to study non-English language literatures from Europe often in the original language, while all courses in the English department are taught in English or in translation. Students can also take a maximum of two relevant courses from disciplines other than English and foreign languages, with the permission of the program coordinator. Students should consult the coordinator about new courses and appropriateness of the subject of special topics courses. The following courses may include several sections per term—ENG 221, ENG 222, ENG 302, ENG 368, ENG 383, ENG 385, ENG 405, ENG 410, ENG 412, ENG 423, ENG 466, HUM 200—and only certain sections will satisfy the minor requirement. Students electing this minor can acquire more information from the program coordinator regarding courses which will count toward the minor. Courses from disciplines other than English and foreign languages may be considered for credit with the prior approval of the coordinator.

### Required Course: 3 Credit Hours

ENG 239. Studies in World Literature [C2L] 3.00

*Choose five of the following: 15 Credit Hours*

ARAB 307. A History of Islamic Civilization 600-1600 A.D. 3.00

ARAB 308. Contemporary Islamic Civilization 3.00

ARAB 339. Literatures of the Islamic World 600-1500 A.D. 3.00

ARAB 385. The Arabian Nights 3.00

ARAB 386. Arabic Fables and Short Stories 3.00

ARAB 446. Special Topics in Arabic Literature 3.00

ENG 221. Literature/Culture/Ideas [C2L] 3.00

ENG 222. Genre(s) [C2L] 3.00

ENG 260. Survey of African-American Literature [C2L] 3.00

ENG 302. Special Topics in Literature and Language 3.00

ENG 305. Mythology 3.00.

ENG 306. The Bible as Literature 3.00

ENG 358. Oral Literature 3.00

ENG 360. Introduction to Ethnic American Literature 3.00

ENG 361. African-American Fiction 3.00

ENG 362. African-American Poetry 3.00

ENG 363. Native American Literature 3.00

ENG 364. Introduction to Asian-American Literature 3.00

ENG 368. Women's Literature 3.00

ENG 377. Introduction to African Literature 3.00

ENG 378. Studies in South Asian Literature 3.00

ENG 379. Literature and Empire 3.00

ENG 383. Film Genre 3.00

ENG 385. Special Topics in Film Study 3.00

ENG 405. Advanced Studies in Anglophone Literature 3.00

ENG 408. Advanced Studies in African-American Literature 3.00

ENG 410. Advanced Studies in Author 3.00

ENG 412. Special Topic Seminar 3.00

ENG 420. Advanced Studies in Theory and Cultural Studies 3.00

ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00

ENG 430. Advanced Studies in Comparative Literature 3.00

ENG 432. Advanced Studies in African Literature 3.00

ENG 433. Advanced Studies in Arabic Literature 3.00.

ENG/SPAN 434. Advanced Studies in Latin American Literature in Translation 3.00  
 ENG/GER 436. Studies in German Literature 3.00  
 ENG/ITAL 437. Studies in Italian Literature 3.00  
 ENG/RUS 438. Studies in Russian Literature 3.00  
 ENG/SPAN 439. Advanced Studies in Major Authors of Literature in Spanish in Translation 3.00  
 ENG 466. Advanced Studies in Women's Literature 3.00  
 FR 307. History of French Civilization 3.00  
 FR 308. Contemporary French Civilization 3.00  
 FR 335. Introduction to French Literature 3.00  
 FR 339. A Survey of French Literature 3.00  
 FR 399. French Short Stories 3.00  
 FR 420. Advanced Genre Studies 3.00  
 FR 446. Special Topics in French Literature 3.00  
 FR 447. Special Topics in French Civilization and Culture 3.00  
 FR 448. Special Topics in French Linguistics 3.00  
 FR 465. French Cinema 1930-1980 3.00  
 FR 466. Contemporary French Cinema 3.00  
 FR 490. Special Studies in French 1.00 - 4.00  
 GER 307. History of German Civilization 3.00  
 GER 308. Contemporary German Civilization 3.00  
 GER 335. Introduction to German Literature 3.00  
 GER 386. German Short Stories 3.00  
 GER 405. The Age of German Classicism 3.00  
 GER 415. German Romanticism and Realism 3.00  
 GER 425. Modern German Literature 3.00  
 GER 446. Special Topics in German Literature 3.00  
 GER 447. Special Topics in German Civilization & Culture 3.00  
 GER 465. German Cinema 3.00  
 GER 490. Special Studies in German 1.00 - 4.00  
 HUM 200. Great Works [C2L] 3.00  
 HUM 252. Global Cultures [C2HQC] 3.00 1  
 ITAL 307. Italian Civilization 3.00  
 ITAL 308. Contemporary Italian Civilization 3.00  
 HIST 308\*. Contemporary Italian Civilization 3.00

ITAL 335. Introduction to Italian Literature 3.00  
 ITAL 380. Italian Language and Culture Through Regional Cuisine 3.00  
 ITAL 386. Italian Short Stories 3.00  
 ITAL 425. Modern Italian Literature 3.00  
 ITAL 446. Special Topics in Italian Literature 3.00  
 ITAL 447. Special Topics in Italian Civilization and Culture 3.00  
 ITAL 465. Italian Cinema 3.00  
 ITAL 490. Special Studies in Italian 1.00 - 4.00  
 JAPN 446. Special Topics in Japanese Literature 3.00  
 JAPN 447. Special Topics in Japanese Civilization 3.00  
 JAPN 490. Special Studies in Japanese 1.00 - 4.00  
 RUS 308. Introduction to Russian Civilization 3.00  
 SPAN 307. Spanish Civilization 3.00  
 SPAN 308. Latin American Civilization 3.00  
 SPAN 335. Introduction to Spanish Literature 3.00  
 SPAN 385. Latin American Drama and Short Stories 3.00  
 SPAN 386. Spanish Short Stories 3.00  
 SPAN 395. Latin American Poetry of the 20th Century 3.00  
 SPAN 405. Spanish Novels of the 19th and 20th Centuries 3.00  
 SPAN 406. Spanish Drama of the 19th and 20th Centuries 3.00  
 SPAN 407. Aspects of Spanish Civilization 3.00  
 SPAN 415. The Spanish-American Novel 3.00  
 SPAN 424. Spanish Picaresque Novel 3.00  
 SPAN 425. Prose of the Golden Age 3.00  
 SPAN 426. Drama of the Golden Age 3.00  
 SPAN 427. Poetry of the Golden Age 3.00  
 SPAN 428. Don Quixote 3.00  
 SPAN 446. Special Topics in Spanish Literature 3.00  
 SPAN 447. Special Topics in Spanish Civilization and Culture 3.00  
 SPAN 455. Women in Hispanic Literatures 3.00  
 SPAN 461. Post War Literature in Spain 3.00  
 SPAN 462. Spanish Comic Theater of the 20th Century 3.00  
 SPAN 465. Cinema and Literature 3.00  
 SPAN 490. Special Studies in Spanish 1.00 - 3.00

**Total: 18 Credit Hours**

**Footnote**

<sup>1</sup> Global South Asia section only.



## Education Programs

For additional information on Education programs, visit: <http://www.jmu.edu/coe/academics.shtml>

### Art Education Professional PK-12 Licensure

Coordinator: Dr. Karin Tollefson-Hall Phone: (540) 568-4304 Email: [tollefk1@jmu.edu](mailto:tollefk1@jmu.edu)

Art education professional PK-12 licensure is available to all studio and design majors. In addition to the general education and academic major requirements, students desiring PreK-12 teaching licensure in art must complete 23 credits of additional course work in art education, education and psychology, and 16 credits of student teaching. It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses. For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education.

Students seeking licensure are encouraged to consult regularly with the program coordinator of art education. The undergraduate degree leading to licensure must include the following minimum requirements in art:

- Nine credits must be earned in art history and art appreciation.
- Six credits must be earned in ceramics and crafts, with a minimum of one course in ceramics.
- Six credits must be earned in three-dimensional media, with one course in sculpture.
- Twelve credits must be earned in four different two-dimensional media.
- Twenty-seven studio credits, with a minimum of six credits in each of three separate studio areas.

#### Course Requirements

The following is a list of the required courses leading to PK-12 art licensure and a suggested sequence of when each may be taken.

##### Required Courses

ART 304. Methods of Art Criticism 3.00 (spring, second year)  
 ARED 300. Elementary Art Education Methods (1, 4) 3.00 (fall, third year)  
 ARED 302. Secondary Art Education Methods 3.00 (spring, third year)  
 ARED 400. Visual Arts Across the Curriculum (1,4) 3.00 (fall, fourth year)  
 ARED 490. Field Experiences in Art Education 1.00-3.00 (repeatable; taken concurrently with ARED 300, ARED 302 and ARED 400)

##### Total: 15 Credit Hours

##### Required Education and Psychology Courses

PSYC 160. Life Span Human Development [C5SD] 3.00 1  
 EDUC 300. Foundations of American Education 3.00  
 LED 420. Content Area Literacy, K-12 2.00  
 ARED 480. Student Teaching 8.00 (spring, fourth year)

##### Total: 24 Credit Hours

#### Footnote

<sup>1</sup> PSYC 160 may double-count toward General Education Cluster Five

### Dance Teaching Licensure

In addition to general education and theatre and dance requirements, students desiring PreK-12 teaching licensure in dance must complete 16 credits of additional course work in kinesiology, health science, education, psychology and 12 credits of student teaching. It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses.

#### Course Requirements

Students seeking licensure are encouraged to consult regularly with the faculty adviser of dance education. The undergraduate degree leading to licensure must include the following:

- Credit must be earned in each area: ballet, folk, jazz and modern dance (8 credits)
- Credit must be earned beyond the beginning level of ballet, jazz and modern dance (3 credits)
- Credit must be earned in dance composition, dance improvisation and dance production (minimum of 7 credits)
- Credit must be earned in human anatomy, kinesiology, and injury prevention and care for dance (9 credits)
- Credit must be earned in history of dance (3 credits)

##### Required Courses

APEP 205. Introduction to Athletic Training (2,2) 3.00 (spring, junior)  
 DANC 325. Dance in Community 3.00  
 DANC 490. Special Studies in Dance 1.00 - 3.00 (prior to student teaching)  
 EDUC 300. Foundations of American Education 3.00

DANC 480. Student Teaching 3.00 - 12.00  
 PSYC 160. Life Span Human Development [C5SD] 3.00 (may double count)  
 KIN 202. Biological Foundations of Kinesiology & Recreation 3.00 (fall, junior)  
 LED 420. Content Area Literacy, K-12 2.00

##### Total: 30 Credit Hours

### Earth Science Teaching Licensure

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. The B.A. in Earth science includes state course requirements in astronomy, meteorology and oceanography, to total no less than 32 hours in the Earth sciences (including geology) and a minimum of 16 hours total in physics, chemistry and biology.

In addition to the general education and academic major requirements, Earth science majors desiring secondary teacher licensure must be admitted to the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking teaching licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of, in addition to the College of Education.

### English Teaching Licensure

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. English majors desiring secondary teacher licensure must complete LED 254, include among their core courses the surveys of both English and American literature (ENG 235, ENG 236, ENG 247 and ENG 248), and include among their electives the following:

##### Choose one of the following:

ENG 309. Traditional English Grammar 3.00  
 ENG 310. Modern English Grammar 3.00

##### Choose one of the following:

ENG 317. Shakespeare's Tragedies and Romances 3.00  
 ENG 318. Shakespeare's Comedies and Histories 3.00

ENG 319. Teaching Shakespeare 3.00  
 ENG 320L. Shakespeare on the Page and Stage in London  
*Additional Courses*

At least one course at any level in American literature  
 At least one course at any level in British literature  
 At least one course at any level in world literature

#### Additional Information

In addition to the General Education and academic major requirements, English majors desiring secondary teacher licensure must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of, in addition to the College of Education.

## Modern Foreign Languages Teaching Licensure

Interim Coordinator: José I. Barrio Olano

Phone: (540) 568-6128

Email: [barrioji@jmu.edu](mailto:barrioji@jmu.edu)

In conjunction with the College of Education, the department offers programs leading to the teaching license in French, German, Italian and Spanish. In addition to the General Education and academic major requirements, students desiring preK-12 teaching licensure in French, German, Italian or Spanish must be accepted for admission to the teacher education program offered by the College of Education prior to enrolling in professional education courses. In addition to the 33 foreign language credits, an additional 39 credits are required for teaching licensure.

Students interested in teacher licensure in French, German, Italian or Spanish must also meet the specific curriculum requirements of their foreign language major as part of the undergraduate academic degree.

For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education. Students seeking licensure are encouraged to consult regularly with the teaching licensure coordinator.

### Required Courses

PSYC 160. Life Span Human Development [C5SD] 3.00

EDUC 300. Foundations of American Education 3.00

EXED 303. Foundations of Classroom and Behavior Management 3.00

MSSE 370. General Instructional Methods for Grades 6-12 3.00

MSSE 371. Clinical Experience in Adolescent Education 1.00

FLED 370. Modern Foreign Language Assessment 3.00

FLED 470. Methods of Modern Foreign Language Teaching 3.00

FLED 471. Modern Foreign Language Field Experience 3.00

FLED 475. Supervised Student Teaching Experience 12.00

FLED 476. Student Teaching Seminar 3.00

LED 420. Content Area Literacy, K-12 2.00

**Total: 39 Credit Hours**

## General Education: The Human Community

Dr. Margaret M. Mulrooney, Associate Vice Provost for University Programs

### Mission Statement

In the liberal arts tradition, General Education: The Human Community aspires to create informed global citizens of the 21st century. We challenge our community of students and faculty to engage in personal and collective reflection, development, and action.

### Philosophy

General Education: The Human Community is the core academic program of James Madison University in which students come to understand how distinct disciplines look at the world from different vantage points. Courses in The Human Community are organized into five clusters, each emphasizing unique tools, rationales and methodologies. Taken together, courses in a student's chosen major and The Human Community complement and complete each other. Both are integral and essential components of a student's full and proper education.

### Goals

- Students understand the historical and contemporary distinctions and interconnections among people, institutions and communities that create, preserve and transmit culture and knowledge in the arts, sciences, mathematics, social sciences and humanities.
- Students become skilled in questioning, investigating, analyzing, evaluating and communicating.
- Students participate in a variety of aesthetic and civic experiences reflecting human concerns and values that transcend the limits of specialization.

### Structure

The Human Community credit hour requirements are:

Cluster Credit Hours	
Cluster One: Skills for the 21st Century	9 Credit Hours
Cluster Two: Arts and Humanities	9 Credit Hours
Cluster Three: The Natural World	10 Credit Hours
Cluster Four: Social and Cultural Processes	7 Credit Hours
Cluster Five: Individuals in the Human Community	6 Credit Hours
	Total: 41 Credit Hours

### Cluster One: Skills for the 21st Century

Karen McDonnell, Interim Coordinator

Cluster One is the cornerstone of General Education: The Human Community at JMU. Through course work in three areas and a required information literacy test, this cluster requires students to demonstrate:

- Critical thinking skills
- Effective oral presentation skills
- Effective writing skills
- Competency in information literacy

Competence in these areas is fundamental to subsequent study in major and professional programs. Therefore, all students are required to complete Cluster One requirements during their first academic year at JMU. Cluster One courses may be taken in any order. Cluster One areas and courses are not repeatable without permission. Permission to enroll in additional Cluster One courses is given based on course availability. There are no overrides available in Cluster One courses.

Completion of all courses and tests in Cluster One is required of students in their first academic year at JMU.

Cluster One consists of nine credits and a competency test. All students must earn credit for one course in critical thinking, human communication and writing. In addition to the three courses, students are required to demonstrate information literacy competency by passing the Madison Research Essential Skills Test (MREST).

#### Critical Thinking

In this area, students study various techniques and approaches to critical thinking such as analyzing and evaluating information, arguments, premises and concepts. Critical thinking fosters inquiry and problem solving abilities. Depending upon the course, the content focuses on the function of language, basic business principles, issues in recent history, mediated communication, informal logical reasoning or problem solving in science and technology. Cluster One offers six classes that meet this requirement.

#### Choose one of the following:

- |  |   |
|--|---|
| BUS 160. Business Decision Making in a Modern Society [C1CT] 3.00          | PHIL 120. Critical Thinking [C1CT] 3.00                         |
| HIST 150. Critical Issues in Recent Global History [C1CT] 3.00             | PHIL 150. Ethical Reasoning [C1CT] 3.00                         |
| ISAT 160. Problem Solving Approaches in Science and Technology [C1CT] 3.00 | SMAD 150. Mediated Communication: Issues and Skills [C1CT] 3.00 |

#### Additional Information

Students pursuing a Bachelor of Arts (B.A.) degree may not use either PHIL 120 or PHIL 150 to fulfill the B.A. philosophy course requirement.

Students who have received credit for one critical thinking class are not eligible to receive credit for a second critical thinking class without permission.

#### Human Communication

In this area, students are introduced to the study of human communication as a process. Emphasis is on examining the role of self-concept, perception, culture, verbal and nonverbal dimensions in the communication process; applying critical listening skills; and developing skills in oral presentations. Depending upon the course, the content focuses on an overview of the principles and practices of interpersonal, small group and public communication, or constructing informative and persuasive speeches with an emphasis on individual public speaking contexts, or constructing informative and persuasive group presentations. Cluster One requires completion of one of three courses offered in human communication.

#### Choose one of the following:

- SCOM 121. Fundamental Human Communication: Presentations [C1HC] 3.00
- SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] 3.00
- SCOM 123. Fundamental Human Communication: Group Presentations [C1HC] 3.00

#### Additional Information

Students who have received credit for one SCOM class are not eligible to receive credit for a second SCOM class.

#### Writing

In this area, students study the role of the writer, the purpose of documents, and the contexts and audience expectations within which documents are produced. Writing is taught as a process involving invention, collaboration, research and revision. Students read, analyze and create texts in multiple genres using traditional and digital communication tools. Content areas may include public and professional discourse, culture, humanities, and technology.

**Complete the following:**

WRTC 103. Critical Reading and Writing [C1W] 3.00

Additional Information

Students may not repeat WRTC 103 for credit.

**Information Literacy**

Information literacy is the ability to locate, evaluate and use information effectively to accomplish a purpose. Cluster One requires completion of the Madison Research Essentials Test (MREST). All entering students must pass the MREST by the deadline announced by the university. Students not completing the requirement by the deadline will have a hold placed on their academic record until the MREST is passed.

**Cluster One Learning Objectives**

After completing Cluster One: Skills for the 21st Century, students should be able to use reading, writing, human communication, critical thinking and information literacy skills for inquiring, learning, thinking and communicating in their personal, academic and civic lives.

**Critical Thinking**

After completing a 100-level Critical Thinking course, students should be able to:

- Identify the basic components of arguments, including premises, supporting evidences, assumptions, conclusions and implications;
- Evaluate claims and sources for clarity, credibility, reliability, accuracy and relevance;
- Evaluate arguments for soundness, strength and completeness;
- Demonstrate an intellectual disposition to be fair-minded in considering evidence, arguments and alternative points of view.

**Human Communication**

After completing course work in communication, students should be able to:

- Explain the fundamental processes that significantly influence communication.
- Construct messages consistent with the diversity of communication purpose, audience, context and ethics.
- Respond to messages consistent with the diversity of communication purpose, audience, context and ethics.
- Utilize information literacy skills expected of ethical communicators.

**Writing**

After completing course work in writing, students should be able to:

- Demonstrate an awareness of rhetorical knowledge, which may include the ability to analyze and act on understandings of audiences, purposes and contexts in creating and comprehending texts.
- Employ critical thinking, which includes the ability through reading, research and writing, to analyze a situation or text and make thoughtful decisions based on that analysis.
- Employ writing processes.
- Demonstrate an awareness of conventions, the formal and informal guidelines that define what is considered to be correct and appropriate in a variety of texts.
- Compose in multiple environments using traditional and digital communication tools.

**Information Literacy**

After completing the Madison Research Essential Skills Test (MREST), JMU's information literacy test, and course work in critical thinking, human communication and writing, students should be able to:

- Recognize the components of scholarly work and that scholarship can take many forms.
- Demonstrate persistence and employ multiple strategies in research and discovery processes.
- Identify gaps in their own knowledge and formulate appropriate questions for investigations in academic settings.
- Evaluate the quality of information and acknowledge expertise.
- Use information effectively in their own work and make contextually appropriate choices for sharing their scholarship.
- Use information ethically and legally.

**Cluster Two: Arts and Humanities**

Dr. Dennis Beck, Coordinator

Cluster Two shows students what it means to live lives enriched by reflection, imagination and creativity. It does so by offering each individual a cross disciplinary experience within the arts and humanities, those areas of endeavor that humans have long valued for their intrinsic worth and that invite a deeper appreciation of the human experience. The broadly stated goals for Cluster Two are:

- To introduce students to cultural, historical, aesthetic and theoretical expressions of and questions about human experience.
- To expose students to multiple academic disciplines in the arts and humanities and their methods and unique perspectives.
- To inspire a deeper awareness of how the interplay between culture and expression affects both collective and individual identities.
- To foster appreciation of the aesthetic and formal qualities of literary, visual and performing arts.
- To engage students in thinking critically and communicating clearly about enduring questions concerning human life, culture and history.

**Cluster Two Learning Objectives**

After completing Cluster Two: Arts and Humanities, students should have attained competency in three major areas.

**Human Questions and Contexts**

After completing Group One, students will be able to:

- Use critical and comparative analysis to question their own and others' beliefs about and responses to the world or universe.
- Apply the methods of the discipline(s) studied to material from the humanities.
- Identify, evaluate and produce arguments using appropriate concepts and techniques and formulate logical arguments on the same basis.
- Demonstrate an understanding of broader cultural, historical or conceptual contexts of particular issues, ideas, objects or events – past and present.
- Experience humanities events (such as exhibits, films, performances or public lectures) more discerningly.

**Visual and Performing Arts**

After completing Group Two, students will be able to:

- Explain how artistic works and culture are interrelated.
- Recognize that the arts are accessible and relevant to their lives.
- Demonstrate disciplinary literacy (vocabulary, concepts, creative processes) in a major art form.
- Produce an informed response to the form, content and aesthetic qualities of artistic works.
- Experience arts events more discerningly.
- Acknowledge relationships among the arts.

### Literature

After completing Group Three, students will be able to:

- Generate increasingly nuanced questions (interpretations, ideas) about literature and explain why those questions matter.
- Use appropriate vocabulary and tactics to analyze specific literary expressions of culture and the relationship between the reader, the author and text.
- Define ways that texts serve as arguments and identify rhetorical and formal elements that inform these arguments.
- Recognize appropriate contexts (such as genres, political perspectives, textual juxtapositions) and understand that readers may interpret literature from a variety of perspectives.
- Articulate a variety of examples of the ways in which literature gives us access to the human experience that reveals what differentiates it from, and connects it to, the other disciplines that make up the arc of human learning.

### Cluster Two Structure

Students complete nine credits by choosing one course from each of three groups: Human Questions and Contexts; Visual and Performing Arts; and Literature.

#### Group One: Human Questions and Contexts

Students will take one course from the list below. AMST 200 takes a cross disciplinary approach to questions about American identity and shows how they reflect a complex interplay of cultural, historical, religious and ideological perspectives. The ANTH and HIST courses introduce students to the great cultures of the world by surveying the common patterns of experience that characterized Western, Middle Eastern, Asian, African, Meso- and South American societies in the past. The HUM courses are cross disciplinary, in-depth explorations of specific topics, cultures, periods or themes. The PHIL and REL courses explore the great inquiries into human existence and the ways different cultures across different time periods constructed their responses to questions concerning humans' existence and their relationship to nature, ultimate reality and the universe. Thus all of the courses in Group One emphasize central questions about the human condition and ways of studying values and beliefs as they are shaped by class, gender, race, historical events, philosophy and religion.

Choose one of the following:

- |   |  |
|---|--|
| AMST 200. Introduction to American Studies [C2HQC] 3.00   | HUM 251. Modern Perspectives [C2HQC] 3.00 (Topics vary by section. Examples include: The Enlightenment, Romanticism, and Italian Society and Culture after WWII) |
| ANTH 205. Buried Cities, Lost Tribes: The Rise and Fall of Early Human Societies [C2HQC] 3.00 (A)                     | HUM 252. Global Cultures [C2HQC] 3.00 (Topics vary by section. Examples include: East Asia, West Africa, Latin American Cultures, Islamic Civilization)          |
| HIST 101. World History to 1500 [C2HQC] 3.00  | PHIL 101. Introduction to Philosophy [C2HQC] 3.00  |
| HIST 102. World History Since 1500 [C2HQC] 3.00   | REL 101. Religions of the World [C2HQC] 3.00   |
| HUM 250. Foundations of Western Culture [C2HQC] 3.00 (Topics vary by section. Examples include: Ancient Greece, Rome) | REL 102. God, Meaning & Morality [C2HQC] 3.00  |

#### Group Two: Visual and Performing Arts

Students will take one course from the list below. ARTH 205 and ARTH 206 are global art history surveys that introduce students to the visual arts, whose history often has been interconnected with developments in music, dance and theatre/film. These surveys are organized chronologically, but focus distinctly on artistic perception and experience. The global music surveys explore history and the arts through the study of music: its development, aesthetics, forms and styles; and its context within the cultural communities that produced it. ART 200 and MUS 200 are introductions to art or music in general culture; THEA 210 studies theatre as an art form including acting, directing, design, costuming and lighting; MUS 203 explores America's music landscape and examines the interconnections among music, art and literature in historical periods.

Choose one of the following:

- |  |  |
|--|--|
| ART 200. Art in General Culture [C2VPA] 3.00                             | MUS 203. Music in America [C2VPA] 3.00             |
| ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00 | MUS 206. Introduction to Global Music [C2VPA] 3.00 |
| ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00     | THEA 210. Introduction to Theatre [C2VPA] 3.00     |
| MUS 200. Music in General Culture [C2VPA] 3.00                           |  |

#### Group Three: Literature

Students will choose a course from the list below. The literature surveys provide students with extensive reading experiences of representative genres and authors and various critical approaches to literary texts, as well as opportunities to explore the complex ways that the literature both reflects and helps change or create the cultural and intellectual contexts of the times in which they are written. Students are expected to learn strategies for reading and interpreting any literary text so that they come to deepen their appreciation of the aesthetics, rhetorical strategies and meaning of a range of literary texts. Through the humanistic study of literature, students will also obtain a better understanding of themselves and their own culture as well as those of others.

Choose one of the following:

- |  |  |
|--|--|
| ENG 221. Literature/Culture/Ideas [C2L] 3.00   | ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L] 3.00   |
| ENG 222. Genre(s) [C2L] 3.00   | ENG 260. Survey of African-American Literature [C2L] 3.00  |
| ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] 3.00 | HUM 200. Great Works [C2L] 3.00 (Topics vary by section. Examples include: The American Century, 19th and 20th Century Russian Literature, Western Classics, Utopias, Distopias) |
| ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L] 3.00           |  |
| ENG 239. Studies in World Literature [C2L] 3.00  |  |
| ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] 3.00   |  |

### Literature and Writing Infusion

The courses in Group Three are designated as writing-infused. Students will write a minimum of 5,000 words (approximately 15 pages double-spaced in a standard font) in assignments that may include both informal and formal, ungraded and graded forms. The extensive opportunity to produce and receive feedback on various genres of academic writing will help students sharpen their responses to interesting and thought-provoking texts and promote more engaged and sophisticated reading strategies.

### Cluster Three: The Natural World

Dr. Elizabeth T. Brown, Coordinator

Scientific investigations into the natural world use analytical methods to evaluate evidence, build and test models based on that evidence, and develop theories. Mathematical studies of form and pattern can create a language that assists in these investigations. Courses in this cluster provide students with the opportunity to develop problem-solving skills in science

and mathematics at the college level. Students will be introduced to a substantial body of scientific facts, concepts, models and theories, and they will also gain experience in using basic mathematics to obtain knowledge about the natural world. The cluster is cross disciplinary, thereby demonstrating boundaries and connections among mathematics, the sciences and other aspects of culture.

Typically students begin Cluster Three during their first year and should complete it by the end of their sophomore year. Individual courses satisfy requirements in a number of major and professional programs. Students are encouraged to select appropriate courses in Cluster Three on the basis of their backgrounds, interests and educational objectives.

### Cluster Three Learning Objectives

After completing Cluster Three: The Natural World, students should be able to meet the following objectives:

- Describe the methods of inquiry that lead to mathematical truth and scientific knowledge and be able to distinguish science from pseudoscience.
- Use theories and models as unifying principles that help us understand natural phenomena and make predictions.
- Recognize the interdependence of applied research, basic research and technology, and how they affect society.
- Identify the interdependence of natural systems with the social, economic and ethical aspects of global and local issues.
- Use graphical, symbolic and numerical methods to analyze, organize and interpret natural phenomena.
- Discriminate between association and causation, and identify the types of evidence used to establish causation.
- Formulate hypotheses, identify relevant variables and design experiments to test hypotheses.
- Evaluate the credibility, use and misuse of scientific and mathematical information in scientific developments and public-policy issues.

### Cluster Three Structure

Cluster Three consists of 10 credits distributed across four areas representing four different aspects of scientific knowledge. Students must take one class that fulfills each of the four areas. Quantitative Reasoning consists of mathematics courses, and Physical Principles and Natural Systems consist of science courses. The groups may be taken in any order, except for courses denoted by an asterisk (\*), which have a mathematics and/or science prerequisite or corequisite. In addition, students are required to have at least one lab experience. Certain courses are designed for future teachers, and enrollment in these courses may be limited to IdLS majors; these courses are indicated with a double asterisk (\*\*).

#### Quantitative Reasoning

Students build mathematical models of systems and learn to understand, interpret and analyze data that is numerical in nature.

##### Choose one of the following:

- |  |   |
|--|---|
| ISAT 151. Topics in Applied Calculus in ISAT [C3QR] 4.00   | MATH 205. Introductory Calculus I [C3QR] 3.00   |
| ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00 | MATH 220. Elementary Statistics [C3QR] 3.00     |
| MATH 103. The Nature of Mathematics [C3QR] 3.00            | MATH 231. Calculus with Functions I [C3QR] 3.00 |
| MATH 105. Quantitative Literacy and Reasoning [C3QR] 3.00  | MATH 235. Calculus I [C3QR] 4.00                |
| MATH 107. Fundamentals of Mathematics I [C3QR] 3.00 **     |   |

#### Physical Principles

In this area, students study underlying principles of nature. These principles are applied to build models, often quantitative in nature, that explore and explain a variety of natural phenomena.

##### Choose one of the following:

- |  |  |
|--|--|
| ASTR 120. The Solar System [C3PP] 3.00   | ISCI 101. Physics, Chemistry & the Human Experience [C3PP] 3.00 *              |
| ASTR 121. Stars, Galaxies, & Cosmology [C3PP] 3.00   | ISCI 172. Physical Science for Teachers [C3PP] 3.00 **                         |
| CHEM 120. Concepts of Chemistry [C3PP] 3.00  | PHYS 121. The Physical Nature of Light and Sound (3, 1) [C3PP] 4.00 (with lab) |
| CHEM 131. General Chemistry I [C3PP] 3.00  | PHYS 140. College Physics I [C3PP] 3.00 (PHYS 140L required lab corequisite)   |
| ISAT 100. Environmental and Energy Sustainability [C3PP] 3.00                                | PHYS 215. Energy and the Environment [C3PP] 3.00 *                             |
| ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00<br>(includes lab) | PHYS 240. University Physics I [C3PP] 3.00 *                                   |

#### Natural Systems

Students study the behavior of earth and life systems. Students will investigate interactions within these systems, between the systems and their environment, and with society.

##### Choose one of the following:

- |  |   |
|--|---|
| ANTH 196. Biological Anthropology [C3NS] 3.00  | GEOL 115. Earth Systems and Climate Change [C3NS] 3.00                      |
| BIO 103. Contemporary Biology (3, 0) [C3NS] 3.00   | GEOL 110. Physical Geology [C3NS] 3.00 (GEOL 110L required lab corequisite) |
| BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  | GEOL 210. Applied Physical Geology [C3NS] 3.00 *                            |
| BIO 222. Interdisciplinary Biology for Engineering and Physical Sciences (3,0) [C3NS] 3.00 | GEOL 211. Introduction to Oceanography [C3NS] 3.00                          |
| BIO 270. Human Physiology (3, 2) [C3NS] 4.00 (includes lab) *                              | ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS] 4.00  |
| GEOL 102. Environment: Earth [C3NS] 3.00   | ISCI 171. Earth and Planetary Science for Teachers [C3NS] 3.00 **           |
|  | PSYC 122. The Science of Vision and Audition [C3NS] 3.00                    |

#### Lab Experience

This area emphasizes the observational and experimental nature of science. Through hands-on experiential learning, students will make observations and use them to test predictions and hypotheses.

##### Choose one of the following:

- |                                       |   |
|---------------------------------------|---|
| Physical Principles course with a lab | ISCI 104. Scientific Perspectives [C3L] 1.00                        |
| Natural Systems course with a lab     | ISCI 173. Life and Environmental Science for Teachers [C3L] 3.00 ** |

### Cluster Four: Social and Cultural Processes

Dr. Raymond M. Hyser, Coordinator

Courses in Cluster Four require students to think critically about their own society and its relationship to the larger global community. These courses develop responsible and enlightened global citizenship by examining a wide variety of the processes that shape the human experience. Students will take one course that focuses on the American experience and one course that examines the global experience.

#### Cluster Four Learning Objectives

##### American Experience

Students completing this part of Cluster Four will be able to identify, conceptualize and evaluate:

- The social and political processes and structures using quantitative and qualitative data.
- The key primary sources relating to American history, political institutions and society.
- The nature and development of the intellectual concepts that structure American political activity.
- The history and operation of American democratic institutions.
- The history and development of American society and culture.

- The history and development of American involvement in world affairs.

### Global Experience

Students completing this part of Cluster Four will be able to identify, conceptualize and evaluate:

- The basic global problems.
- The global political, social, cultural and economic systems that shape societies.
- The issues involved in analyzing societies different from one's own.
- The theoretical models used in studying global problems.
- The strengths and limitations of solutions to global problems across and within cultures.

### Cluster Four Structure

Cluster Four courses are not sequenced so that either part of the cluster may be taken first or they may be taken concurrently. Students may not take POSC 200 and POSC 225 to complete the Cluster Four requirement.

#### The American Experience

Each American Experience course provides students with an understanding of the major themes and concepts that structure American life today. HIST 225 does so through a contextual and document-based study of the American historical experience that emphasizes the interaction of people, ideas and social movements. JUST 225 frames questions regarding historic and contemporary events in terms of issues of justice, highlighting how societal structures interact with individual lives and vice versa. POSC 225 focuses on the evolution and contemporary operation of the American political system by examining its fundamental principles and current dynamics.

Choose one of the following:

HIST 225. U.S. History [C4AE] 4.00

JUST 225. Justice and American Society [C4AE] 4.00

POSC 225. U.S. Government [C4AE] 4.00

#### The Global Experience

Each of the courses in the Global Experience is an investigation into a series of global issues that are of great importance to the human community. Topics discussed will vary from course to course. Issues are examined in a systemic context that allows students to see connections between disciplines. The unifying theme is an analysis of overarching structures at the global level that condition people's behavior and which are shaped by that behavior. From this perspective the study of global issues requires more than studying current events; it involves placing these global issues in a systemic context.

Choose one of the following:

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

GEOG 200. Geography: The Global Dimension [C4GE] 3.00

POSC 200. Global Politics [C4GE] 3.00

SOCI 110. Social Issues in a Global Context [C4GE] 3.00

## Cluster Five: Individuals in the Human Community

Dr. David Daniel, Cluster Five Coordinator

Through studying the many variables that influence human behavior in contemporary society, students gain an understanding of the relationship between the individual and a diverse community and develop a sense of responsibility for self and community. Students explore how individuals develop and function in the social, psychological, emotional, physical and spiritual dimensions.

### Cluster Five Learning Objectives

After completing Cluster Five: Individuals in the Human Community, students will be able to do the following:

In the Wellness Domain

- Understand the dimensions of wellness, the various factors affecting each dimension and how dimensions are interrelated.
- Understand the relationship between personal behaviors and lifelong health and wellness.
- Assess their own levels of health and wellness and understand how these levels impact their quality of life.
- Identify and implement strategies to improve their wellness.

In the Sociocultural Domain

- Understand how individual and sociocultural factors interact in the development of the beliefs, behaviors and experiences of oneself and others.
- Discern the extent to which sources of information about the sociocultural domain are reputable and unbiased.
- Evaluate the extent to which the approach to and uses of psychosocial research are ethical and appropriate.

### Cluster Five Structure

In Cluster Five, students learn about themselves and others as individuals and as members of different communities. The courses within this six credit-hour cluster may be taken concurrently or individually, in any order.

Students are expected to complete Cluster Five course work during their first two years at the university and are strongly encouraged to complete their Wellness Domain coursework in their first year. Students are required to complete one course each in both the Wellness and Sociocultural Domains.

#### Wellness Domain

Courses in this area examine the individual behaviors that influence the dimensions of health and wellness. Students will gain knowledge and conduct self-assessments relating to a variety of health topics. In addition, students will learn strategies that improve lifetime health and wellness. Courses include a physical wellness component as a part of the course requirements.

Choose one of the following:

HTH 100. Personal Wellness [C5W] 3.00

KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] 3.00

#### Sociocultural Domain

Courses in this area focus on sociocultural and psychological aspects of individuals interacting within societal contexts. Students study the formation and functions of social relationships and reflect on personal responsibilities to diverse communities within which people function throughout life. Students explore sociocultural and psychological aspects of personal belief systems, self-identity and assumptions about others.

Courses in this area enable students to develop ethical and scientifically-based critical thinking about human behavior and social interaction.

Choose one of the following:

PSYC 101. General Psychology [C5SD] 3.00

PSYC 160. Life Span Human Development [C5SD] 3.00

SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00

WGSS 200. Introduction to Women's, Gender and Sexuality Studies [C5SD] 3.00

# School of Accounting

Dr. Alexander L. Gabbin, **Interim Director**

**Phone:** (540) 568-3074

**Location:** Zane Showker Hall, Room 334

**Website:** <http://www.jmu.edu/cob/accounting>

## Professors

C. Bailey, L. Betancourt, P. Copley, D. Fordham, A. Gabbin, N. Nichols

## Associate Professors

J. Briggs, S. Cereola, D. Hayes, J. Irving, R. Richardson

## Assistant Professors

A. Duxbury, I. Scott

## Lecturers

M. Brown, E. Browning, S. Ferguson, K. Foreman, L. Manktelow, E. Shifflett

## Mission

The School of Accounting is committed to preparing students to be active and engaged citizens who are able to apply accounting and business knowledge for the betterment of individuals and organizations. We value an environment of educational excellence in which:

- Students develop both technical and interpersonal skills necessary for successful professional accounting careers;
- Faculty create and disseminate meaningful intellectual contributions and actively participate in the academic and professional communities; and
- Stakeholders, including alumni, recruiters and others, desire long-term and mutually beneficial relationships with the school.

## Mission Statement

The mission of the undergraduate accounting program is to prepare students for entry into high-quality graduate programs and for positions in business that do not require postgraduate education. Since the B.B.A. degree is part of the College of Business, it reflects the distinctive competencies of the college. In addition, the program delivers foundation accounting courses to all students in the College of Business and to students in a variety of programs across the university.

The school also offers a Master of Science in accounting. Its mission is to prepare students for success in the accounting profession by strengthening the students' technical expertise, enhancing their understanding of professional responsibility and improving their business skills necessary to compete in today's complex and ever changing business environment.

## Goals

The accounting faculty has identified strategic and tactical goals in three major areas: learning objectives for students, intellectual contributions for faculty and service to our profession and the community.

## Learning Environment Objectives

We engage in the scholarship of teaching to prepare students for professional accounting careers in public accounting, industry or the public sector. We provide a learning environment that encourages a commitment to lifelong learning and develops a diverse set of skills in students, including technical competence, information technology proficiency, critical thinking, teamwork and communication.

## Intellectual Contributions Objectives

We engage in the scholarships of discovery, application of knowledge and instructional development to advance knowledge in the field of accounting, to improve business practice, to encourage and support innovative teaching methods and curricula and to foster the intellectual and professional growth of our faculty.

## Service Objectives

We serve our school, college, university, accounting profession and business, and academic communities through active participation and leadership in academic, professional and business organizations.

## Career Opportunities

The programs of study offered by the accounting program provide an educational experience intended to prepare students for a variety of careers in the accounting, financial, auditing, consulting and information systems fields. Some of the job titles held by graduates of our program include the following:

- Audit Partner
- Business Analyst
- Business Consultant
- Chief Financial Officer
- Comptroller
- Tax Adviser
- Computer Systems Consultant
- Controller
- Cost Accountant
- Cost Analyst
- Division Controller
- Tax Partner
- Forensic Accountant
- Fraud Examiner
- Information Systems Coordinator
- Internal Auditor
- Systems Consultant

Our graduates find employment with all of the "Big Four" international public accounting firms, dozens of national, regional and local public accounting firms, government agencies and major international companies. Many of our graduates work for business consulting firms. The field of accounting has one of the highest demands for new graduates of any area in today's market, and accounting graduates enjoy some of the highest starting salaries in the College of Business.

## Co-curricular Activities and Organizations

Beta Alpha Psi is the honors organization for accounting, finance, quantitative finance and computer information systems majors.

## Programs of Study

The School of Accounting offers both an undergraduate and graduate program. The undergraduate degree consists of the four-year major in accounting, leading to the Bachelor of Business Administration (B.B.A.) degree. During their junior year, students may choose to meet with their adviser to discuss enrolling in the five-year Professional Program in Accounting, which leads to the award of the B.B.A. and the Master of Science in Accounting (M.S.A.) degree at the end of five years. For more information on the M.S.A. degree, please refer to the Graduate Catalog.

Students who choose to complete the four-year undergraduate program will have the requisite accounting, business and general education to pursue a variety of career opportunities in accounting and business.



Students are advised that 150 hours of college education are required to be licensed as a Certified Public Accountant in most states. The five-year professional program is therefore recommended for those electing a career in public accounting. The professional program allows the student to concentrate in the areas of taxation or auditing; it also provides a well-rounded background in accounting and other related business disciplines. A student must be admitted to the M.S.A. program in order to enroll in graduate courses. Admission to the M.S.A. program is competitive. M.S.A. program admission requirements are included in the graduate catalog. Students may apply following their junior year and early application for admission is encouraged.

## Special Admission Requirements

To register for ACTG 302, ACTG 303, ACTG 343 or ACTG 377, a student must have:

- been accepted to COB 300.
- completed COB 241 and COB 242 with a "B" or better in each.

In some years, the School of Accounting may require students to pass a COB 241 assessment exam. Students must pass the exam with a score of 80 percent or higher. Students will be contacted directly by the School of Accounting if they are required to take the exam. Students who do not meet the 80 percent threshold will meet with the director of the School of Accounting to outline steps for improving their proficiency in financial accounting. Students may take the exam twice.

## Accounting Major Progression Standards

Students are required to earn a "C-" or better in all upper level prerequisite accounting courses before continuing to the next course in the sequence. Students receiving a "D+" or lower in any upper level accounting course must repeat the course and earn a "C-" or better in order to be awarded a B.B.A. degree with a major in accounting.

Any student having a total of three "W's," "WF's," "D+'s," "D's", "D-'s" or "F's" in required 300 or 400-level accounting courses will be dropped from the major and not permitted to register for additional accounting courses.

Any student having a total of two "W's," "WF's," "D+'s," "D's", "D-'s" or "F's" in any (single) required 300 or 400-level accounting major course will be dropped from the major and not permitted to register for additional accounting courses.

## Accounting, B.B.A.

### Degree and Major Requirements

The Bachelor of Business Administration degree in accounting requires a minimum of 120 credit hours of undergraduate course work. Fifty percent of this work, or 60 credit hours, must be taken outside of the College of Business.

### Certifications

Many graduates desire to gain certifications in their selected area of specialization. The Certified Public Accountant (CPA) is the best known of these certifications. To obtain a CPA license in Virginia, candidates must meet a 150-hour education requirement, including 24 credits in accounting and 24 in business. The U.S. Virgin Islands is the only U.S. jurisdiction that does not require at least 150 hours of education for licensure. The masters in accounting program is highly recommended for those electing a career in public accounting.

In addition to the CPA exam, graduates of our program sit for the Certified Management Accountant (CMA) exam, the Certified Internal Auditor (CIA) exam, the Certified Information Systems Auditor (CISA) exam and others.

### Transfer Credit

All upper-division accounting course work (300-499) must be completed at JMU.

### B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I 3.00 1

COB 202. Interpersonal Skills 3.00

COB 204. Computer Information Systems 3.00

COB 241. Financial Accounting 3.00

COB 291. Business Analytics II 3.00 2

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

MATH 205. Introductory Calculus I [C3QR] 3.00 3 or MATH 235. Calculus I [C3QR] 4.00 3

COB 242. Managerial Accounting 3.00 4,5

### B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management 3.00 5,6

COB 300B. Integrative Business: Finance 3.00 5,6

COB 300C. Integrative Business: Operations 3.00 5,6

COB 300D. Integrative Business: Marketing 3.00 5,6

COB 318. Legal and Ethical Environment of Business 3.00 7

COB 487. Strategic Management 3.00 8

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191.

<sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291.

<sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242.

<sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp.

<sup>6</sup> All four COB 300 courses must be taken during the same semester.

<sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487.

<sup>8</sup> COB 487 must be taken during the senior year.

## Major Requirements

### Core Courses

ACTG 295. Accounting Ethics and Social Responsibility 3.00

ACTG 302. Introduction to the Profession: Role of Accountants 1.00

ACTG 303. Basic Spreadsheet Skills for Accountants 1.00

ACTG 304. Advanced Spreadsheet Skills for Analysis and Reporting Accounting Information 1.00

ACTG 313. Accounting Information Systems 3.00

ACTG 343. Corporate Financial Reporting I 3.00

ACTG 344. Corporate Financial Reporting II 3.00

ACTG 377. Federal Income Tax Accounting 3.00

ACTG 410. Auditing 3.00

ACTG 475. Accounting Decision Making and Control 3.00

## **Total: 24 Credit Hours**

### **Non-Business Electives**

In counting the 60 credit hours of non-business courses, B.B.A. students may include all hours taken in General Education (usually 41), up to a total of nine hours in economics (ECON courses, including ECON 200 and ECON 201, must be counted as economics) and three hours of COB 191. Business Analytics I. The remaining hours, to bring the total to 60, must be taken from outside the College of Business. Students should carefully select these nonbusiness electives to help them gain additional knowledge and expertise for their careers and personal lives.

Students are responsible for their own progress toward graduation. Students must work closely with their advisers and the College of Business Academic Success Center to ensure scheduling of courses consistent with their personal degree completion target, and then study diligently to successfully complete the scheduled course work on time.

## **Recommended Schedule for Majors**

### **First Two Years**

Students planning to major in accounting must be accepted into the College of Business. Admission requirements to the College of Business require completion of 8 lower-level B.B.A. core courses. It is expected that the lower-level B.B.A core curriculum will be completed during the first two years of study along with General Education and non-business elective courses. Students will work with an adviser to develop their schedule of courses for the first two years.

### **Third and Fourth Years**

Students accepted into the College of Business will begin major courses in their junior year. Students will develop an individualized schedule of course work for their junior and senior years during ACTG 302. Introduction to the Profession: Role of Accountants taken in the fall of their junior year.

### **Third Year**

#### **First Semester**

COB 300A. Integrative Business: Management 3.00

COB 300B. Integrative Business: Finance 3.00

COB 300C. Integrative Business: Operations 3.00

COB 300D. Integrative Business: Marketing 3.00

ACTG 302. Introduction to the Profession: Role of Accountants 1.00

ACTG 343. Corporate Financial Reporting I 3.00

#### **Total: 16 Credit Hours**

#### **Second Semester**

ACTG 303. Basic Spreadsheet Skills for Accountants 1.00

ACTG 344. Corporate Financial Reporting II 3.00

ACTG 313. Accounting Information Systems 3.00

General Education or non-business electives: 9 Credit Hours

#### **Total: 16 Credit Hours**

### **Fourth Year**

Up to seven hours of core requirements in economics and calculus may also be taken for General Education credit. Students who take the General Education packages and courses recommended by the College of Business will have only 39 credit hours of additional B.B.A. core requirements.

Any 300-level accounting course not completed in the third year

ACTG 295. Accounting Ethics and Social Responsibility 3.00

ACTG 304. Advanced Spreadsheet Skills for Analysis and Reporting Accounting Information 1.00

ACTG 377. Federal Income Tax Accounting 3.00

ACTG 410. Auditing 3.00

ACTG 475. Accounting Decision Making and Control 3.00

COB 318. Legal and Ethical Environment of Business 3.00

COB 487. Strategic Management 3.00

Any remaining General Education or non-business electives required for graduation; consult your adviser.

# Adult Degree Program

Dr. Windi Turner, **Director**

**Phone:** (540) 568- 4253

**Email:** [adp@jmu.edu](mailto:adp@jmu.edu)

**Location:** Ice House, 127 W. Bruce Street, Room 332

**Website:** <http://www.jmu.edu/adultdegree>

## Mission

The Adult Degree Program (ADP) addresses the needs of adult learners through an innovative, personalized program plan of study. ADP provides students the opportunity to develop an undergraduate degree that meets their individual educational and professional goals.

## Admission

Applicants must have a minimum of 30 transferable credit hours with a grade of "C" or better for each credit hour of college work. Applicants should be 22 or older. With very limited exceptions, students in the Individualized Study major (the Adult Degree Program's academic major) cannot transfer to another major on campus.

## Degrees Offered

ADP students have the opportunity to earn a Bachelor of Individualized Studies (B.I.S.), a Bachelor of Arts (B.A.) in individualized studies or a Bachelor of Science (B.S.) in individualized studies. The General Education core requirements differ by degree.

## *Individualized Studies, B.A.*

### Program Requirements

- Completion of IS 200. Individualized Studies Major Program Development is required.
- A minimum of 120 credit hours will be required for graduation. The specific program agreement will be designed in consultation with a faculty adviser.
- A program agreement for meeting the requirements of the degree must be submitted to the Adult Degree Program office for approval while enrolled in the IS 200 course.
- To earn a B.I.S. degree, the student must complete minimum of 41 General Education credit hours.
- To earn a B.A. degree, a student must earn the above 41 credit hour requirements, plus an additional three hours of philosophy and six hours of foreign language at the intermediate (200) level for a total of 50 General Education credit hours.
- To earn a B.S. degree, a student must earn the above 41 credit hours, plus an additional three hours to meet the quantitative requirement and an additional three hours to meet the scientific literacy requirement for a total of 47 General Education credit hours.
- A student's concentration, or field of study, consists of a minimum of 30 credits, at least 24 of which must be upper-division credit (300- and 400-level courses). The concentration shall include classes from two or more academic disciplines and represent a coherent body of knowledge, which may require course work beyond the 30 minimum credit hours.
- No more than 30 credit hours of course work can be selected from courses taught by the College of Business. This 30 credit hour limit includes COB courses transferred from other colleges and nontraditional credit earned in the COB.
- The concentration must be completed with a GPA of 2.0 or better.
- A minimum of 15 credit hours in the concentration must be JMU credits.
- IS 498. Individualized Study Project, is a capstone course that is directly related to the student's concentration or field of study. The project is coordinated by a content area faculty member and must be completed with a minimum grade of "C." A final oral report must be presented on the project.
- ADP requires all students to take the Honor Code test.
- Each graduate must have earned a minimum of 30 credit hours at JMU (a maximum of eight non-traditional credits may be applied to the JMU hours requirement).
- At least 60 credit hours must be earned from four-year institutions.
- ADP students are expected to participate in assessment activities. Assessment information is used to assist faculty in modifying curricula.
- There is no residency requirement; however, program agreements that extend beyond six years may need to be amended if university policies change that affect the original program agreements.

### Program of Study

As an individualized studies major, each ADP student puts together an individual program plan that includes the following: General Education Requirements - minimum of 41 credits. A listing of acceptable courses to fulfill these requirements for ADP is available from the ADP website.

- Social and Behavioral Science (6 credits)
- Humanities (6 credits)
- Natural Science (6 credits)
- Written Communications (6 credits)
- Oral Communications (3 credits)
- Mathematics (3 credits)
- US History (4 credits)
- General Education Electives (7 Credits)
- Additional Requirements for:
  - Bachelors of Science in Individualized Studies: Natural Science (3 credits) and Mathematics (3 credits)
  - Bachelors of Arts in Individualized Studies: Philosophy (3 credits) and Language (6 credits at the 200-level or higher)

### Individualized Studies Major Concentration

This is the focus area of student's individualized studies degree. The concentration is cross disciplinary and is comprised of classes from two or more academic programs chosen to meet the student's educational and/or professional goals:

- Minimum of 30 credits.
- 24 credits must be completed in 300- or 400-level courses
- IS 498. Individualized Study Project - capstone research project, included in the 24 upper-level course requirements
- Electives - All other credits

- IS 200. Individualized Studies Major Program Development (required)
- IS 206. Researching, Writing and Documenting Prior Learning (optional, for students pursuing credit for prior learning experience only)
- 100- and 200-level courses not used elsewhere
- 000 general credit transfer courses

### Mechanisms for Earning Credit

The number of credits, which might be accepted or earned through the following methods, is determined by the student's approved program. It is reasonable to expect that the unique educational needs, background and personal circumstances of each student will determine to a great extent the manner in which credit has been and will be earned.

- Transfer credit
- Credit by departmental examination
- Credit for sponsored learning or independent studies
- Regular course work
- Credit for experiential learning through portfolio evaluation (See below)\*
- Credit for educational programs of the Armed Forces
- College Level Examination Program (CLEP)\*
- American Council on Education College Credit Recommendation Service (ACE)\*

\*Non-traditional credits; no more than 30 non-traditional credits can be counted towards degree requirements of 120.

### Online Academic Modules

Online academic modules have been developed in cooperation with academic units at the university. Students can use these modules when developing their concentration. Current modules include:

- Autism Spectrum Disorders
- Business Technology
- Entrepreneurship
- and Workplace Communication
- Human Resource Development
- Professional

### *Individualized Studies, B.I.S.*

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Online academic modules have been developed in cooperation with academic units at the university. Students can use these modules when developing their concentration. Current modules include:

- Autism Spectrum Disorders
- Business Technology
- Entrepreneurship
- Human Resource Development
- Professional and Workplace Communication

### Prior Learning Assessment

College level learning, acquired through other than traditional classroom experience, must be documented by the student. Procedures for doing so have been established by the ADP office. Requests for experiential learning credit should be submitted as soon as possible after an ADP student completes IS 200 and IS 206E. Experiential learning credit is not transferable to a traditional degree program. ADP students requesting experiential learning credit must complete IS 206E. Prior Learning Experience: Research and Writing the Portfolio. A fee is charged for each learning component evaluated by academic units for credit.

### College Credit Recommendation Service

ADP accepts some but not all credits as recommended in the National Guide to Educational Credit for Training Programs and the Guide to Educational Credit by Examination prepared by the American Council on Education. Additional information on program policies and procedures is available through the ADP website.

### College-Level Examination Program

The Adult Degree Program at JMU participates in the College-Level Examination Program. CLEP is a national program of credit by examination that offers students an opportunity to obtain recognition for achievement in specific college courses.

Interested individuals may schedule a CLEP test by directly contacting the Adult Degree Program office.

### Credit/No-Credit

Students enrolled in ADP may take courses on a credit/no-credit basis if they have completed 28 credit hours of college course work and have a 2.25 cumulative GPA.

Courses in the area of concentration, including the senior project, may not be taken on a credit/no-credit basis. Other provisions of the credit/no-credit option, as described in this catalog, will also be in effect.

# School of Art, Design and Art History

Dr. Katherine A. Schwartz, Director

Phone: (540) 568-6216/6661

Email: schwarka@jmu.edu

Location: Duke Hall, Room 1011

Website: <http://www.jmu.edu/art>

## Professors

A. Adesanya, S. Choi, T. Cole, C. Diop, D. Ehrenpreis, L. Halpern, L. Katzman, J. McCaslin, D. McCusker, J. Ott, M. Rooker, K. Schwartz, M. Shanahan, R. Silberman, G. Stewart, W. Tate, R. Tomhave, L. Tubach, C. Welter, W. Wightman, S. Zurbrigg

## Associate Professors

A. Barnes, S. Brooks, D. Hardy, R. Hilliard, W. Stevens, A. Taylor, K. Tollefson-Hall

## Assistant Professors

C. Henriques, R. Mertens, K. Phaup, E. Tickle

## Mission Statement

We collaborate as creators and scholars to advance diversity and independent thought through rigorous practice and research.

## Goals

The School of Art, Design and Art History discerns the following five distinct teaching goals:

- To prepare future professionals with a global perspective.
- To develop and license future leaders in the field of education.
- To enrich the general education of the JMU community.
- To offer professional instruction for students who wish to enrich their education with a second major or minor.
- To present outstanding contemporary exhibition programs.

To meet these goals, the School of Art, Design and Art History offers three degrees, a choice of five majors and select areas of emphasis. PK-12 Licensure is available to every School of Art, Design and Art History major, regardless of their degree track. Minors are offered in select areas. All degrees require a minimum of 120 credit hours. A full description of degree requirements is listed under degree requirements.

## Career Opportunities and Marketable Skills

Art students at JMU have the opportunity to prepare for a wide variety of art and art-related career fields. Because the School of Art, Design and Art History educates art students as critical thinkers and creative problem solvers, graduates have an enhanced ability to think independently, respond flexibly, work productively and compete successfully for employment in career fields that value original and thoughtful creativity. Some possible careers include:

- Advertising Designer
- Architectural Designer
- Artist
- Art Critic
- Art Educator
- Art Historian
- Ceramicist
- Conservator
- Gallery Owner
- Graphic Designer
- Illustrator
- Industrial Designer
- Jeweler
- Multimedia Designer
- Museum Curator/Educator
- Painter
- Photographer
- Printmaker
- Sculptor
- Textile Designer

To discuss specific career options, students should contact the school and make an appointment with a member of the faculty.

## Accreditation

Supplementing JMU's general accreditation, all degrees offered by the School of Art, Design and Art History are professionally accredited by the National Association of Schools of Art and Design. In addition, the Art Education program is also accredited by the National Council for Accreditation of Teacher Education (now CAEP).

## Special Admission Requirements

Phone: (540) 568-6216/6661 Email: [art-arthistory@jmu.edu](mailto:art-arthistory@jmu.edu)

Website: <http://www.jmu.edu/art>

## Art History Majors

Students intending to major in art history are not required to submit a portfolio, but should follow the regular JMU admissions process. To be considered for departmental scholarships, students must submit a resume, writing sample and short essay to the department. To enroll in the museum studies concentration in art history, students must have a 3.3 GPA in the major and a minimum of nine credits in art history and general education art history courses.

## Architectural Design, Art Studio, Graphic Design, and Industrial Design Majors

All prospective freshmen, transfer and change of major students intending to major in architectural design, graphic design or studio art must meet JMU admission requirements as stated in the Undergraduate Catalog. In addition to meeting JMU admission requirements, all students seeking the BFA in architectural design, art studio or graphic design, or the BS in industrial design are required to submit a portfolio to the school's SlideRoom account (<https://jmuart.slideroom.com>). The submission of a portfolio is optional for students seeking the BA and BS in art studio. All students, regardless of degree type, who wish to be considered for a scholarship must submit a portfolio to SlideRoom. The submission of a portfolio is seen as evidence of a student's interest and potential for future success in art. The deadline for submitting portfolios to the school's SlideRoom site is the first Monday after the last portfolio review day in the spring semester. There is a \$10 charge for this submission.

## Transfer and Change of Major Students

Transfer and change of major students seeking the BFA in architectural design, art studio, or graphic design or the BS in industrial design are required to submit a portfolio and also need to upload unofficial transcripts and a statement of intent to the school's SlideRoom account that explains their educational and artistic goals, articulating the reasons for choosing this area of study.

## On-Campus Portfolio Review Days and Scholarships

All students who would like to be considered for scholarships are required to attend one of the on-campus portfolio review days. Students will show their original art and participate in a faculty interview. If time-based media examples (video and animation) are included, students will need to bring their own digital device for presentation purposes. Refer to the SDAH website for the dates of the upcoming portfolio review days and for additional portfolio requirements. All scholarship awards are based on merit and vary in amount, up to the full cost of tuition. Tours of facilities and program information sessions will take place at on-campus events.

## Off-Campus Portfolio Review Days

The SADAH also offers students the opportunity for feedback on their portfolio, prior to their digital submission and before an on-campus portfolio scholarship interview. The portfolio review events provide an opportunity for feedback on actual artwork, as well as an opportunity to meet with faculty from the school. All prospective freshmen, transfer and change of major students are strongly encouraged to attend a portfolio review day, on or off campus, prior to submitting their portfolio.

## Graphic Design

Students seeking official acceptance into the graphic design major must enroll in GRPH 208 and submit a portfolio representing work completed in GRPH 200, GRPH 201 and GRPH 206. Students not admitted may reapply the following semester.

## Architectural Design

Students seeking official acceptance into the architectural design major must enroll in ARCD 208 and submit a portfolio representing work completed in ARCD 200 and ARCD 202. Students not admitted may reapply the following year.

## Industrial Design

Students seeking acceptance into the advanced industrial design courses must enroll in INDU 208 and submit a portfolio representing work comprised of projects completed in INDU 200, INDU 202, GRPH 201, INDU 220, INDU 380 and independent design related work. Students not admitted may reapply one time.

## Architectural Design, B.F.A.

**Coordinator:** Evelyn Tickle

**Phone:** (540) 568-6696

**Email:** tickleec@jmu.edu

The B.F.A. in architectural design educates future design leaders. It is an intensive program focused on rigorous design processes. Architectural design is approached holistically-emphasizing investigations into the nature of materials and objects, interior space, ergonomics, history and theory, programmatic invention, functional poetics, and collaboration across disciplines. The curriculum instills purpose, craft, technological competencies and versatile thinking.

## Admission Requirements

Admission to the B.F.A. in architectural design is selective and competitive for a limited number of reserved seats in upper-division (300-400 level) architectural design courses. Declaration of architectural design as a major and completion of lower-division (100-200) prerequisite art courses does not guarantee admission into the program. Admission to upper-division ARCD courses is based on completion of all prerequisite art courses and merit as determined by faculty review of portfolios submitted in satisfaction of the course ARCD 208. Portfolio Review. ARCD 208 is a 0 credit, pass/fail course that functions as a prerequisite to enrollment in 300-400 level architectural design courses. Students should enroll in ARCD 208 during the semester in which they are enrolled in ARCD 202. ARCD 208 portfolios are reviewed during the spring semester (February) prior to pre-registration. Students should contact the area coordinator of architectural design to determine the exact time and location for the ARCD 208 portfolio review.

Any art major may take ARCD 200 and ARCD 202, but is restricted from taking any 300-400 level architectural design course until ARCD 208 has been taken and passed.

Accepted students who receive a passing grade for ARCD 208 will be able to register for ARCD upper division courses for the following semester. Students not accepted will have one opportunity to reapply the following spring semester or may choose to continue in another major within the SADAH.

## Degree Requirements

### Required Courses

General Education courses *41 Credit Hours*<sup>1</sup>

University electives *1 Credit Hours*

Major requirements (listed below) *78 Credit Hours*

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Total: 120 Credit Hours

### Major Requirements

This major requires 78 credit hours in art, art history and art-related courses; 45 must focus on architectural design.

### Required Courses

#### Foundation Courses: 18 Credit Hours

ART 102. Two-Dimensional Design (0,6) *3.00*

ART 104. Drawing I (0,6) *3.00*

ART 106. Three-Dimensional Design (0,6) *3.00*

ART 108. Drawing II (0,6) *3.00*

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] *3.00*

ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] *3.00*

#### Required Concentration Courses: 51 Credit Hours

ARCD 200. Architect Design Studio I *6.00*

ARCD 202. Architect Design Studio II *6.00*

ARCD 208. Portfolio Review *0.00*

ARCD 220. CAD I: 3D Modeling *3.00*

ARCD 300. Architect Design Studio III *6.00*

### Total: 78 Credit Hours

## Recommended Schedule for Majors

### First Year

General Education *12 Credit Hours*

Art Foundations *18 Credit Hours*

### Total: 30 Credit Hours

### Second Year

ARCD 200. Architect Design Studio I *6.00*

ARCD 302. Architect Design Studio IV *6.00*

ARCD 330. Materials and Methods I *3.00*

ARCD 370. History of Interior Architecture *3.00*

ARCD 376. Modern Architecture *3.00*

ARCD 400. Architect Design Studio V *6.00*

ARCD 402. Architect Design Studio VI *6.00*

ARCD 440. Professional Design Practices *3.00*

ARCD 496. Internship *0.00*

### Art, Design and Art History Electives: 9 Credit Hours

Electives may include courses from studio art, art history, art education, industrial design and graphic design with a minimum of three credits at the 300-400 level, excluding courses taken as part of major requirements, ARTH 490, ARTH 495 and ARTH 499.

ARCD 202. Architect Design Studio II *6.00*

ARCD 220. CAD I: 3D Modeling *3.00*

ARCD 208. Portfolio Review *0.00* (spring)

ARCD 370. History of Interior Architecture *3.00*

ARCD 376. Modern Architecture *3.00*

General Education *15 Credit Hours*

### Total: 36 Credit Hours



### Third Year

ARCD 300. Architect Design Studio III 6.00  
ARCD 302. Architect Design Studio IV 6.00  
ARCD 330. Materials and Methods I 3.00  
ARCD 440. Professional Design Practices 3.00  
ARCD 496. Internship 0.00<sup>1</sup>  
Art, Design and Art History Elective Courses  
General Education 6 Credit Hours

<sup>1</sup> ARCD 496 is typically completed during the summer.

**Total: 30 Credit Hours**

### Fourth Year

ARCD 400. Architect Design Studio V 6.00  
ARCD 402. Architect Design Studio VI 6.00  
Art, Design and Art History Elective Courses  
Education 9 Credit Hours

**Total: 27 Credit Hours**

### Footnotes

### *Art Education Professional PK-12 Licensure*

**Coordinator:** Dr. Karin Tollefson-Hall      **Phone:** (540) 568-4304      **Email:** tollefk1@jmu.edu

Art education professional PK-12 licensure is available to all studio and design majors. In addition to the general education and academic major requirements, students desiring PreK-12 teaching licensure in art must complete 23 credits of additional course work in art education, education and psychology, and 16 credits of student teaching. It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses. For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education.

Students seeking licensure are encouraged to consult regularly with the program coordinator of art education. The undergraduate degree leading to licensure must include the following minimum requirements in art:

- Nine credits must be earned in art history and art appreciation.
- Six credits must be earned in ceramics and crafts, with a minimum of one course in ceramics.
- Six credits must be earned in three-dimensional media, with one course in sculpture.
- Twelve credits must be earned in four different two-dimensional media.
- Twenty-seven studio credits, with a minimum of six credits in each of three separate studio areas.

### Course Requirements

The following is a list of the required courses leading to PK-12 art licensure and a suggested sequence of when each may be taken.

#### Required Courses

ART 304. Methods of Art Criticism 3.00 (spring, second year)  
ARED 300. Elementary Art Education Methods (1, 4) 3.00 (fall, third year)  
ARED 302. Secondary Art Education Methods 3.00 (spring, third year)  
ARED 400. Visual Arts Across the Curriculum (1,4) 3.00 (fall, fourth year)  
ARED 490. Field Experiences in Art Education 1.00-3.00 (repeatable; taken concurrently with ARED 300, ARED 302 and ARED 400)

**Total: 15 Credit Hours**

#### Footnotes

<sup>1</sup> PSYC 160 may double-count toward General Education Cluster Five

#### Required Education and Psychology Courses

PSYC 160. Life Span Human Development [C5SD] 3.00<sup>1</sup>  
EDUC 300. Foundations of American Education 3.00  
LED 420. Content Area Literacy, K-12 2.00  
ARED 480. Student Teaching 8.00 (spring, fourth year)

**Total: 24 Credit Hours**

### *Art History Minor*

#### Minor Requirements

Students enrolled in any degree program may minor in art history by completing a minimum of 18 credit hours in art history courses, as the following chart shows. At least six of these credit hours must be 400-level art history courses. The student's minor program is subject to approval by the school director.

#### Required Courses

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
Art history courses (300-400 level) 12 Credit Hours<sup>1</sup>

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> For studio art, graphic design and architectural design majors, required ARTH courses in the art emphasis program may count toward the art history minor. Excludes ARTH 390, ARTH 490, ARTH 495 and ARTH 499.

### *Art History, B.A.*

**Coordinator:** Dr. Maureen Shanahan      **Phone:** (540) 568-6029      **Email:** shanahmg@jmu.edu

The Bachelor of Arts in art history is intended for students who wish to study the history of the visual arts, including the cultural and social context in which they were created. It is the mission of the art history program to educate students with a global perspective on the arts.

Western art history is emphasized, coupled with opportunities to study the art of select non-Western traditions. Students majoring in art history will develop a general knowledge of the principle monuments and artists of all major historical art periods. Students also will:

- Become acquainted with the art history of non-Western cultures.
- Locate unfamiliar works within major style periods and cultures.
- Describe, analyze and interpret the form and content of individual works of art in relation to the cultures from which they originate.
- Recognize major art media.
- Understand at least three major historical periods of art in detail.
- Become familiar with art history theory and methods of analysis and criticism.
- Research and write about significant artists, artistic events, periods and artistic concepts.

The art history program encourages majors and minors to participate in internship opportunities at museums, galleries and other art related settings, and it provides up-to-date information about jobs and graduate programs in art history and related fields. Visiting scholars, campus art exhibitions, trips to major museums and the JMU Study Abroad program provide students with opportunities to study and apply their art history knowledge outside the classroom. Upon completion of the art history major, students will have been exposed to

a broad background and knowledge of the opportunities for graduate school and employment. The art history program also advocates cross disciplinary education and actively supports students who double major with other disciplines.

### Internship/Independent Study Credit

A maximum of three credits of art history internship, independent study or honors course work may be applied toward the major in art history. A student may petition the art history coordinator to apply six credit hours toward the art history major if the internship or independent study course work is directly relevant to the student's interests and career goals.

### Requirements for Art History as a Second Major

Students in any degree program may study art history as a second major by completing the 39 credit art history requirement. Students studying art history as a second major do not need to complete the requirements for the B.A. degree if their first major will complete the requirements for a different baccalaureate degree. However, non-B.A. degree students completing art history as a second major are strongly encouraged to complete the B.A. foreign language requirement.

#### Degree Requirements

General Education <sup>1</sup>	41
Foreign Language classes (intermediate level required) <sup>2</sup>	0-14
Philosophy course (in addition to General Education courses)	3
University electives <sup>3</sup>	23-37
Major requirements	39
	120

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language, Literature and Culture's placement test.

<sup>3</sup> Depends on number of hours needed to fulfill the B.A. foreign language requirement. If they are completed in six hours, students should use the larger number of general electives to complete a second major or minor that complements art or art history or, for students intending to pursue graduate degrees, to gain reading knowledge of a second foreign language.

#### Major Requirements

The major in art history requires 39 credit hours in art history and studio courses, as the following chart shows. At least six of these credit hours must be 400-level art history courses.

Core courses at the 200 level are broad interpretive overviews of art history that combine lecture and discussion to permit students to learn the content and chronology of world art history; to learn how art historians collect, analyze and synthesize evidence; and engage in introductory exercises in the discipline. They generally include short formal writing assignments and exams with essay sections.

Distributives at the 300 level also combine lecture and discussion, more narrowly survey specific periods or cultures and address aspects of art historical methodology. These courses require longer formal writing assignments and include student research. Courses at the 400 level are seminars on specialized topics that center on advanced student research. A single course may not fulfill more than one distribution requirement.

#### Required Courses

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
 ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

ARTH 300. Art History Seminar 3.00 <sup>1</sup>  
 ARTH 400. Art History Research Portfolio 0.00

#### Non-Western Electives (choose one of the following):

ARTH 312. African Art: Sub-Saharan 3.00  
 ARTH 325. Topics in Non-Western Art and Architecture 3.00-9.00  
 ARTH 418. Modern and Contemporary African Art 3.00  
 ARTH 419. Topics in African Art 3.00

ARTH 424. Arts of Ancient Egypt 3.00  
 ARTH 425. Advanced Topics in Non-Western Art 3.00  
 ARTH 484. Art of the Americas 3.00

#### Cross-Cultural Electives (choose one of the following):

ARTH 326. Topics in Cross-Cultural Art 3.00-9.00  
 ARTH 332. Islamic Art and Architecture 3.00  
 ARTH 426. Advanced Topics in Cross-Cultural Art 3.00-9.00

ARTH 440. City of Jerusalem 3.00  
 ARTH 446. Renaissance Art and the East 3.00  
 ARTH 488. African-American Art 3.00

#### Pre-Modern Elective (choose one of the following):

ARTH 312. African Art: Sub-Saharan 3.00  
 ARTH 327. Topics in Pre-Modern Art 3.00  
 ARTH 332. Islamic Art and Architecture 3.00  
 ARTH 346. Italian Renaissance Art 3.00  
 ARTH 424. Arts of Ancient Egypt 3.00  
 ARTH 427. Advanced Topics in Pre-Modern Art 3.00

ARTH 439. Topics in Medieval Art 3.00  
 ARTH 440. City of Jerusalem 3.00  
 ARTH 446. Renaissance Art and the East 3.00  
 ARTH 449. Topics in Renaissance Art 3.00  
 ARTH 484. Art of the Americas 3.00

#### Modern and Contemporary Elective (choose one of the following):

ARTH 304. History of Photography 3.00  
 ARTH 328. Topics in Modern and Contemporary Art 3.00  
 ARTH 360. Nineteenth Century Art 3.00  
 ARTH 372. Modern Art From 1900-1945 3.00  
 ARTH 380. American Art to 1870 3.00  
 ARTH 382. American Art from 1870 3.00  
 ARTH 404. Topics in the History of Photography 3.00  
 ARTH 406. Monticello 3.00  
 ARTH 418. Modern and Contemporary African Art 3.00

ARTH 419. Topics in African Art 3.00  
 ARTH 428. Advanced Topics in Modern and Contemporary Art 3.00  
 ARTH 459. Topics Seventeenth and Eighteenth Century Art 3.00  
 ARTH 464. Romanticism and Enlightenment 3.00  
 ARTH 469. Topics in Nineteenth Century Art 3.00  
 ARTH 471. Commemoration and Controversy: Public Art in America 3.00  
 ARTH 472. Modern Art Since 1945 3.00  
 ARTH 479. Topics in Twentieth Century Art 3.00  
 ARTH 488. African-American Art 3.00

#### Additional Courses

Art history electives (300-400 level)<sup>1</sup> 12 credit hours  
 Studio art and design electives (any level)<sup>2</sup> 6 credit hours

#### Total: 39 Credit Hours

<sup>1</sup> ART 305. Seminar in Aesthetics, may count as an art history elective. A maximum of three credits from ARTH 490, ARTH 495 or ARTH 499 may count toward the major.

<sup>2</sup> ART 200. Art in General Culture [C2VPA] may not count as a studio art and design elective.

## Recommended Schedule For Majors

### First Year

Choose one of the following: 3 credit hours

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00 or ARTH

206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

Foreign language courses 6 Credit Hours

Cluster One: Skills for the 21st Century 9 Credit Hours

General Education course 3-6 Credit Hours

General electives 6-9 Credit Hours

**Total: 30 Credit Hours**

### Second Year

Choose one of the following: 3 credit hours

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00 or

ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

Choose foreign language (if needed) or general electives 6 Credit Hours

General Education courses 18 Credit Hours

Studio Art elective 3 Credit Hours

**Total: 30 Credit Hours**

### Third Year

Non-Western art history elective 3 Credit Hours

Western art history electives 6 Credit Hours

ARTH 300. Art History Seminar 3.00

General electives 3 Credit Hours

Studio Art elective 3 Credit Hours

General Education courses 12 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Art History electives 12 Credit Hours

General electives 18 Credit Hours

**Total: 30 Credit Hours**

## Art History, Museum Studies Concentration, B.A.

**Coordinator:** Dr. Sarah Brooks

**Phone:** (540) 568-6642

**Email:** brooksst@jmu.edu

The Bachelor of Arts in art history is intended for students who wish to study the history of the visual arts, including the cultural and social context in which they were created. It is the mission of the art history program to educate students with a global perspective on the arts.

Western art history is emphasized, coupled with opportunities to study the art of select non-Western traditions. Students majoring in art history will develop a general knowledge of the principle monuments and artists of all major historical art periods. Students also will:

- Become acquainted with the art history of non-Western cultures.
- Locate unfamiliar works within major style periods and cultures.
- Describe, analyze and interpret the form and content of individual works of art in relation to the cultures from which they originate.
- Recognize major art media.
- Understand at least three major historical periods of art in detail.
- Become familiar with art history theory and methods of analysis and criticism.
- Research and write about significant artists, artistic events, periods and artistic concepts.

The art history program encourages majors and minors to participate in internship opportunities at museums, galleries and other art related settings, and it provides up-to-date information about jobs and graduate programs in art history and related fields. Visiting scholars, campus art exhibitions, trips to major museums and the JMU Study Abroad program provide students with opportunities to study and apply their art history knowledge outside the classroom. Upon completion of the art history major, students will have been exposed to a broad background and knowledge of the opportunities for graduate school and employment. The art history program also advocates cross disciplinary education and actively supports students who double major with other disciplines.

## Requirements for Art History as a Second Major

Students in any degree program may study art history as a second major by completing the 39 credit art history requirement. Students studying art history as a second major do not need to complete the requirements for the B.A. degree if their first major will complete the requirements for a different baccalaureate degree. However, non-B.A. degree students completing art history as a second major are strongly encouraged to complete the B.A. foreign language requirement.

## Degree Requirements

### Required Courses

- General Education: The Human Community 41 Credit Hours <sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours
- University electives 23-37 Credit Hours <sup>3</sup>
- Major requirements 39 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language, Literature and Culture's placement test.

<sup>3</sup> Depends on number of hours needed to fulfill the B.A. foreign language requirement. If they are completed in six hours, students should use the larger number of general electives to complete a second major or minor that complements art or art history or, for students intending to pursue graduate degrees, to gain reading knowledge of a second foreign language.

## Major Requirements

The major in art history requires 39 credit hours in art history and studio and/or courses, as the following chart shows. At least six of these credit hours must be 400-level art history courses.

Core courses at the 200 level are broad interpretive overviews of art history that combine lecture and discussion to permit students to learn the content and chronology of world art history, to learn how art historians collect, analyze and synthesize evidence and engage in introductory exercises in the discipline. They generally include short formal writing assignments and exams with essay sections.

Distributives at the 300 level also combine lecture and discussion, more narrowly survey specific periods or cultures and address aspects of art historical methodology. These courses require longer formal writing assignments and include student research. Courses at the 400 level are seminars on specialized topics that center on advanced student research. A single course may not fulfill more than one distribution requirement.

## Required Courses

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

## Non-Western Electives (choose one of the following):

ARTH 312. African Art: Sub-Saharan 3.00  
ARTH 325. Topics in Non-Western Art and Architecture 3.00-9.00  
ARTH 418. Modern and Contemporary African Art 3.00  
ARTH 419. Topics in African Art 3.00

## Cross-Cultural Electives (choose one of the following):

ARTH 326. Topics in Cross-Cultural Art 3.00-9.00  
ARTH 332. Islamic Art and Architecture 3.00  
ARTH 426. Advanced Topics in Cross-Cultural Art 3.00-9.00

## Pre-Modern Elective (choose one of the following):

ARTH 312. African Art: Sub-Saharan 3.00  
ARTH 327. Topics in Pre-Modern Art 3.00  
ARTH 332. Islamic Art and Architecture 3.00  
ARTH 346. Italian Renaissance Art 3.00  
ARTH 424. Arts of Ancient Egypt 3.00  
ARTH 427. Advanced Topics in Pre-Modern Art 3.00

## Modern and Contemporary Elective (choose one of the following):

ARTH 304. History of Photography 3.00  
ARTH 328. Topics in Modern and Contemporary Art 3.00  
ARTH 360. Nineteenth Century Art 3.00  
ARTH 372. Modern Art From 1900-1945 3.00  
ARTH 380. American Art to 1870 3.00  
ARTH 382. American Art from 1870 3.00  
ARTH 404. Topics in the History of Photography 3.00  
ARTH 406. Monticello 3.00  
ARTH 418. Modern and Contemporary African Art 3.00

## Additional Courses

Art history electives (300-400 level)<sup>1</sup> 12 credit hours  
Studio art and design electives (any level)<sup>2</sup> 6 credit hours

## Total: 39 Credit Hours

### Footnotes

<sup>1</sup> ART 305. Seminar in Aesthetics may count as an art history elective. A maximum of three credits from ARTH 490, ARTH 495 or ARTH 499 may count toward the major.

<sup>2</sup> ART 200. Art in General Culture [C2VPA] may not count as a studio art and design elective.

## Recommended Schedule For Majors

### First Year

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00 or ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
Foreign language courses 6 Credit Hours  
Cluster One: Skills for the 21st Century 9 Credit Hours  
General Education course 3-6 Credit Hours  
General electives 6-9 Credit Hours

### Total: 30 Credit Hours

### Second Year

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00 or ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
Choose foreign language (if needed) or general electives 6 Credit Hours  
General Education courses 18 Credit Hours  
Studio Art Elective 3 Credit Hours

### Total: 30 Credit Hours

### Internship/Independent Study Credit

A maximum of three credits of art history internship, independent study or honors course work may be applied toward the major in art history. A student may petition the art history coordinator to apply six credit hours toward the art history major if the internship or independent study course work is directly relevant to the student's interests and career goals.

### Concentration Requirements

The museum studies concentration enriches the art history curriculum by offering course work that examines the critical role that museums have played in constructing the discipline and pedagogy of art history. History and theory-oriented classes will introduce students to the role and function of museums in society and the ways in which museums both reflect and perpetuate the values of the cultures that create them. Experiential practice or internship courses will expose students to the wide range of work conducted in museums, including curation, collections management, conservation, education, design and installation, media and public relations, publications, development and administration.

While the concentration is academic and not vocational, it offers students valuable hands-on experience beneficial for admission into graduate school and entry into the competitive market of art-related professions. Virginia is a state that boasts a plethora of art museums, house museums, history museums, and historic and archaeological sites. Art history majors who complete the concentration will be well positioned for seeking employment in regional and state museums.

ARTH 300. Art History Seminar 3.00<sup>1</sup>  
ARTH 400. Art History Research Portfolio 0.00

ARTH 424. Arts of Ancient Egypt 3.00  
ARTH 425. Advanced Topics in Non-Western Art 3.00  
ARTH 484. Art of the Americas 3.00

ARTH 440. City of Jerusalem 3.00  
ARTH 446. Renaissance Art and the East 3.00  
ARTH 488. African-American Art 3.00

ARTH 439. Topics in Medieval Art 3.00  
ARTH 440. City of Jerusalem 3.00  
ARTH 446. Renaissance Art and the East 3.00  
ARTH 449. Topics in Renaissance Art 3.00  
ARTH 484. Art of the Americas 3.00

ARTH 419. Topics in African Art 3.00  
ARTH 428. Advanced Topics in Modern and Contemporary Art 3.00  
ARTH 459. Topics Seventeenth and Eighteenth Century Art 3.00  
ARTH 464. Romanticism and Enlightenment 3.00  
ARTH 469. Topics in Nineteenth Century Art 3.00  
ARTH 471. Commemoration and Controversy: Public Art in America 3.00  
ARTH 472. Modern Art Since 1945 3.00  
ARTH 479. Topics in Twentieth Century Art 3.00  
ARTH 488. African-American Art 3.00

### Third Year

Non-Western art history elective 3 Credit Hours  
Western art history electives 6 Credit Hours  
ARTH 300. Art History Seminar 3.00  
General electives 3 Credit Hours  
Studio Art elective 3 Credit Hours  
General Education courses 12 Credit Hours

### Total: 30 Credit Hours

### Fourth Year

Art History electives 12 Credit Hours  
General electives 18 Credit Hours

### Total: 30 Credit Hours

The museum studies concentration consists of five courses (15 credit hours). Students are required to complete three core courses and two elective courses. Students may only count three credit hours toward both the art history major and the museum studies concentration.

A 3.3 GPA in the minimum of nine credits in Art History (ARTH) and General Education Art History (ARTH) courses are required to enroll in the concentration. To apply, students submit an unofficial transcript to the area coordinator. Students may apply to the concentration in the fall or spring semester, but no later than the last day of the course add registration deadline.

### Required Courses

ARTH 394. Introduction to Museum Work 3.00 or HIST 394. Introduction to Museum Work 3.00

ARTH 408. The Museum: History and Controversies 3.00 or HIST 408. The Museum: Histories and Controversies 3.00  
ARTH 495. Internship in Art History 1.00 - 3.00

### Electives (choose two of the following):

ARTH 301. Institutions and Professions in Art History 3.00

ARTH 309. Topics in Museum Studies 3.00

ARTH 396. Introduction to Public History 3.00 or HIST 396. Introduction to Public History 3.00

ARTH 406. Monticello 3.00 or HIST 406. Monticello 3.00

ARTH 409. Topics in Museum Studies 3.00

ARTH 491. Exhibition Seminar 3.00

HIST 440. The History Museum 3.00

ARTH 492. Material Culture 3.00 or ANTH 492. Material Culture 3.00 (A) or HIST 492. Material Culture 3.00

ARTH 493. Historic Preservation 3.00 or HIST 493. Historic Preservation 3.00

ANTH 494. Field Techniques in Archaeology 4.00 - 8.00 (A,F)

**Total: 15 Credit Hours**

### Art Minor

#### Minor Requirements

Students may select a minor from the following areas. A minimum of 18 credit hours is required for any minor. The art minors attempt to:

- Broaden students' understandings of the value and role of the visual arts in general culture.
- Deepen their appreciation for personal artistic production.
- Enhance their creativity and ability to think independently.

#### Required Courses

ART 102. Two-Dimensional Design (0,6) 3.00

ART 104. Drawing I (0,6) 3.00

Art or art-related courses (any level) 6 Credit Hours 1

Art or art-related courses (300-400 level) 6 Credit Hours 2

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> Art and design studio courses are restricted to ARCD, ART, GRPH, and INDU courses, but do not include ART 200, ART 205, ART 305, ART 491, ART 493, ART 496 and ART 499.

<sup>2</sup> These 300-400 level courses cannot count toward the students' major(s).

### Art, Studio, B.A.

**Coordinator:** Corinne Diop

**Phone:** (540) 568-6485

**Email:** diopcj@jmu.edu

The B.A. in studio art is designed for students who seek a breadth of knowledge in the visual arts and who have an interest or background in the humanities and foreign language. The studio art faculty is made up of practicing artists who work closely with the students, and students also work closely with each other as they develop their studio practice. Visiting artists and scholars, workshops, field trips and frequent on-campus exhibitions of professional artwork enhance student engagement with contemporary art. Additionally, students have opportunities to exhibit and present their artwork, to assist in running on-campus galleries and studio art labs and to partake in other hands-on art experiences.

Students graduating with a B.A. in Studio Art will:

- Display technical command of at least one medium and display fluency in a range of media.
- Effectively analyze and apply two- and three-dimensional design principles and devices
- Develop an independent line of creative inquiry that embraces risk-taking and inventive solutions
- Knowledgeably critique and contextualize their artwork to cultivate expressive ideas and meaningful content
- Demonstrate awareness of contemporary art and art history within a global context

#### Degree Requirements

##### Required Courses

• General Education 41 Credit Hours <sup>1</sup>

• Foreign Language courses (intermediate level required) 0-14 Credit Hours <sup>2</sup>

• Philosophy course (in addition to General Education courses) 3 Credit Hours

• University electives 17-31 Credit Hours

• Major requirements (listed below) 45 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language, Literature and Culture's placement test.

#### Major Requirements

The studio art major requires a minimum of 45 credit hours in art and art history.

##### Required Art Courses

##### Foundation Courses

ART 102. Two-Dimensional Design (0,6) 3.00

ART 104. Drawing I (0,6) 3.00

ART 106. Three-Dimensional Design (0,6) 3.00  
ART 205. Professional Practices in Art 3.00

### 3-D Studio Art courses (choose one of the following):

ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00  
ART 222. Introductory Ceramics: Handbuilding (0,9) 3.00  
ART 232. Introduction to Fiber Arts: Structures 3.00 or ART 234. Introduction to  
Fiber Arts: Surfaces 3.00

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

ART 240. Metal & Jewelry (0,9) 3.00  
ART 280. Sculpture (0,9) 3.00

### Additional Courses

Studio art courses (300-400 level) 6 Credit Hours <sup>1</sup>  
General art electives (any level) 15 Credit Hours <sup>2</sup>  
Art history elective (300-400 level) 3 Credit Hours <sup>3</sup>

**Total: 45 Credit Hours**

#### Footnotes

<sup>1</sup> The six credits of studio art electives (300-400 level) must be taken in a single studio area. Graphic design and architectural design course credits cannot count as a concentration area. Studio art credits cannot be double-counted.  
<sup>2</sup> A minimum of nine credit hours of general art electives must consist of studio-based courses with an ART prefix (excluding ART 200, ART 304, ART 305, ART 491, ART 493 and ART 496). The other six credit hours of general art electives must consist of any courses with the prefix ARCD, ARED, ART, ARTH, GRPH and INDU. <sup>3</sup> Excludes ARTH 490, ARTH 495 and ARTH 499.

### Recommended Schedule for Majors

#### First Year

ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ART 106. Three-Dimensional Design (0,6) 3.00  
ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
Cluster One: Skills for the 21st Century 9 Credit Hours  
General Education courses 9 Credit Hours

**Total: 30 Credit Hours**

#### Second Year

ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
ART 205. Professional Practices in Art 3.00  
Required studio art course 3 Credit Hours  
Foreign language courses (if needed) 6 Credit Hours  
General Education courses 12 Credit Hours  
General art electives (any level) 3 Credit Hours

**Total: 30 Credit Hours**

### Art, Studio, B.F.A.

**Coordinator:** Corinne Diop

**Email:** [diopcj@jmu.edu](mailto:diopcj@jmu.edu)

**Phone:** (540) 568-6485

The B.F.A. in Studio Art offers concentrations in ceramics, fibers, metals, painting and drawing, photography, printmaking and sculpture, and it is designed for students who aspire to develop a professional art practice as expansively defined in today's world. Students are prepared to produce and exhibit art and to pursue further study at the graduate level. The studio art faculty is made up of practicing artists who work closely with the students, and students also work closely with each other as they develop their studio practice. Visiting artists and scholars, workshops, field trips and frequent on-campus exhibitions of professional artwork enhance student engagement with contemporary art. Additionally, students have opportunities to exhibit and present their artwork, to assist in running on-campus galleries and studio art labs and to partake in other hands-on art experiences. Students graduating with a B.F.A. in studio art will:

- Display technical command of at least one medium and display fluency in a range of media
- Effectively analyze and apply two- and three-dimensional design principles and devices
- Develop an independent line of creative inquiry that embraces risk-taking and inventive solutions
- Knowledgeably critique and contextualize their artwork to cultivate expressive ideas and meaningful content
- Demonstrate awareness of contemporary art and art history within a global context

### Degree Requirements

#### Required Courses

- General Education courses 41 Credit Hours <sup>1</sup>
- University elective 1 Credit Hours
- Major requirements (listed below) 78 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major and Concentration Requirements

The general fine arts concentration requires 78 credit hours in art, art history and art related courses.

### Required Art Courses

#### Foundation Courses

ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ART 106. Three-Dimensional Design (0,6) 3.00  
ART 108. Drawing II (0,6) 3.00

ART 205. Professional Practices in Art 3.00  
ART 305. Seminar in Aesthetics 3.00  
ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

## Studio art courses (choose six of the following): 18 Credit Hours

Courses cannot be double-counted in studio concentration.

- ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00 or ART 222. Introductory Ceramics: Handbuilding (0,9) 3.00  
ART 232. Introduction to Fiber Arts: Structures 3.00 or ART 234. Introduction to Fiber Arts: Surfaces 3.00  
ART 240. Metal & Jewelry (0,9) 3.00  
ART 252. Introductory Painting (0,9) 3.00

- ART 260. Introductory Photography: Black and White (0,9) 3.00  
ART 270. Printmaking: Screenprint (0,9) 3.00 or ART 272. Printmaking: Relief and Intaglio 3.00 or ART 274. Printmaking: Lithography (0,9) 3.00  
ART 280. Sculpture (0,9) 3.00  
GRPH 200. Image Making (0, 6) 3.00

## Studio Concentration (choose one of the following): 15 Credit Hours

Credits taken to fulfill the studio concentration must be taken in a single studio area.

### Ceramics

- ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00  
ART 222. Introductory Ceramics: Handbuilding (0,9) 3.00  
ART 320. Intermediate Ceramics: Molds & Casting (0,9) 3.00  
ART 322. Intermediate Ceramics: Surface Development (0,9) 3.00  
ART 420. Advanced Ceramics: Portfolio Development (0,9) 1.00 - 3.00, repeatable (repeatable to 9 credits)

### Fiber Arts

- ART 230. Introduction to Fiber Processes (0,9) 3.00  
ART 330. Intermediate Fiber Processes (0, 9). 3 credits, repeatable 3.00  
ART 430. Advanced Fiber Processes 1.00 - 3.00, repeatable (repeatable to 9 credits)

### Metals and Jewelry

- ART 240. Metal & Jewelry (0,9) 3.00  
ART 340. Intermediate Metal & Jewelry (0,9) 3.00  
ART 440. Advanced Metal and Jewelry (0,9) 1.00 - 3.00, repeatable  
An additional six credits in ART 340 and/or ART 440

### Painting and Drawing

- ART 252. Introductory Painting (0,9) 3.00  
ART 350. Figure Drawing (0,9) 3.00  
ART 352. Intermediate Painting 3.00  
ART 452. Advanced Painting (0,9) 1.00 - 3.00, repeatable (repeat for credit)

## Art History electives (300-400 level): 6 Credit Hours

Excludes ARTH 490, ARTH 495 and ARTH 499.

## Art and art-related electives: 15 Credit Hours

Studio art and art-related electives may include courses from graphic design, architectural design, art education independent study, industrial design, internships and study abroad studio courses but excludes courses taken to fulfill the studio concentration.

## Total: 78 Credit Hours

## Recommended Schedule for Majors

### First Year

- ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ART 106. Three-Dimensional Design (0,6) 3.00  
ART 108. Drawing II (0,6) 3.00  
ART 205. Professional Practices in Art 3.00  
Cluster One: Skills for the 21st Century 9-12 Credit Hours  
General Education: The Human Community courses 3-6 Credit Hours

### Total: 30 Credit Hours

### Second Year

- ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
Required two- and three-dimensional studio art electives 9 Credit Hours  
Studio concentration 6 Credit Hours  
General Education: The Human Community courses 9 Credit Hours

### Total: 30 Credit Hours

## Art, Studio, B.S.

Coordinator: Corinne Diop

Email: [diopcj@jmu.edu](mailto:diopcj@jmu.edu)

Phone: (540) 568-6485

The B.S. in studio art is designed for students who seek a breadth of knowledge in the visual arts and who have an interest or background in math, the natural sciences or the social sciences. The studio art faculty is made up of practicing artists who work closely with the students, and students also work closely with each other as they develop their studio practice. Visiting artists and scholars, workshops, field trips and frequent on-campus exhibitions of professional artwork enhance student engagement with contemporary art. Students also have opportunities to exhibit and present their artwork, to assist in running on-campus galleries and studio art labs and to partake in other hands-on art experiences. Students graduating with a B.S. in studio art will:

### Photography

- ART 260. Introductory Photography: Black and White (0,9) 3.00  
ART 360. Intermediate Photography: Digital (0,9) 3.00

### Complete three of the following courses:

- ART 362. Intermediate Photography: Experimental Black & White (0,9) 3.00  
ART 364. Intermediate Photography: Large Format (0,9) 3.00  
ART 460. Advanced Photography: Alternative Processes (0,9) 1.00 - 3.00  
ART 462. Advanced Photography: the Prehistory of Photography, Magic and Illusion 1.00 - 3.00  
ART 464. Advanced Photography: The Photograph as Document 3.00  
ART 466. Advanced Photography: Performance for the Lens 3.00  
ART 468. Advanced Photography: Screen-Based Photo/Video 3.00  
ART 469. Photography: Portfolio Development (0,9) 1.00 - 3.00, repeatable

### Printmaking

- ART 270. Printmaking: Screenprint (0,9) 3.00  
ART 272. Printmaking: Relief and Intaglio 3.00  
ART 274. Printmaking: Lithography (0,9) 3.00  
ART 470. Advanced Printmaking (0,9) 1.00 - 3.00, repeatable (repeatable to 6 credits)

### Sculpture

- ART 280. Sculpture (0,9) 3.00  
ART 380. Intermediate Sculpture (0,9) 3.00  
ART 480. Advanced Sculpture (0,9) 1.00 - 3.00, repeatable (repeatable to 9 credits)

### Third Year

- Art history elective (300-400 level) 3 Credit Hours  
Required two- and three-dimensional studio art electives 9 Credit Hours  
Studio concentration 6 Credit Hours  
General or art electives (any level) 3 Credit Hours  
ART 305. Seminar in Aesthetics 3.00  
General Education: The Human Community courses 6 Credit Hours

### Total: 30 Credit Hours

### Fourth Year

- Art history elective (300-400 level) 3 Credit Hours  
Studio concentration 6 Credit Hours  
General or art electives 9 Credit Hours  
General Education: The Human Community courses 12 Credit Hours

### Total: 30 Credit Hours

- Display technical command of at least one medium and display fluency in a range of media
- Effectively analyze and apply two- and three-dimensional design principles and devices
- Develop an independent line of creative inquiry that embraces risk-taking and inventive solutions
- Knowledgeably critique and contextualize their artwork to cultivate expressive ideas and meaningful content
- Demonstrate awareness of contemporary art and art history within a global context

### Required Courses

- General Education requirements *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3 Credit Hours*<sup>2</sup>
- University electives *28 Credit Hours*
- Major requirements (listed below) *45 Credit Hours*<sup>3</sup>

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of nine credit hours of general art electives must consist of studio- based courses with an ART prefix (excluding ART 200, ART 304, ART 305, ART 491, ART 493 and ART 496). The other six credit hours of general art electives must consist of any courses with the prefix ARCD, ARED, ART, ARTH, GRPH and INDU.

### Major Requirements

The studio arts major requires 45 credit hours in art and art history courses.

### Required Courses

#### Foundation Courses

- ART 102. Two-Dimensional Design (0,6) *3.00*
- ART 104. Drawing I (0,6) *3.00*
- ART 106. Three-Dimensional Design (0,6) *3.00*
- ART 205. Professional Practices in Art *3.00*
- ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] *3.00*

- ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] *3.00*
- Studio art electives (300-400 level) *6 Credit Hours*<sup>1</sup>
- General art electives (any level) *15 Credit Hours*<sup>2</sup>
- Art history elective (300-400 level) *3 Credit Hours*<sup>3</sup>

#### 3-D Studio Art courses (choose one of the following): 3 Credit Hours

- ART 220. Introductory Ceramics: Potter's Wheel (0,9) *3.00*
- ART 222. Introductory Ceramics: Handbuilding (0,9) *3.00*
- ART 232. Introduction to Fiber Arts: Structures *3.00* or ART 234. Introduction to Fiber Arts: Surfaces *3.00*

- ART 240. Metal & Jewelry (0,9) *3.00*
- ART 280. Sculpture (0,9) *3.00*

**Total: 45 Credit Hours**

#### Footnotes

<sup>1</sup> The six credits of studio art electives (300-400 level) must be taken in a single studio area. Graphic design, architectural design and industrial design course credits cannot count as a concentration area. Studio art credits cannot be double-counted. <sup>2</sup> Must include a minimum of nine credit hours in studio art. Up to six hours in art history may be included. <sup>3</sup> Excludes ARTH 490, ARTH 495 and ARTH 499.

### Recommended Schedule for Majors

#### First Year

- ART 102. Two-Dimensional Design (0,6) *3.00*
- ART 104. Drawing I (0,6) *3.00*
- ART 106. Three-Dimensional Design (0,6) *3.00*
- ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] *3.00*
- Cluster One: Skills for the 21st Century *9-12 Credit Hours*
- General Education: The Human Community *6-9 Credit Hours*

**Total: 30 Credit Hours**

#### Second Year

- ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] *3.00*
- ART 205. Professional Practices in Art *3.00*
- Required studio art elective *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3 Credit Hours*
- General Education course *9 Credit Hours*
- General art electives (any level) *6 Credit Hours*
- General elective *3 Credit Hours*

**Total: 30 Credit Hours**

### *Art, Studio, Integrated 3D Concentration, B.F.A.*

Greg Stewart, **Coordinator** Phone: (540) 568-6816

The integrated 3D concentration students explore the technical, formal, conceptual and cultural overlaps between sculpture, ceramics, fiber and metals.

Integrated 3D students complete a beginning and intermediate course in each 3D medium. This develops a strong, broad skill base, 3D visualization and thinking skills, habits of investigation with a 3D perspective and knowledge of contemporary practices in 3D media.

Students also complete a six- to 12-credit concentration in their chosen medium and two capstone courses to further develop and refine specialized technical, analytical and creative skills as well as help students to prepare for professional practice.

Upon completion of the degree, integrated 3D students will be well prepared to pursue professional production and exhibition of their own art or more in-depth study at the graduate level. Students graduating with a B.F.A. in studio art with an integrated 3D concentration will:

- Display technical command of at least one medium and display fluency in a range of media



- Effectively analyze and apply two- and three-dimensional design principles and devices
- Develop an independent line of creative inquiry that embraces risk-taking and inventive solutions

- Knowledgeably critique and contextualize their artwork to cultivate expressive ideas and meaningful content
- Demonstrate awareness of contemporary art and art history within a global context

## Degree Requirements

### Required Courses

- General Education courses<sup>1</sup> 41
- University electives 1
- Major requirements 78

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

The integrated 3D emphasis requires 78 credit hours in art, art history and art related courses.

### Required Courses

#### Foundation Courses: 24 Credit Hours

- ART 102. Two-Dimensional Design (0,6) 3.00
- ART 104. Drawing I (0,6) 3.00
- ART 106. Three-Dimensional Design (0,6) 3.00
- ART 108. Drawing II (0,6) 3.00

- ART 205. Professional Practices in Art 3.00
- ART 305. Seminar in Aesthetics 3.00
- ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00
- ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

#### 2D Studio Art courses (choose two): 6 Credit Hours

- ART 252. Introductory Painting (0,9) 3.00
- ART 260. Introductory Photography: Black and White (0,9) 3.00
- ART 270. Printmaking: Screenprint (0,9) 3.00
- ART 272. Printmaking: Relief and Intaglio 3.00

- ART 274. Printmaking: Lithography (0,9) 3.00
- ART 350. Figure Drawing (0,9) 3.00
- GRPH 200. Image Making (0, 6) 3.00

#### 3D Studio Art courses: 24 Credit Hours

Courses cannot be double-counted in studio emphasis.

- ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00 or ART 222. Introductory Ceramics: Handbuilding (0,9) 3.00
- ART 232. Introduction to Fiber Arts: Structures 3.00 or ART 234. Introduction to Fiber Arts: Surfaces 3.00
- ART 240. Metal & Jewelry (0,9) 3.00

- ART 280. Sculpture (0,9) 3.00
- ART 320. Intermediate Ceramics: Molds & Casting (0,9) 3.00 or ART 322. Intermediate Ceramics: Surface Development (0,9) 3.00
- ART 330. Intermediate Fiber Processes (0, 9). 3 credits, repeatable 3.00
- ART 340. Intermediate Metal & Jewelry (0,9) 3.00
- ART 380. Intermediate Sculpture (0,9) 3.00

#### Studio Emphasis (choose one of the following media): 6 Credit Hours

Credits taken to fulfill the studio emphasis must be taken in a single studio area.

##### Ceramics

- ART 320. Intermediate Ceramics: Molds & Casting (0,9) 3.00 or ART 322. Intermediate Ceramics: Surface Development (0,9) 3.00
- ART 420. Advanced Ceramics: Portfolio Development (0,9) 1.00 - 3.00, repeatable (repeatable up to 9 credits)

##### Fiber Arts

- ART 430. Advanced Fiber Processes 1.00 - 3.00, repeatable (repeatable up to 9 credits)
- ART 432. Digital Processes in Fibers 3.00 (repeatable up to 9 credits)
- ART 434. Collaboration in Fiber Arts 3.00 (repeatable up to 9 credits)

#### Required Capstone Courses: 6 Credit Hours

- ART 495. Capstone Seminar: Three-Dimensional Art 3.00 (offered every spring)

#### Art History Electives: 6 Credit Hours

Art history electives (300-400 level) <sup>2</sup> 6 credit hours

#### Additional Courses: 6 Credit Hours

Art and art-related electives <sup>3</sup> 6 credit hours

#### Total: 78 Credit Hours

### Footnotes

<sup>1</sup> This course fulfills the College of Visual and Performing Arts writing-intensive requirement for the major. <sup>2</sup> Excludes ARTH 490, ARTH 495 and ARTH 499. <sup>3</sup> Studio art and art-related electives include courses from graphic design, interior design, art education and internships, but excludes courses taken to fulfill the studio concentration.

## Recommended Schedule for Majors

### First Year

- ART 102. Two-Dimensional Design (0,6) 3.00
- ART 104. Drawing I (0,6) 3.00
- ART 106. Three-Dimensional Design (0,6) 3.00
- ART 108. Drawing II (0,6) 3.00
- ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00
- ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

Cluster One: Skills for the 21st Century 9.00  
Cluster Two: Arts and Humanities 3.00

### Total: 30 Credit Hours

### Second Year

- Required 200- and/or 300-level three-dimensional studio art courses 12.00
- ART 205. Professional Practices in Art 3.00
- Art history elective (300-400 level) 3.00

Cluster Two: Arts and Humanities 6.00  
Cluster Three: The Natural World 6.00

### Total: 30 Credit Hours

#### Third Year

Required 200- and/or 300-level 3D studio art courses 12.00  
ART 305. Seminar in Aesthetics 3.00  
Studio emphasis 6.00  
Cluster Three: The Natural World 4.00  
Cluster Four: Social and Cultural Processes 4.00  
University credit 1.00

### Total: 30 Credit Hours

#### Fourth Year

ART 495. Capstone Seminar: Three-Dimensional Art 3.00 (offered every spring)  
ART 497. Capstone Studio: Three-Dimensional Art 3.00 (offered fall and spring)  
Required two-dimensional studio art electives 6.00  
Art history elective (300-400 level) 3.00  
Cluster Four: Social and Cultural Processes 3.00  
Cluster Five: Individuals in the Human Community 6.00  
Studio emphasis 6.00 or Art and art-related electives 6.00

### Total: 30 Credit Hours

## Graphic Design, B.F.A.

**Coordinator:** Dawn McCusker

**Phone:** (540) 568-6500

**Email:** mccuskm@jmu.edu

The graphic design program provides a professional education with an interdisciplinary approach. Program objectives for the graphic design student are:

- Articulate ideas and understand the fundamental elements and principles of graphic design while using correct terminology pertinent to the field.
- Demonstrate a working knowledge of artistic methods, craft and formal structure as vehicles to enhance a solutions communicative value.
- Demonstrate proficiency in both traditional and digital ways of making.
- Develop diverse problem-solving methodologies that combine theory, research, analytical skills and conceptualization to create effective graphic design solutions.
- Develop a professional graphic design portfolio reflective of one's knowledge and abilities that encompasses the contemporary design market.

The graphic design program objectives are enhanced by frequent field trips to design events, guest speakers, workshops and internship opportunities. Design students have an opportunity to engage with design leaders in the field through field trips, events and participation in a professional design organization.

### Admission Requirements

Admission to the B.F.A. in graphic design is selective and competitive for a limited number of reserved seats in upper-division (300-400 level) graphic design courses. Declaration of graphic design as a major and completion of lower-division (100-200) prerequisite ART and GRPH courses does not guarantee admission into the program. Admission to upper-division GRPH courses is based on completion of all prerequisite GRPH courses and merit as determined by a faculty review of portfolios submitted in satisfaction of GRPH 208. Portfolio Review.

GRPH 208. Portfolio Review is a 0 credit, pass/fail course that functions as a prerequisite to enrollment in all 300-400 level graphic design courses. Students should enroll in GRPH 208 during the semester following completion of lower-level GRPH courses, or concurrently with GRPH 206. GRPH 208 portfolios are reviewed each semester. Students enrolled in GRPH 208 will be emailed at the beginning of the semester and will be informed of the exact time and location of the GRPH 208 portfolio review.

Any art major may take lower-level GRPH courses, but is restricted from taking any 300-400 level graphic design course until GRPH 208 has been taken and passed.

Accepted students who receive a passing grade for GRPH 208 will be able to register for upper-division courses GRPH for the following semester and are required to furnish a Macintosh laptop computer. Purchase recommendations can be found at: <http://www.jmu.edu/computing/purchase/dept.shtml>.

Students not accepted will have one opportunity to reapply in the following semester or may choose to continue in another major within the Art, Design and Art History, School of.

### Degree Requirements

- General Education: The Human Community courses 41 Credit Hours <sup>1</sup>
- University electives 1 Credit Hours
- Major requirements (listed below) 78 Credit Hours

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

This major requires 78 credit hours in art, art history and art-related courses; 36 are graphic design concentration required and elective courses.

### Required Courses

#### Foundation Courses: 18 Credit Hours

ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ART 106. Three-Dimensional Design (0,6) 3.00

#### Required art studio courses (choose four of the following): 12 Credit Hours

ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00 or ART 222.  
Introductory Ceramics: Handbuilding (0,9) 3.00  
ART 232. Introduction to Fiber Arts: Structures 3.00  
ART 234. Introduction to Fiber Arts: Surfaces 3.00  
ART 240. Metal & Jewelry (0,9) 3.00  
ART 252. Introductory Painting (0,9) 3.00

#### Major Courses (Required): 33 Credit Hours

ARCD 303. History of Design 3.00  
GRPH 101. Digital Media Design I (0, 9) 3.00  
GRPH 200. Image Making (0, 6) 3.00  
GRPH 201. Digital Media Design II 3.00  
GRPH 206. Typography I (0, 9) 3.00  
GRPH 208. Portfolio Review 0.00

#### Major Courses (Electives): 15 Credit Hours

Major electives: 6 Credit Hours

ART 108. Drawing II (0,6) 3.00  
ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

ART 260. Introductory Photography: Black and White (0,9) 3.00  
ART 270. Printmaking: Screenprint (0,9) 3.00 or ART 272. Printmaking: Relief  
and Intaglio 3.00 or ART 274. Printmaking: Lithography (0,9) 3.00  
ART 276. Introductory Book Arts: Materials and Structures 3.00

GRPH 306. Typography II (0, 9) 3.00  
GRPH 312. Web Design 3.00  
GRPH 313. Interactive Media 3.00  
GRPH 408. Brand Identity 3.00  
GRPH 497. Graphic Design Capstone 6.00

GRPH 300. Illustration (0, 9) 3.00

GRPH 301. Digital Media Design III 3.00  
GRPH 304. Package Design (0, 9) 3.00  
GRPH 340. Poster Design (0, 9) 3.00  
GRPH 375. Letterpress 3.00  
GRPH 376. Intermediate Book Arts: Concept, Content, Form 3.00

GRPH 390. Independent Study in Graphic Design 1.00 - 3.00  
GRPH 392. Topics in Graphic Design 3.00  
GRPH 496. Internship in Graphic Design 1.00 - 6.00<sup>1</sup>  
Art and art-related electives 2 6 Credit Hours  
Art history electives (300-400 level) 3 3 Credit Hours

#### Footnotes

<sup>1</sup> A maximum of six credit hours of practicum or internship may count toward the degree, but excludes courses taken to fulfill the studio concentration.

<sup>2</sup> Studio art and art-related electives may include courses from general fine arts, architectural design, graphic design, industrial design and internships, but excludes courses taken to fulfill the studio concentration.

<sup>3</sup> Excludes ARTH 490, ARTH 495 and ARTH 499.

### Total: 78 Credit Hours

## Recommended Schedule for Majors

### First Year

#### First Semester

ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
Cluster One: Skills for the 21st Century 3 Credit Hours  
General Education: The Human Community courses 3 Credit Hours

#### Second Semester

ART 106. Three-Dimensional Design (0,6) 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
GRPH 101. Digital Media Design I (0, 9) 3.00  
General Education: The Human Community 6 Credit Hours

### Total: 30 Credit Hours

### Second Year

#### First Semester

ART 108. Drawing II (0,6) 3.00  
GRPH 200. Image Making (0, 6) 3.00  
Two-D or Three-D Studio Art Courses 3 Credit Hours  
General Education: The Human Community courses 6 Credit Hours

#### Second Semester

GRPH 201. Digital Media Design II 3.00  
GRPH 206. Typography I (0, 9) 3.00  
GRPH 208. Portfolio Review 0.00  
Two-D or Three-D Studio Art Courses 3 Credit Hours  
General Education: The Human Community courses 6 Credit Hours

## Industrial Design, B.S.

**Coordinator:** Audrey Barnes

**Email:** barnesal@jmu.edu

**Phone:** (540) 568-7670

The industrial design major seeks to:

- Integrate knowledge of the visual arts with applied design technology.
- Enhance problem-solving and communication skills in the creation of design concepts.
- Develop student knowledge that optimizes the function, value and appearance of manufactured products and systems.

## Degree Requirements

### Required Courses

- General Education requirements 41 Credit Hours<sup>1</sup>
- Quantitative requirement (in addition to General Education courses) 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education courses) 3 Credit Hours
- Major requirements (listed below) 78 Credit Hours

### Total: 125 Credit Hours

Note: Students can double count up to two courses, thus reducing the total credit hours to 119. Students will need to enroll in three additional credit hours to reach the university minimum requirement of 120 credit hours.

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> Quantitative requirements may be double-counted with elective course work in the major. Check with adviser.

## Major Requirements

The industrial design major requires 78 credit hours in art, art history and art-related courses. Of these hours, 42 credits must be in INDU courses, some of which may be the B.S. Natural/Social Science requirement.

### Required Courses

#### Foundation Courses (15 credits)

ART 102. Two-Dimensional Design (0,6) 3.00  
ART 104. Drawing I (0,6) 3.00  
ART 106. Three-Dimensional Design (0,6) 3.00

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00  
ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

### Art and Design Electives (choose two of the following):

ART 220. Introductory Ceramics: Potter's Wheel (0,9) 3.00  
ART 222. Introductory Ceramics: Handbuilding (0,9) 3.00  
ART 230. Introduction to Fiber Processes (0,9) 3.00  
ART 240. Metal & Jewelry (0,9) 3.00  
ART 260. Introductory Photography: Black and White (0,9) 3.00

ART 270. Printmaking: Screenprint (0,9) 3.00 or ART 272. Printmaking: Relief and Intaglio 3.00 or ART 274. Printmaking: Lithography (0,9) 3.00  
ART 280. Sculpture (0,9) 3.00  
ART 305. Seminar in Aesthetics 3.00  
ART 350. Figure Drawing (0,9) 3.00  
ARCD 392. Topics in Architectural Design 3.00

### Required Concentration Courses (21 credits):

INDU 200. Introduction to Industrial Design 6.00 or ARCD 200. Architect Design Studio I 6.00  
INDU 202. Industrial Design Studio 6.00

INDU 208. Portfolio Review 0.00  
INDU 220. CAD I: 3D Modeling 3.00 or ARCD 220. CAD I: 3D Modeling 3.00  
INDU 380. Materials and Processes 3.00

### Elective Concentration Courses (24 credits):

INDU 300. Product Design 6.00  
INDU 302. Transportation Studio 6.00  
INDU 400. Systems and Services 6.00  
INDU 402. Social Innovation and Social Entrepreneurship 6.00

INDU 404. Indu Advanced Special Topics Studio 6.00  
INDU 406. Senior Thesis Studio 6.00 (Instructor Permission Required)  
INDU 408. Swing Studio Option 6.00  
Art History (300 Level)

### Interdisciplinary Electives 9 Credit Hours

#### Society and Culture (choose one of the following): 3 Credit Hours

May fulfill the B.S. Natural/Social Science requirement.

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
ANTH 205. Buried Cities, Lost Tribes: The Rise and Fall of Early Human Societies [C2HQC] 3.00 (A)  
ANTH 233. Anthropology and Photography 3.00 (C)  
SOC 311. Sociology of the Environment 3.00  
SOC 315. Technology and Society 3.00  
SOC 337. Sociology of Gender 3.00

ENGR 498. Advanced Topics in Engineering 1.00-3.00 (Innovation)  
ENGR 498. Advanced Topics in Engineering 3.00 (Realization)  
ENGR 498. Advanced Topics in Engineering 3.00 (Human Centered Design)  
ENGR 498. Advanced Topics in Engineering 3.00 (Innovation Exchange)  
ENGR 498. Advanced Topics in Engineering 3.00 (Systems Design and Placemaking)  
ENGR 480. Advanced Projects in Engineering 1.00 - 4.00  
ISAT 211. Issues in Modern Production Systems 3.00  
ISAT 330. Sustainable Manufacturing Systems 3.00

#### Engineering and Technology

Students selecting ENGR electives must have approval from the course instructor and the INDU adviser.

ENGR 231. Engineering Design I 2.00  
ENGR 232. Engineering Design II 2.00  
ENGR 280. Projects in Engineering 1.00 - 4.00

#### Business, Marketing and Entrepreneurship (choose one):

COB 318. Legal and Ethical Environment of Business 3.00  
MKTG 380. Principles of Marketing 3.00  
MGT 405. Topics in Management for Non-majors 3.00  
MGT 472. New Venture Creation 3.00

**Total: 78 Credit Hours**

### Recommended Schedule for Majors

#### First Year

General Education 12 Credit Hours  
Art Foundations 9 Credit Hours (ART 102, ART 104, ART 106)  
Art History 6 Credit Hours (ARTH 205, ARTH 206)  
Quantitative Reasoning 3 Credit Hours

**Total: 30 Credit Hours**

#### Second Year

General Education 12 Credit Hours  
INDU 200. Introduction to Industrial Design 6.00  
INDU 202. Industrial Design Studio 6.00  
INDU 208. Portfolio Review 0.00  
INDU 220. CAD I: 3D Modeling 3.00  
INDU 380. Materials and Processes 3.00

**Total: 30 Credit Hours**

#### Third Year

General Education 9 Credit Hours  
Scientific Reasoning 3 Credit Hours  
Advanced Studio 6 Credit Hours  
Advanced Studio 6 Credit Hours  
Art and Design Elective 3 Credit Hours  
Interdisciplinary Elective 3 Credit Hours

**Total: 30 Credit Hours**

#### Fourth Year

Advanced Studio 6 Credit Hours  
Advanced Studio 6 Credit Hours  
Art and Design Electives 6 Credit Hours  
General Education 9 Credit Hours  
Interdisciplinary Elective: Business, Marketing and Entrepreneurship 3 Credit Hours

**Total: 30 Credit Hours**

# Department of Biology

Dr. Casonya Johnson, **Department Head**

**Phone:** (540) 568-6225

**Location:** Bioscience Building, Room 2001C

Dr. Kyle Seifert, **Undergraduate Coordinator**

**Website:** <http://www.jmu.edu/biology>

## Professors

M. Davis, M. Gabriele, N. Garrison, H. Griscom, C. Johnson, C. Lantz, C. McMullen, J. Monroe, M. Renfroe, C. Rose, K. Seifert, B. Wiggins, R. Wunderlich, G. Wyngaard

## Associate Professors

S. Babcock, T. Bloss, J. Brown, C. Cleland, I. Cooper, S. Cresawn, J. Daniel, R. Enke, K. Gobetz, S. Halsell, J. Herrick, P. Ludwig, C. May, T. Rife, K. Slekar

## Assistant Professors

K. Cresawn, J. Harsh, K. Kubow, D. McLeod, D. Moseley, M. Parker, M. Steffen, D. Strong, P. Vasudevan, B. Velayudhan, G. Vidal, M. Walker, L. Wurch

## Lecturers

B. Cage, E. Doyle, O. Hyman, T. Hynd, P. Kilkenny, A. Pesce

## Mission Statement

The Department of Biology holds as its primary core value a commitment to providing superlative teaching for students. To accomplish this mission, we will create an environment for learning that will include opportunities for undergraduate research, a broadly based academic program, a supportive, diverse and collaborative faculty, an understanding of the process of science and a recognition of the importance of community outreach and involvement.

## Career Opportunities and Advanced Fields of Study

- Anthropology
- Aquatic Science
- Biodiversity
- Bioinformatics
- Biotechnology
- Botany
- Clinical Laboratory Sciences
- Dentistry
- Ecology and Environmental Science
- Epidemiology
- Forensic Science
- Forestry
- Genetic Counseling
- Graduate School in the Biological Sciences
- Immunology
- Landscape Architecture
- Medicine
- Microbiology
- Microscopy
- Neurobiology
- Nursing
- Occupational Therapy
- Optometry
- Pharmacology
- Physical Therapy
- Physician Assistant
- Physiology
- Research Assistant
- Scientific Writing
- Secondary Education
- U.S. Fish and Wildlife Service
- Veterinary Medicine
- Virology
- Zoology

Students interested in pursuing any of these career opportunities should contact the biology office. An appropriate adviser will be assigned for mentoring and course selection.

## Co-curricular Activities and Organizations

Biology majors participate in activities such as:

- Weekly departmental seminars
- Tri-Beta, a national biology society
- Pre-professional health clubs and honor society
- EARTH, an environmental action club
- Summer and academic-year research opportunities
- Summer courses at biological field stations
- Internships with various organizations
- Aiding in teaching as student assistants
- Presenting papers at meetings
- Volunteering at Rockingham Memorial Hospital and with the rescue squad

## Special Requirements

To be used as prerequisites for biology courses, grades of "C-" or higher should be earned in the following: BIO 140, BIO 150, BIO 240, BIO 250, CHEM 131, CHEM 131L, and CHEM 132. Transfer credit for BIO 140 and/or BIO 150 can be earned from freshmen-year equivalent courses from other institutions. It is the student's responsibility to provide evidence demonstrating the subject content of the course(s) taken is the same as BIO 140 and/or BIO 150 at JMU. To transfer BIO 270 and BIO 290 credit, both semesters of an Anatomy and Physiology course (A&P I and A&P II) must be completed at the "C" or higher level. A single semester of either of these sequences transfers as BIO 000.

Practical hands-on experience in the field and/or laboratory is important content of laboratory based courses. Transfer credit for courses including laboratories will only be awarded for those having skill and application content comparable to that of JMU courses. Upper division biology credits applicable toward the major or minor are transferred as specific courses or as BIO 300, BIO 426 or BIO 427. Credits not applicable toward the major or minor, but applicable toward the 120 hour degree requirement, are transferred as BIO 000. A maximum of eight credit hours of first year (100) level BIO courses may be applied to the biology major or minor requirements.

Students who declared a major in biology before Fall 2016 should consult with their adviser about course requirements.

## *Biology Minor*

**Minor Adviser:** Julia Stutzman

Students who declared a major in biology before Fall 2016 should consult with their adviser about course requirements. The biology minor is not available to biotechnology majors.

## Courses

Students choosing to minor in biology must complete the following courses:

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

Biology elective (300-level and above) 3-4 Credit Hours

**Total: 19-20 Credit Hours**

## Biology, B.A.

### Degree and Major Requirements

The department offers a four-year B.S. degree program for a major in biology and for a major in biology qualifying for the Secondary Collegiate Professional License. Requirements for the B.A. degree can be met by adding the completion of an intermediate level foreign language and three credit hours in philosophy. Students may not receive dual credit toward the biology major for 300- and 400-level BIO courses that are applied toward the biotechnology major.

Biology majors must complete 40 credit hours of biology courses including 16 credit hours at the 300 and 400 level. Specific requirements include four core courses (BIO 140, BIO 150, BIO 240 and BIO 250), at least two upper-division laboratory courses and one course from a list of courses with an emphasis on organismal diversity. In addition, biology majors must complete a set of cognate courses in chemistry, mathematics, statistics and physics that are listed below. Students are encouraged to participate in independent research with a faculty mentor. Credits earned doing research will count toward the biology major but some restrictions apply.

When requested, senior biology majors are expected to participate in program assessment test activities as a graduation requirement. Assessment information helps the department modify the curriculum to meet student needs.

### Credit by Examination

When evidence of sufficient background or preparation is presented, the Department of Biology offers credit by examination in many of its non-lab courses at the discretion of the course instructor or coordinator. Students seeking such credit should make arrangements with the course instructor or coordinator and obtain approval of the department head.

### Teaching Licensure

Biology majors need courses in physics and geology as well as inorganic and organic chemistry for many science education positions.

In addition to the general education and academic major requirements, biology majors desiring secondary teacher licensure must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of in addition to the College of Education.

## Degree Requirements

### Required Courses

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours<sup>2</sup>
- Biology requirements (listed below) 40 Credit Hours
- Cognate requirements (listed below) 31-36 Credit Hours

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### Biology Major Requirements

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

### Total: 16 Credit Hours

### Additional Biology Course Requirements

Students in the biology major must complete at least 24 credit hours of approved biology courses and at least 16 of these must be at the 300 and 400 levels. Also, one course must be from a group of courses on organismal diversity and two courses must have a laboratory component. Courses in both lists may count for both requirements. Three credits of independent research (BIO 497 and/or BIO 499) may be used for one, but only one, of the laboratory courses.

#### Choose at least one organismal diversity courses:

BIO 305. Ornithology (1, 4) 3.00

BIO 309. Marine and Freshwater Invertebrates (3, 0) 3.00

BIO 310. Marine Biology 3.00

BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00

BIO 340. Morphology and Anatomy of Vascular Plants (2, 4) 4.00

BIO 345. Animal Field Biology 3.00

BIO 357. Galapagos Islands: Biodiversity and Conservation 3.00

BIO 360. Plant Biology (3, 0) 3.00

BIO 364. Human Uses of Plants (3, 0) 3.00

BIO 386. Field Botany (3, 3) 4.00

BIO 402. Forest Ecology 4.00

BIO 405. Vertebrate Paleontology (3, 1) 3.00 or GEOL 405. Vertebrate Paleontology 3.00

BIO 412. Mammalogy 4.00

BIO 420. Medical Parasitology (3, 0) 3.00

BIO 470. Morphology of Nonvascular Plants (2, 4) 4.00

BIO 486. Systematics of Vascular Plants (2, 4) 4.00

#### Choose at least two laboratory courses:

BIO 305. Ornithology (1, 4) 3.00

BIO 318. Experimental Vertebrate Development (0, 4) 2.00

BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00

BIO 340. Morphology and Anatomy of Vascular Plants (2, 4) 4.00

BIO 342. Mathematical Models in Biology 3.00 or MATH 342. Mathematical Models in Biology 3.00

BIO 343L. Immunology Laboratory (0, 4) 1.00

BIO 345. Animal Field Biology 3.00

BIO 346. Bacterial Discovery 2.00

BIO 348L. Medical Microbiology Laboratory 1.00

BIO 350. Paleobiology (3, 2) 4.00

BIO 354. Global Climate Change and Life: Ecological and Biological Impacts of Climate Variability (3, 3) 4.00

BIO 364L. Laboratory in Human Uses of Plants (0, 3) 1.00

BIO 366. Environmental Ecology and Evolution (3, 3) 4.00

BIO 370. Animal Physiology (3, 3) 4.00

BIO 386. Field Botany (3, 3) 4.00

BIO 387L. Environmental Microbiology Laboratory 1.00

BIO 400. Geology and Ecology of the Bahamas 3.00 or GEOL 400. Geology and Ecology of the Bahamas 3.00

BIO 402. Forest Ecology 4.00 or GEOG 402. Forest Ecology 4.00

BIO 410. Advanced Human Anatomy (1, 6) 3.00

BIO 412. Mammalogy 4.00

BIO 416. Human Embryology (3, 3) 4.00

BIO 420L. Medical Parasitology Lab (0, 3) 1.00 (taken with BIO 420)

BIO 432. Light Microscopy (2, 4) 4.00

BIO 446. Experimental Neurobiology 4.00

BIO 448. Developmental Neurobiology 4.00

BIO 449. Insect Ecology (2, 4) 4.00  
 BIO 452. Population Ecology (2, 4) 4.00  
 BIO 455. Plant Physiology (3, 3) 4.00  
 BIO 456. Landscape Ecology (3, 3) 4.00  
 BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
 BIO 459. Freshwater Ecology (3, 3) 4.00  
 BIO 460. Plant Biotechnology (2, 4) 4.00  
 BIO 465. Environmental Toxicology (2, 4) 4.00

BIO 470. Morphology of Nonvascular Plants (2, 4) 4.00  
 BIO 480. Advanced Molecular Biology (2, 5) 4.00  
 BIO 481. Genomics (3, 3) 4.00  
 BIO 482. Human Histology (3, 3) 4.00  
 BIO 483. Bioinformatics (3, 3) 4.00  
 BIO 486. Systematics of Vascular Plants (2, 4) 4.00  
 BIO 490. Mechanics of Animal Movement (3, 3) 4.00

### Additional Information

Only one Topics in Biology (BIO 426/427) may fulfill one of the laboratory course and/or organismal requirements. A list of the topics that may be used is available in the biology department office. These can be repeated with a change in topic, but only 12 credits from BIO 426/427 can be applied toward the 40-hour biology course requirement. When choosing additional biology courses to complete the 40 credit hour requirement, students are strongly encouraged to discuss their career interests with an adviser who can help select courses best suited to their needs. Students are encouraged to participate in independent research and teaching courses with a faculty mentor, though a maximum of eight credits of BIO 492, BIO 494, BIO 495, BIO 496, BIO 497, BIO 499 and ISC 450 can be counted toward the biology major.

### Cognate Requirements

The following five groups of support courses are required for the biology major. Consult your academic adviser about which courses are appropriate.

#### Required Courses

##### Complete all of the following: 11 Credit Hours

CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 CHEM 241. Organic Chemistry I 3.00

##### Choose one of the following: 3 Credit Hours

Chemistry beyond the minimum requirement is recommended in many areas of biology. Consult with your adviser about which courses are appropriate. Students who take BIO 361/CHEM 361 in addition to CHEM 242, CHEM 353, CHEM 354 or GEOL 355/CHEM 355 will have BIO 361/CHEM 361 applied toward their BIO 300-400-level elective requirements. BIO 361/CHEM 361 may not be used for both a chemistry cognate and a biology major elective.

CHEM 242. Organic Chemistry II 3.00  
 BIO 361. Biochemistry I (3, 0) 3.00 or CHEM 361. Biochemistry I 3.00  
 CHEM 353. Environmental Chemistry 3.00  
 CHEM 354. Environmental Chemistry Field Camp 3.00  
 CHEM 355. Geochemistry of Natural Waters 3.00 or CHEM 355. Geochemistry of Natural Waters 3.00

##### Choose one of the following sets of courses: 4-7 Credit Hours

Mathematics beyond the minimum requirement is desirable in many areas of biology. Consult your adviser about which courses are appropriate.

MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 232. Calculus with Functions II 3.00 or MATH 233. Modeling Approach to Calculus Part A 3.00  
 MATH 234. Calculus with Modeling II 3.00 or MATH 235. Calculus I [C3QR] 4.00

##### Choose one of the following courses: 3-4 Credit Hours

Statistics beyond the minimum requirement is desirable in many areas of biology. Consult your adviser about which courses are appropriate.

MATH 220. Elementary Statistics [C3QR] 3.00  
 MATH 285. Data Analysis 4.00  
 MATH 318. Introduction to Probability and Statistics 4.00

##### Choose one of the following sets of courses: 8 Credit Hours

PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00  
 PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I [C3PP] 3.00  
 PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
 PHYS 250. University Physics II 3.00  
 PHYS 250L. University Physics Laboratory II 1.00

### Biology Recommended Schedule for Majors

First semester first year biology majors are encouraged to start with a 14-15 hour course load. This will generally include BIO 140, CHEM 131 and CHEM 131L, and/or a math course plus General Education. The work load will then be increased in the second semester based on the level of first semester success.

#### First Year

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00<sup>1</sup>  
 BIO 150. Foundations of Biology II (3,3) 4.00  
 CHEM 131. General Chemistry I [C3PP] 3.00<sup>1</sup>  
 CHEM 132. General Chemistry II 3.00<sup>1</sup>  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 Mathematics courses 4-7 Credit Hours 1  
 General Education: Cluster One 9-12 Credit Hours

**Total: 29-35 Credit Hours**

#### Footnote

<sup>1</sup> Fulfills General Education: Cluster Three.

#### Second Year

BIO 240. Genetics (3,3) 4.00  
 BIO 250. Ecology and Evolution (3,3) 4.00  
 CHEM 241. Organic Chemistry I 3.00  
 CHEM 242. Organic Chemistry II 3.00 or BIO 361. Biochemistry I (3, 0) 3.00 or  
 CHEM 361. Biochemistry I 3.00 or GEOL 355. Geochemistry of Natural Waters 3.00  
 or CHEM 355. Geochemistry of Natural Waters 3.00  
 Mathematics course 3-4 Credit Hours

General Education: from Clusters Two, Four and Five 12 Credit Hours

**Total: 29-30 Credit Hours**

#### Third Year

Upper-level biology laboratory courses 8 Credit Hours  
 Biology elective 3-4 Credit Hours  
 Physics courses 8 Credit Hours  
 General Education: from Clusters Two, Four and Five 7 Credit Hours  
 Electives 6 Credit Hours

**Total: 32 Credit Hours**

#### Fourth Year

Upper-level biology laboratory course 4 Credit Hours  
 Biology electives 9 Credit Hours  
 General Education: from Clusters Two, Four and Five 3 Credit Hours  
 Electives 15 Credit Hours

**Total: 31 Credit Hours**

## Biology, B.S.

### Degree and Major Requirements

The department offers a four-year B.S. degree program for a major in biology and for a major in biology qualifying for the Secondary Collegiate Professional License. Requirements for the B.A. degree can be met by adding the completion of an intermediate level foreign language and three credit hours in philosophy. Students may not receive dual credit toward the biology major for 300- and 400-level BIO courses that are applied toward the biotechnology major.

Biology majors must complete 40 credit hours of biology courses including 16 credit hours at the 300 and 400 level. Specific requirements include four core courses (BIO 140, BIO 150, BIO 240 and BIO 250), at least two upper-division laboratory courses and one course from a list of courses with an emphasis on organismal diversity. In addition, biology majors must complete a set of cognate courses in chemistry, mathematics, statistics and physics that are listed below. Students are encouraged to participate in independent research with a faculty mentor. Credits earned doing research will count toward the biology major but some restrictions apply.

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Biology majors need courses in physics and geology as well as inorganic and organic chemistry for many science education positions.

In addition to the general education and academic major requirements, biology majors desiring secondary teacher licensure must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of, in addition to the College of Education.

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours <sup>2</sup>
- Biology requirements (listed below) 40 Credit Hours
- Cognate requirements (listed below) 31-36 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

#### Biology Major Requirements

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

**Total: 16 Credit Hours**

#### Additional Biology Course Requirements

Students in the biology major must complete at least 24 credit hours of approved biology courses and at least 16 of these must be at the 300 and 400 levels. Also, one course must be from a group of courses on organismal diversity and two courses must have a laboratory component. Courses in both lists may count for both requirements. Three credits of independent research (BIO 497 and/or BIO 499) may be used for one, but only one, of the laboratory courses.

#### Choose at least one organismal diversity courses:

BIO 305. Ornithology (1, 4) 3.00

BIO 309. Marine and Freshwater Invertebrates (3, 0) 3.00

BIO 310. Marine Biology 3.00

BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00

BIO 340. Morphology and Anatomy of Vascular Plants (2, 4) 4.00

BIO 345. Animal Field Biology 3.00

BIO 357. Galapagos Islands: Biodiversity and Conservation 3.00

BIO 360. Plant Biology (3, 0) 3.00

BIO 364. Human Uses of Plants (3, 0) 3.00

BIO 386. Field Botany (3, 3) 4.00

BIO 402. Forest Ecology 4.00

BIO 405. Vertebrate Paleontology (3, 1) 3.00 or GEOL 405. Vertebrate Paleontology 3.00

BIO 412. Mammalogy 4.00

BIO 420. Medical Parasitology (3, 0) 3.00

BIO 470. Morphology of Nonvascular Plants (2, 4) 4.00

BIO 486. Systematics of Vascular Plants (2, 4) 4.00

#### Choose at least two laboratory courses:

BIO 305. Ornithology (1, 4) 3.00

BIO 318. Experimental Vertebrate Development (0, 4) 2.00

BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00

BIO 340. Morphology and Anatomy of Vascular Plants (2, 4) 4.00

BIO 342. Mathematical Models in Biology 3.00 or MATH 342. Mathematical Models in Biology 3.00

BIO 343L. Immunology Laboratory (0, 4) 1.00

BIO 345. Animal Field Biology 3.00

BIO 346. Bacterial Discovery 2.00

BIO 348L. Medical Microbiology Laboratory 1.00

BIO 350. Paleobiology (3, 2) 4.00

BIO 354. Global Climate Change and Life: Ecological and Biological Impacts of Climate Variability (3, 3) 4.00

BIO 364L. Laboratory in Human Uses of Plants (0, 3) 1.00

BIO 366. Environmental Ecology and Evolution (3, 3) 4.00

BIO 370. Animal Physiology (3, 3) 4.00

BIO 386. Field Botany (3, 3) 4.00

BIO 387L. Environmental Microbiology Laboratory 1.00

BIO 400. Geology and Ecology of the Bahamas 3.00 or GEOL 400. Geology and Ecology of the Bahamas 3.00

BIO 402. Forest Ecology 4.00 or

GEOL 402. Forest Ecology 4.00

BIO 410. Advanced Human Anatomy (1, 6) 3.00

BIO 412. Mammalogy 4.00

BIO 416. Human Embryology (3, 3) 4.00

BIO 420L. Medical Parasitology Lab (0, 3) 1.00 (taken with BIO 420)

BIO 432. Light Microscopy (2, 4) 4.00

BIO 446. Experimental Neurobiology 4.00

BIO 448. Developmental Neurobiology 4.00

BIO 449. Insect Ecology (2, 4) 4.00



BIO 452. Population Ecology (2, 4) 4.00  
BIO 455. Plant Physiology (3, 3) 4.00  
BIO 456. Landscape Ecology (3, 3) 4.00  
BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
BIO 459. Freshwater Ecology (3, 3) 4.00  
BIO 460. Plant Biotechnology (2, 4) 4.00  
BIO 465. Environmental Toxicology (2, 4) 4.00

BIO 470. Morphology of Nonvascular Plants (2, 4) 4.00  
BIO 480. Advanced Molecular Biology (2, 5) 4.00  
BIO 481. Genomics (3, 3) 4.00  
BIO 482. Human Histology (3, 3) 4.00  
BIO 483. Bioinformatics (3, 3) 4.00  
BIO 486. Systematics of Vascular Plants (2, 4) 4.00  
BIO 490. Mechanics of Animal Movement (3, 3) 4.00

### Additional Information

Only one Topics in Biology (BIO 426/427) may fulfill one of the laboratory course and/or organismal requirements. A list of the topics that may be used is available in the biology department office. These can be repeated with a change in topic, but only 12 credits from BIO 426/427 can be applied toward the 40-hour biology course requirement.

When choosing additional biology courses to complete the 40 credit hour requirement, students are strongly encouraged to discuss their career interests with an adviser who can help select courses best suited to their needs. Students are encouraged to participate in independent research and teaching courses with a faculty mentor, though a maximum of eight credits of BIO 492, BIO 494, BIO 495, BIO 496, BIO 497, BIO 499 and ISC 450 can be counted toward the biology major.

### Cognate Requirements

The following five groups of support courses are required for the biology major. Consult your academic adviser about which courses are appropriate.

### Required Courses

#### Complete all of the following: 11 Credit Hours

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00  
CHEM 241. Organic Chemistry I 3.00

#### Choose one of the following: 3 Credit Hours

Chemistry beyond the minimum requirement is recommended in many areas of biology. Consult with your adviser about which courses are appropriate. Students who take BIO 361/CHEM 361 in addition to CHEM 242, CHEM 353, CHEM 354 or GEOL 355/CHEM 355 will have BIO 361/CHEM 361 applied toward their BIO 300-400-level elective requirements. BIO 361/CHEM 361 may not be used for both a chemistry cognate and a biology major elective.

CHEM 242. Organic Chemistry II 3.00  
BIO 361. Biochemistry I (3, 0) 3.00 or CHEM 361. Biochemistry I 3.00  
CHEM 353. Environmental Chemistry 3.00  
or CHEM 355. Geochemistry of Natural Waters 3.00

CHEM 354. Environmental Chemistry Field Camp 3.00  
GEOL 355. Geochemistry of Natural Waters 3.00

#### Choose one of the following sets of courses: 4-7 Credit Hours

Mathematics beyond the minimum requirement is desirable in many areas of biology. Consult your adviser about which courses are appropriate.

MATH 231. Calculus with Functions I [C3QR] 3.00  
MATH 232. Calculus with Functions II 3.00 or MATH 233. Modeling Approach to  
Calculus Part A 3.00

MATH 234. Calculus with Modeling II 3.00 or MATH 235. Calculus I [C3QR]  
4.00

#### Choose one of the following courses: 3-4 Credit Hours

Statistics beyond the minimum requirement is desirable in many areas of biology. Consult your adviser about which courses are appropriate.

MATH 220. Elementary Statistics [C3QR] 3.00  
MATH 285. Data Analysis 4.00

MATH 318. Introduction to Probability and Statistics 4.00

#### Choose one of the following sets of courses: 8 Credit Hours

PHYS 140. College Physics I [C3PP] 3.00  
PHYS 140L. General Physics Laboratory [C3PP] 1.00  
PHYS 150. College Physics II 3.00  
PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I  
[C3PP] 3.00

PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250. University Physics II 3.00  
PHYS 250L. University Physics Laboratory II 1.00

### Biology Recommended Schedule for Majors

First semester first year biology majors are encouraged to start with a 14-15 hour course load. This will generally include BIO 140, CHEM 131 and CHEM 131L, and/or a math course plus General Education. The work load will then be increased in the second semester based on the level of first semester success.

#### First Year

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00<sup>1</sup>  
BIO 150. Foundations of Biology II (3,3) 4.00  
CHEM 131. General Chemistry I [C3PP] 3.00<sup>1</sup>  
CHEM 132. General Chemistry II 3.00<sup>1</sup>  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
Mathematics courses 4-7 Credit Hours 1  
General Education: Cluster One 9-12 Credit Hours

**Total: 29-35 Credit Hours**

#### Footnotes

<sup>1</sup> Fulfills General Education: Cluster Three.

#### Second Year

BIO 240. Genetics (3,3) 4.00  
BIO 250. Ecology and Evolution (3,3) 4.00  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00 or BIO 361. Biochemistry I (3, 0) 3.00 or  
CHEM 361. Biochemistry I 3.00 or GEOL 355. Geochemistry of Natural Waters 3.00  
or CHEM 355. Geochemistry of Natural Waters 3.00

Mathematics course 3-4 Credit Hours

General Education: from Clusters Two, Four and Five 12 Credit Hours

**Total: 29-30 Credit Hours**

#### Third Year

Upper-level biology laboratory courses 8 Credit Hours  
Biology elective 3-4 Credit Hours  
Physics courses 8 Credit Hours  
General Education: from Clusters Two, Four and Five 7 Credit Hours  
Electives 6 Credit Hours

**Total: 32 Credit Hours**

#### Fourth Year

Upper-level biology laboratory course 4 Credit Hours  
Biology electives 9 Credit Hours  
General Education: from Clusters Two, Four and Five 3 Credit Hours  
Electives 15 Credit Hours

**Total: 31 Credit Hours**

## ***Biology, Ecology and Environmental Biology Concentration, B.S.***

The biology department offers a concentration within the biology major for students with interest in ecology, field biology, natural resources, environmental biology, conservation biology, evolution, animal behavior and organismal biology. Students choosing a concentration in ecology and environmental biology must meet all of the requirements for the biology major as well as the following additional requirements. Courses for this concentration can also satisfy biology major requirements. Students must complete at least 20 credit hours from the following list. With prior approval from the biology department, BIO 426 and/or BIO 427 may be substituted. Students are strongly encouraged to discuss their career interests with an adviser who can help select courses best suited to their needs. In addition to the courses listed below, a maximum of eight credits of BIO 495, BIO 496, BIO 497 and BIO 499 can be counted toward the EEB concentration.

### **Students must complete at least 20 credit hours from the following list.**

With prior approval from the concentration coordinator, BIO 426 and/or BIO 427 may be substituted. Students are strongly encouraged to discuss their career interests with an adviser who can help select courses best suited to their needs. In addition to the courses listed below, a maximum of eight credits of BIO 495, BIO 496, BIO 497 and BIO 499 can be counted toward the EEB concentration.

- |   |   |
|---|---|
| BIO 305. Ornithology (1, 4) 3.00 <sup>1,2</sup>   | BIO 402. Forest Ecology 4.00 <sup>2</sup> or GEOG 402. Forest Ecology 4.00 <sup>2</sup>     |
| BIO 309. Marine and Freshwater Invertebrates (3, 0) 3.00 <sup>1</sup>   | BIO 404. Evolutionary Analysis (3, 0) 3.00  |
| BIO 310. Marine Biology 3.00 <sup>1</sup>   | BIO 405. Vertebrate Paleontology (3, 1) 3.00 or GEOL 405. Vertebrate Paleontology 3.00      |
| BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00 <sup>1,2</sup>  | BIO 412. Mammalogy 4.00 <sup>1,2</sup>  |
| BIO 340. Morphology and Anatomy of Vascular Plants (2, 4) 4.00 <sup>1,2</sup>                                 | BIO 447. Evolution and Ecology of Infectious Disease (3, 0) 3.00                            |
| BIO 342. Mathematical Models in Biology 3.00 or MATH 342. Mathematical Models in Biology 3.00                 | BIO 449. Insect Ecology (2, 4) 4.00 <sup>1,2</sup>  |
| BIO 345. Animal Field Biology 3.00 <sup>1,2</sup>   | BIO 451. Current Topics in Human Development and Evolution (3, 0) 3.00                      |
| BIO 354. Global Climate Change and Life: Ecological and Biological Impacts of Climate Variability (3, 3) 4.00 | BIO 452. Population Ecology (2, 4) 4.00 <sup>2</sup>  |
| BIO 357. Galapagos Islands: Biodiversity and Conservation 3.00 <sup>1</sup>                                   | BIO 453. Microbial Ecology and Evolution (2, 4) 3.00  |
| BIO 360. Plant Biology (3, 0) 3.00 <sup>1</sup>   | BIO 454. Introduction to Biometrics (3, 1) 4.00   |
| BIO 366. Environmental Ecology and Evolution (3, 3) 4.00 <sup>2</sup>   | BIO 455. Plant Physiology (3, 3) 4.00 <sup>2</sup>  |
| BIO 370. Animal Physiology (3, 3) 4.00 <sup>2</sup>   | BIO 456. Landscape Ecology (3, 3) 4.00 <sup>2</sup>   |
| BIO 386. Field Botany (3, 3) 4.00 <sup>1,2</sup>  | BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00 <sup>2</sup> |
| BIO 387. Environmental Microbiology 3.00  | BIO 459. Freshwater Ecology (3, 3) 4.00 <sup>2</sup>  |
| BIO 387L. Environmental Microbiology Laboratory 1.00 <sup>2</sup>   | BIO 465. Environmental Toxicology (2, 4) 4.00 <sup>2</sup>                                  |
| BIO 395. Comparative Animal Behavior (3, 0) 3.00 or PSYC 395. Comparative Animal Behavior 3.00                | BIO 466. Toxicology Seminar (3, 0) 3.00   |
| BIO 400. Geology and Ecology of the Bahamas 3.00 or GEOL 400. Geology and Ecology of the Bahamas 3.00         | BIO 470. Morphology of Nonvascular Plants (2, 4) 4.00 <sup>1,2</sup>                        |
|   | BIO 486. Systematics of Vascular Plants (2, 4) 4.00 <sup>1,2</sup>                          |

#### **Footnotes**

<sup>1</sup> Meets the biology major requirement for an organismal diversity course.

<sup>2</sup> Meets one of the biology major requirements for laboratory/field courses.

#### **Students must take two additional cognate courses:**

MATH 321. Analysis of Variance and Experimental Design 3.00 or MATH 322. Applied Linear Regression 3.00 or BIO 454. Introduction to Biometrics (3, 1) 4.00  
GEOG 215. Introduction to Geographic Information Science and Cartography 3.00 or BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00

#### **Additional Information**

It is highly recommended that students take additional upper-level degree elective courses in geography/GIS (such as GEOG 466. GIS and Geographic Databases, or GEOG 467. GIS Project Management) and in statistics (such as MATH 322. Applied Linear Regression, or MATH 324. Applied Nonparametric Statistics). Students should consult with their adviser about which courses are appropriate.

## ***Biology, Forest Biology, Dual Degree***

**James Madison University Liaison:** Heather Griscom

**Phone:** (540) 568-5525

**E-mail:** griscohp@jmu.edu

The goal of the collaborative accelerated B.S.-M.F./M.S. program in forest biology is to allow exceptionally qualified students, who come from James Madison University and have an appropriate biological background, to start contributing to their Virginia Tech graduate degree before completing their baccalaureate degree. The collaborative B.S.-M.F./M.S. program is hence designed to accelerate students' time to completion of their graduate degree and to facilitate their transition into the Virginia Tech graduate program. The program is designed to pair students with initial graduate faculty advisors to mentor them through both course selection and research opportunities within the Virginia Tech Department of Forest Resources and Environmental Conservation (FREC).

Students will earn a Bachelor of Science (B.S.) degree in biology from James Madison University (JMU) and a Master of Forestry (Professional) (M.F.) degree or a Master of Science (M.S.) degree in Forest Resources and Environmental Conservation from Virginia Tech (VT). This program is an excellent option for an undergraduate student interested in forests and natural resources management. Students in this program graduate with both a B.S. and M.F or M.S. in five years, which usually takes six years to complete if applying to graduate school after earning a bachelor's degree. After graduation from Virginia Tech, the student will have mastered the skills necessary to be competitive for jobs within government agencies (e.g., USFS) and the private sector (e.g., corporations, NGOs) in forests and natural resources management.

During the first three years at JMU, the student must complete 89 credit hours, including all JMU general education requirements, the cognate courses in chemistry and mathematics, a course in geology and at least 24 semester hours in biology courses, as shown below.

During the fourth year of study, when candidates will be in residence at Virginia Tech as undergraduate students in an accelerated advanced degree program, students will take 31 additional credits approved by the JMU biology department academic unit head or program coordinator for credit toward the B.S. in biology from JMU

A total of 38 semester hours of biology and biology-related courses (taken at JMU and Virginia Tech) will be required for the JMU B.S. in biology, which will be conferred after the fourth year of study. If the student's academic record is satisfactory, he/she will be admitted into the graduate program of the Department of Forestry at Virginia Tech, where he/she will spend an additional year taking forest biology and natural resources courses to obtain the graduate degree. To apply for the dual degree program, the student must have the permission of the dean of the College of Science and Mathematics. Information about the program can be obtained from the faculty liaison. Students are encouraged to inquire as early as possible in their undergraduate careers.

#### **First Year (JMU)**

##### **Fall: 15 Credit Hours**

BIO 110. Freshman Symposium in Biology 1.00

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

Cluster One: Critical Thinking

Cluster One: Communication

**Spring: 14 Credit Hours**

BIO 150. Foundations of Biology II (3,3) 4.00  
CHEM 132. General Chemistry II 3.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 220. Elementary Statistics [C3QR] 3.00  
Cluster One: Writing

### Second Year (JMU)

#### Fall: 16 Credit Hours

BIO 250. Ecology and Evolution (3,3) 4.00  
CHEM 242. Organic Chemistry II 3.00  
MATH 321. Analysis of Variance and Experimental Design 3.00  
Cluster Two: Visual and Performing Arts  
Cluster Two: Literature

#### Spring: 16 Credit Hours

BIO 240. Genetics (3,3) 4.00  
CHEM 355. Geochemistry of Natural Waters 3.00  
GEOL 110. Physical Geology [C3NS] 3.00  
HTH 100. Personal Wellness [C5W] 3.00  
POSC 225. U.S. Government [C4AE] 4.00

### Third Year (JMU)

#### Fall: 14 Credit Hours

BIO 402. Forest Ecology 4.00  
MATH 231. Calculus with Functions I [C3QR] 3.00

### *Biology, Microbiology Concentration, B.S.*

Concentration Coordinator: Kyle Seifert

Phone: (540)568-2286

E-mail: seiferkx@jmu.edu

The biology department offers a concentration within the biology major for students with interest in bacteriology, virology, immunology, parasitology and infectious disease. Students choosing a concentration in microbiology must meet all the requirements for the biology major, including the following specific requirements.

#### Required Courses

BIO 245. General Microbiology (3, 3) 4.00  
BIO 246. Microbiology Seminar 1.00

BIO 348. Medical Microbiology 3.00  
BIO 387. Environmental Microbiology 3.00

#### Choose one of the following courses: 1-2 Credit Hours

BIO 204. Viral Genome and Bioinformatics (0,4) 2.00  
BIO 346. Bacterial Discovery 2.00<sup>1</sup>

#### Footnotes

<sup>1</sup> Meets one of the biology major requirements for a laboratory/field course.

#### Choose two courses: 6 Credit Hours

With prior approval from the concentration coordinator, BIO 426 and/or BIO 427 may be substituted.

BIO 343. Immunology (3, 0) 3.00  
BIO 420. Medical Parasitology (3, 0) 3.00  
BIO 444. Virology (3, 0) 3.00

BIO 447. Evolution and Ecology of Infectious Disease (3, 0) 3.00  
BIO 453. Microbial Ecology and Evolution (2, 4) 3.00

#### Total: 19 Credit Hours

### *Biology, Neuroscience Concentration, B.S.*

Concentration Coordinator: Mark Gabriele

Phone: (540) 568-6333

E-mail: gabrieml@jmu.edu

The biology department offers a concentration within the biology major for students with interests in cell and molecular, systems, and behavioral aspects of the nervous system and its functionality. Students choosing a concentration in neuroscience must meet all of the requirements for the biology major in addition to the following requirements. Courses for this concentration can also satisfy biology major requirements.

#### Required Courses

#### Choose one: 3 Credit Hours

BIO 301. Introductory Neuroscience 3.00  
BIO 385. Biopsychology 3.00 or PSYC 385. Biopsychology 3.00

#### Choose one: 3-4 Credit Hours

BIO 415. Neuroanatomy and Neurogenic Communication Disorders 3.00 or CSD 415. Neuroanatomy and Neurogenic Communication Disorders 3.00

BIO 445. Neurobiology (3, 3) 4.00<sup>1</sup>

#### Neuroscience Concentration Electives: 9-12 Credit Hours

Choose three, of which at least one must be principally a neurobiology course (BIO 375/PSYC 375, BIO 415/CSD 415, BIO 445, BIO 446 or BIO 448).

BIO 316. Animal Development (3, 0) 3.00 with optional laboratory<sup>1</sup>  
BIO 375. Sensation and Perception 3.00 or PSYC 375. Sensation & Perception 3.00  
BIO 415. Neuroanatomy and Neurogenic Communication Disorders 3.00<sup>2</sup> or CSD 415. Neuroanatomy and Neurogenic Communication Disorders 3.00<sup>2</sup>

BIO 445. Neurobiology (3, 3) 4.00<sup>1,2</sup>  
BIO 446. Experimental Neurobiology 4.00<sup>1</sup>  
BIO 448. Developmental Neurobiology 4.00<sup>1</sup>  
BIO 480. Advanced Molecular Biology (2, 5) 4.00<sup>1</sup>  
BIO 481. Genomics (3, 3) 4.00<sup>1</sup>  
BIO 482. Human Histology (3, 3) 4.00<sup>1</sup>

#### Total: 15-19 Credit Hours

#### Footnotes

<sup>1</sup> Meets one of the biology major requirements for a laboratory/field course.

<sup>2</sup> BIO 445 and BIO 415/CSD 415: The course not taken as part of required neuroscience concentration core may be used to fulfill elective requirements.

#### Additional Information

Cluster Four: The Global Experience  
Cluster Two: Human Questions and Contexts

#### Spring: 14 Credit Hours

BIO 457. Biological Applications of Geographic Information Systems (2, 4) 4.00  
MATH 232. Calculus with Functions II 3.00  
ECON 201. Introduction to Microeconomics 3.00  
Cluster Five: Sociocultural Domain

### Fourth Year (Virginia Tech)

#### Fall: 15 Credits

FOR 4514. Forest and Tree Pest Management  
FOR 4354. Forest Soil and Watershed Management  
FOR 4374. Forested Wetlands  
FOR 4334. Agroforestry  
FOR 3354. Urban Forestry Arboriculture

#### Spring: 16 Credit Hours

FOR 3324. Silvicultural Principles and Applications  
FOR 3104. Principles of Watershed Hydrology  
FOR 4324. Genetics of Natural and Managed Populations  
GRAD 5144. Communicating Science  
Choose one:  
FOR 4214. Forest Photogrammetry and Spatial Data Processing or FOR 4114. Information Technologies for Natural Resource Management

Students should choose additional BIO courses at the 300–400 level, including a course that fulfills the organismal diversity major requirement, and are strongly encouraged to discuss their career interests with an adviser who can help select courses best suited to their needs. With prior approval from the concentration coordinator, BIO 426 and/or BIO 427 may be substituted. It is recommended that students participate in independent research (BIO 497/499) with a faculty mentor.

## ***Biotechnology, B.S.***

Dr. Stephanie Stockwell, **Director**

**Phone:** (540) 568-8980

**Email:** stockwsb@jmu.edu

**Location:** ISAT-CISAT Building, Room 320

### **Mission**

JMU Biotechnology is a four-year interdisciplinary major leading to a B.S. degree. The program is shared among the Departments of Biology, Chemistry and Biochemistry, and Integrated Science and Technology (ISAT). Students undertake a rigorous curriculum rich with hands-on laboratory experiences, critical analyses of both the "how" and the "why" of biotechnological solutions, and the development of transferable skills needed to keep up in a rapidly changing field. The combination of both scientific/technical depth and cross-disciplinary breadth allow graduates to pursue diverse career paths in industry, government and advanced studies.

Biotechnology majors complete 47–50 credit hours of science foundation courses, 17 credit hours of biotechnology transition and core courses, and 15 credit hours of electives. Advanced courses are selected from an extensive list of Biology, Chemistry and Biochemistry, ISAT, Engineering and Mathematics and Statistics offerings. Students work with assigned academic advisers to develop individualized portfolios of upper level courses that best suit their unique interests and goals. Up to six credits of undergraduate research or internship experiences can be applied to the upper level electives requirement.

Students are eligible for the General Business Minor. Students may not receive dual credit toward the Biotechnology major for 300- and 400-level Biology courses that are also applied toward the Biology major. Biotechnology students pursuing a minor in ISAT may not substitute 100-level Biology or Chemistry courses for ISAT foundation courses. Biotechnology majors are not eligible for the Biochemistry and Molecular Biology Minor.

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education: The Human Community *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3–4 Credit Hours*<sup>2</sup>
- Major requirements (listed below) and electives *79 Credit Hours*

**Total: 126 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements that each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> In addition to General Education.

### **Major Requirements**

#### **Science Foundation Courses**

CHEM 131. General Chemistry I [C3PP] *3.00* and

CHEM 132. General Chemistry II *3.00*

CHEM 131L. General Chemistry Laboratory [C3PP] *1.00* and

CHEM 132L. General Chemistry Laboratory *1.00*

CHEM 241. Organic Chemistry I *3.00* and

CHEM 242. Organic Chemistry II *3.00*

CHEM 242L. Organic Chemistry Laboratory *2.00*

BIO 140. Foundations of Biology I (3,3) [C3NS] *4.00*

BIO 150. Foundations of Biology II (3,3) *4.00*

BIO 240. Genetics (3,3) *4.00*

#### **Choose one of the following courses:**

BIO 245. General Microbiology (3, 3) *4.00*

BIO 250. Ecology and Evolution (3,3) *4.00*

#### **Choose one of the following sets of courses:**

PHYS 140. College Physics I [C3PP] *3.00* and

PHYS 140L. General Physics Laboratory [C3PP] *1.00* and

PHYS 150. College Physics II *3.00* and

PHYS 150L. General Physics Laboratory *1.00* or PHYS 240. University Physics I [C3PP] *3.00* and

PHYS 240L. University Physics Laboratory I [C3PP] *1.00*

PHYS 250. University Physics II *3.00* and

PHYS 250L. University Physics Laboratory II *1.00*

#### **Choose one of the following sets of courses:**

MATH 231. Calculus with Functions I [C3QR] *3.00*

MATH 232. Calculus with Functions II *3.00* or MATH 233E. Calculus with Modeling I *3.00*

MATH 234. Calculus with Modeling II *3.00* or MATH 235. Calculus I [C3QR] *4.00*

#### **Choose one of the following courses:**

MATH 220. Elementary Statistics [C3QR] *3.00*

MATH 285. Data Analysis *4.00*

**Total: 47–50 Credit Hours**

#### **Biotechnology Transition and Core Courses**

BIOT 260. Biotechnology Seminar *1.00*

ISAT 305. Instrumentation and Measurement in Biotechnology (0, 2) *1.00*

ISAT 451. Biotechnology in Industry and Agriculture *3.00*

ISAT 456. Ethical, Legal, & Social Implications of Biotechnology *3.00*

CHEM 361. Biochemistry I *3.00*

CHEM 366L. Biochemistry Laboratory *2.00*

BIO 480. Advanced Molecular Biology (2, 5) *4.00*

**Total: 17 Credit Hours**

#### **Biotechnology Elective Courses**

**Select 15 credit hours:**

BIO 301. Introductory Neuroscience *3.00*

BIO 316. Animal Development (3, 0) *3.00*

BIO 324. Human Genetics (3, 0) *3.00*

BIO 342. Mathematical Models in Biology *3.00*

or MATH 342. Mathematical Models in Biology *3.00*

BIO 343. Immunology (3, 0) *3.00*

BIO 343L. Immunology Laboratory (0, 4) *1.00*

BIO 348. Medical Microbiology *3.00*

BIO 348L. Medical Microbiology Laboratory *1.00*

BIO 360. Plant Biology (3, 0) *3.00*

BIO 364. Human Uses of Plants (3, 0) *3.00*

BIO 364L. Laboratory in Human Uses of Plants (0, 3) *1.00*

BIO 370. Animal Physiology (3, 3) *4.00*

BIO 387. Environmental Microbiology *3.00*

BIO 387L. Environmental Microbiology Laboratory *1.00*

BIO 416. Human Embryology (3, 3) *4.00*

BIO 420. Medical Parasitology (3, 0) *3.00*

BIO 420L. Medical Parasitology Lab (0, 3) *1.00*

BIO 432. Light Microscopy (2, 4) 4.00  
 BIO 444. Virology (3, 0) 3.00  
 BIO 445. Neurobiology (3, 3) 4.00  
 BIO 446. Experimental Neurobiology 4.00  
 BIO 447. Evolution and Ecology of Infectious Disease (3, 0) 3.00  
 BIO 451. Current Topics in Human Development and Evolution (3, 0) 3.00  
 BIO 454. Introduction to Biometrics (3, 1) 4.00  
 BIO 455. Plant Physiology (3, 3) 4.00  
 BIO 460. Plant Biotechnology (2, 4) 4.00  
 BIO 465. Environmental Toxicology (2, 4) 4.00  
 BIO 466. Toxicology Seminar (3, 0) 3.00  
 BIO 472. Human Metabolism (3, 0) 3.00  
 BIO 475. Advanced Cell Biology (3, 0) 3.00  
 BIO 477. The Genetics of Cancer (3, 0) 3.00  
 BIO 481. Genomics (3, 3) 4.00  
 BIO 482. Human Histology (3, 3) 4.00  
 BIO 483. Bioinformatics (3, 3) 4.00

BIO 490. Mechanics of Animal Movement (3, 3) 4.00  
 CHEM 270. Inorganic Chemistry I 3.00  
 CHEM 331. Physical Chemistry I 3.00  
 CHEM 336L. Applied Physical Chemistry Laboratory 2.00  
 CHEM 351. Analytical Chemistry 4.00  
 CHEM 352. Instrumental Analysis 3.00  
 CHEM 352L. Instrumental Analysis Laboratory 2.00  
 CHEM 362. Biochemistry II 3.00  
 CHEM 440. Intermediate Organic Chemistry 3.00  
 CHEM 445. Polymer Chemistry 3.00  
 CHEM 450. Nuclear and Radiation Chemistry 3.00  
 ISAT 351. Biotechnology for the New Millennium II 3.00  
 ISAT 452. Medical Biotechnology 3.00

ISAT 454. Computer Applications in Biotechnology 3.00  
 ISAT 455. Regulatory Issues Biotechnology 3.00  
 ISAT 459. Awareness and Understanding of Chemical, Biological, and Radiological Weapons of Mass Destruction 3.00  
 MATH 321. Analysis of Variance and Experimental Design 3.00  
 MATH 322. Applied Linear Regression 3.00  
 MATH 421. Applied Multivariate Statistical Analysis 3.00  
 MATH 485. Selected Topics 1.00 - 4.00  
 ENGR 472. Biological Treatment Processes and Reactor Design 3.00  
 ENGR 498. Advanced Topics in Engineering 1.00-3.00 (select topics, such as bioprocess engineering)

### Additional Information

Additional 300- and 400-level courses may meet the requirement, with permission from the program director.

Students are highly encouraged to include academic credit for independent research or internships, up to 6 credits of which may be applied to the elective requirement. Approved courses associated with this kind of independent study include:

BIO 495, 496, and 497A and 497B  
 BIO 499A, 499B and 499C  
 BIOT 494

CHEM 390A and 390B  
 CHEM 494  
 CHEM 497A, B, C

CHEM 499A, 499B, 499C  
 ISAT 480  
 ISAT 499A, 499B and 499C

### Recommended Schedule for Majors

First semester, first year biotechnology majors are encouraged to start with a 14-15 hour course load. This will generally include a biology course (four credit hours), CHEM 131 and CHEM 131L, and/or a math course, plus General Education. In some cases, the general chemistry sequence may be postponed when math placement scores suggest that the development of quantitative reasoning skills should come first. The work load may then be adjusted in the second semester based on the level of success in the first semester.

#### First Year

Note: Other recommended first-year courses include BIO 203. Viral Discovery (0,4) or ISAT 203 and BIO 204. Viral Genome and Bioinformatics (0,4) or ISAT 204.

The total credit hours listed below do not reflect this recommendation.

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

CHEM 131. General Chemistry I [C3PP] 3.00<sup>1</sup>

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00<sup>1</sup>

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00

Quantitative course 4-6 Credit Hours 1

General Education: Cluster One 9 Credit Hours

**Total: 29-31 Credit Hours**

#### Footnotes

<sup>1</sup> Fulfills General Education: Cluster Three. Some students may be advised to postpone their general chemistry courses if their math placement scores are not sufficiently high.

#### Second Year

BIOT 260. Biotechnology Seminar 1.00

ISAT 305. Instrumentation and Measurement in Biotechnology (0, 2) 1.00

BIO 240. Genetics (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00 or BIO 250. Ecology and Evolution (3,3) 4.00

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 242L. Organic Chemistry Laboratory 2.00

Quantitative course 3-4 Credit Hours

General Education: from Clusters Two, Four and Five 9 Credit Hours

**Total: 30-31 Credit Hours**

#### Third Year

CHEM 361. Biochemistry I 3.00 or BIO 361. Biochemistry I (3, 0) 3.00

CHEM 366L. Biochemistry Laboratory 2.00

BIO 480. Advanced Molecular Biology (2, 5) 4.00

Biotechnology Electives 4 Credit Hours

Physics courses 8 Credit Hours

General Education: from Clusters Two, Four and Five 7 Credit Hours

Electives 4 Credit Hours

**Total: 32 Credit Hours**

#### Fourth Year

ISAT 456. Ethical, Legal, & Social Implications of Biotechnology 3.00

ISAT 451. Biotechnology in Industry and Agriculture 3.00

Biotechnology Electives 11 Credit Hours

General Education: from Clusters Two, Four and Five 6 Credit Hours

Electives 6 Credit Hours

**Total: 29 Credit Hours**

# Department of Chemistry and Biochemistry

Dr. Linette M. Watkins, **Department Head**

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**Location:** Physics and Chemistry Building, Room 1186

**Website:** <http://www.jmu.edu/chemistry>

## Professors

D. Amenta, K. Caran, T. DeVore, D. Downey, R. Foust, J. Gilje, C. Hughey, G. MacDonald, B. Reisner, L. Watkins

## Associate Professors

C. Berndsen, B. Boardman, S. Lewis, D. Mohler, I. Sumner, N. Wright, Y. Zhang

## Assistant Professors

A. Baber, O. Kokhan, D. Naistat, G. Peters, P. Raston

## Lecturers

D. Blumling, K. Funck, Q. Liu, D. Warnaar, D. Wilson

## Mission Statement

The Department of Chemistry and Biochemistry offers the B.S. degree for a major in chemistry, with concentrations that meet the American Chemical Society Accredited Programs requirements for programs in biochemistry, materials chemistry and in chemistry/chemical education. In addition, the department offers a B.S. degree in biophysical chemistry. It also offers minors in chemistry, biochemistry and molecular biology, and materials science. The programs are designed to provide the theoretical and practical instruction in chemistry and related areas to prepare students for careers in chemistry, biochemistry, medicine, dentistry, paramedical areas, forensic sciences, chemical engineering and other technology-based areas. The department also recognizes its responsibility to provide courses for non-chemistry majors who need a basic understanding of the principles of chemistry either for their chosen major or their general education.

## Career Opportunities

- Graduate school in chemistry, biochemistry or related areas (ACS Certified Degrees preferred)
- Professional employment as a chemist or biochemist (ACS Certified Degrees preferred)
- Professional school (medical, dental, veterinary, pharmacy, business and law)
- Chemical engineering
- Environmental science
- Forensic science
- Immunology
- Industrial hygiene
- Pharmaceutical chemistry
- Pharmacology
- Production supervision
- Quality control
- Research assistant
- Scientific writing
- Some forms of development work
- Technical library science
- Toxicology

## Co-curricular Activities and Organizations

- American Chemical Society Student Affiliate Chapter
- Alpha Chi Sigma Professional Fraternity (Coed)
- Iota Sigma Pi

## Credit by Examination

The chemistry and biochemistry department offers credit by examination for CHEM 131 and CHEM 132. General Chemistry I-II. Students who want permission to take the examination must apply to the department head. Details regarding approval to take the examination and examination dates will be provided when the application is received.

## Teaching Licensure

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. Chemistry majors must also complete a course in biology and a course in geology.

In addition to the general education and academic major requirements, chemistry majors desiring secondary teacher licensure must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of , in addition to the College of Education/Professional Education Unit section of the catalog.

## *Biophysical Chemistry, B.S.*

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*<sup>2</sup>
- Major requirements and electives *85-87 Credit Hours*

### Total: 131 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements.

<sup>2</sup> The quantitative and scientific literacy requirements for this degree are met by courses required for the major. As a result, the total credit hours earned for the degree will be 131.

### Major Requirements

- |   |  |
|---|--|
| CHEM 131. General Chemistry I [C3PP] <i>3.00</i>                            | CHEM 287L. Integrated Inorganic/Organic Laboratory I <i>2.00</i> <sup>2</sup>  |
| CHEM 132. General Chemistry II <i>3.00</i>                                  | CHEM 288L. Integrated Inorganic/Organic Laboratory II <i>2.00</i> <sup>2</sup> |
| CHEM 135L. Special General Chemistry Laboratory I <i>1.00</i> <sup>1</sup>  | CHEM 351. Analytical Chemistry <i>4.00</i>                                     |
| CHEM 136L. Special General Chemistry Laboratory II <i>2.00</i> <sup>1</sup> | CHEM 361. Biochemistry I <i>3.00</i>   |
| CHEM 270. Inorganic Chemistry I <i>3.00</i>                                 | CHEM 363. Biophysical Chemistry <i>3.00</i> (Literature & Seminar included)    |
| CHEM 241. Organic Chemistry I <i>3.00</i>                                   | CHEM 367L. Biochemistry Laboratory <i>2.00</i> (fall)                          |
| CHEM 242. Organic Chemistry II <i>3.00</i>                                  | CHEM 368L. Biophysical Chemistry Laboratory <i>2.00</i> (spring)               |

CHEM 331. Physical Chemistry I 3.00  
CHEM 432. Physical Chemistry II 3.00  
CHEM 336L. Applied Physical Chemistry Laboratory 2.00

**Physics and Mathematics Background Courses: 24 Credit Hours**

MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
MATH 237. Calculus III 4.00 or MATH 231. Calculus with Functions I [C3QR] 3.00  
MATH 232. Calculus with Functions II 3.00  
MATH 236. Calculus II 4.00  
MATH 237. Calculus III 4.00

**Choose at least two of the following electives: 6-8 Credit Hours**

CHEM 375. An Introduction to Materials Science 3.00 or PHYS 375. An Introduction to Materials Science 3.00 or MATS 375. An Introduction to Materials Science 3.00  
CHEM 362. Biochemistry II 3.00  
CHEM 440. Intermediate Organic Chemistry 3.00  
CHEM 445. Polymer Chemistry 3.00  
CHEM 470. Inorganic Chemistry II 3.00  
BIO 324. Human Genetics (3, 0) 3.00  
BIO 445. Neurobiology (3, 3) 4.00  
BIO 475. Advanced Cell Biology (3, 0) 3.00  
PHYS 260. University Physics III 3.00  
PHYS 270. Modern Physics I 4.00  
PHYS 326. Biophysics 3.00  
PHYS 381. Materials Characterization (Lecture/Lab) 3.00

**Total: 85-87 Credit Hours**

**Footnotes**

<sup>1</sup> CHEM 131L-CHEM 132L may be substituted. <sup>2</sup> CHEM 242L may be substituted.

**Recommended Schedule for Majors**

**First Year**

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00  
CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

**Second Year**

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
BIO 240. Genetics (3,3) 4.00  
MATH 237. Calculus III 4.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00

**Chemistry Minor**

The requirements for a minor in chemistry are 24 credit hours in chemistry, distributed as follows:

**Courses**

**General Chemistry 8 Credit Hours**

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00

**Organic Chemistry: One or two lectures and corresponding lab 4-8 Credit Hours**

CHEM 241. Organic Chemistry I 3.00 and  
CHEM 241L. Concepts of Organic Chemistry Laboratory 1.00 or CHEM 241. Organic Chemistry I 3.00 and

**Physical Chemistry: One lecture and corresponding lab 5 Credit Hours**

CHEM 331. Physical Chemistry I 3.00 and  
CHEM 336L. Applied Physical Chemistry Laboratory 2.00 or CHEM 432. Physical Chemistry II 3.00 and

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
BIO 240. Genetics (3,3) 4.00  
BIO 480. Advanced Molecular Biology (2, 5) 4.00

MATH 238. Linear Algebra with Differential Equations 4.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I 1.00  
PHYS 250L. University Physics Laboratory II 1.00

BIO 342. Mathematical Models in Biology 3.00 or MATH 342. Mathematical Models in Biology 3.00  
CHEM 390A, B. Problems in Chemistry 1.00 - 3.00, repeatable for a total of 4 credits or CHEM 497A, B, C. Undergraduate Chemical Research 2.00-4.00, repeatable for a total of 6 credits or CHEM 499A. Honors 1.00  
BIO 494. Internship in Biology (0, 4-8) 1.00 - 2.00 or BIO 497. Biological Research (0, 4-8) 1.00, repeatable  
PHYS 398. Independent Study in Physics or Astronomy 1.00 - 3.00 or PHYS 498R. Undergraduate Research in Physics or Astronomy 1.00 - 4.00 or PHYS 499. Honors 1.00 - 3.00, repeatable  
MATH 497. Undergraduate Research 1.00 - 4.00 or MATH 498. Independent Study or MATH 499A/MATH 499B/MATH 499C  
ANY 300-400 level CHEM, PHYS or MATH course pre-approved by adviser

PHYS 240L. University Physics Laboratory I 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 3 Credit Hours

**Total: 32 Credit Hours**

**Third Year**

CHEM 331. Physical Chemistry I 3.00  
CHEM 336L. Applied Physical Chemistry Laboratory 2.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
MATH 238. Linear Algebra with Differential Equations 4.00  
General Education courses or electives 14 Credit Hours

**Total: 30 Credit Hours**

**Fourth Year**

CHEM 363. Biophysical Chemistry 3.00  
CHEM 367L. Biochemistry Laboratory 2.00  
CHEM 368L. Biophysical Chemistry Laboratory 2.00  
CHEM 432. Physical Chemistry II 3.00  
BIO 480. Advanced Molecular Biology (2, 5) 4.00  
General Education courses or electives 12 Credit Hours

**Total: 26 Credit Hours**

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00

CHEM 242. Organic Chemistry II 3.00 and  
CHEM 242L. Organic Chemistry Laboratory 2.00

CHEM 438L. Physical Chemistry Laboratory 2.00

### Analytical Chemistry 4 Credit Hours

CHEM 351. Analytical Chemistry 4.00

An approved three-credit CHEM elective

Total: 24 Credit Hours

### Additional Information

In order to complete this minor, prerequisite courses in mathematics and physics are required. These courses collectively fulfill the nine-credit approved technical elective package for the Bachelor of Science in Engineering.

### *Chemistry, American Chemical Society Certified Curriculum in Biochemistry Concentration, B.S.*

This program meets the recommended undergraduate degree requirements of the American Society for Biochemistry and Molecular Biology for a major in biochemistry. All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration II must complete the courses below in addition to core courses.

### Degree and Major Requirements

#### Degree Requirements

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours<sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### Additional Information

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

#### Core Requirements for all concentrations

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 132. General Chemistry II 3.00

CHEM 135L. Special General Chemistry Laboratory I 1.00<sup>1</sup>

CHEM 136L. Special General Chemistry Laboratory II 2.00<sup>1</sup>

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 270. Inorganic Chemistry I 3.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00

CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00

CHEM 331. Physical Chemistry I 3.00

CHEM 351. Analytical Chemistry 4.00

CHEM 361. Biochemistry I 3.00

CHEM 481. Literature and Seminar I 1.00

CHEM 482. Literature and Seminar II 1.00

Total: 34 Credit Hours

#### Required Cognate Courses for all Concentrations

MATH 235. Calculus I [C3QR] 4.00 and

MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)

PHYS 240. University Physics I [C3PP] 3.00

PHYS 250. University Physics II 3.00

PHYS 240L. University Physics Laboratory I [C3PP] 1.00

PHYS 250L. University Physics Laboratory II 1.00

Total: 16-18 Credit Hours

#### Footnotes

<sup>1</sup> CHEM 131L-132L may be substituted.

### Electives

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

### Required Courses

This program meets the recommended undergraduate degree requirements of the American Society for Biochemistry and Molecular Biology for a major in biochemistry. All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration II must complete the courses below in addition to core courses.

CHEM 352. Instrumental Analysis 3.00

CHEM 352L. Instrumental Analysis Laboratory 2.00

CHEM 362. Biochemistry II 3.00

CHEM 366L. Biochemistry Laboratory 2.00

CHEM 432. Physical Chemistry II 3.00

CHEM 438L. Physical Chemistry Laboratory 2.00

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 240. Genetics (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00

BIO 480. Advanced Molecular Biology (2, 5) 4.00

Total: 31 Credit Hours

### Recommended Schedule for Majors

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 132. General Chemistry II 3.00

CHEM 135L. Special General Chemistry Laboratory I 1.00

CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L. General

Chemistry Laboratory [C3PP] 1.00

CHEM 132L. General Chemistry Laboratory 1.00

MATH 235. Calculus I [C3QR] 4.00

MATH 236. Calculus II 4.00

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

General Education courses or electives 10 Credit Hours

Total: 30-31 Credit Hours

#### Second Year

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 270. Inorganic Chemistry I 3.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00

CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00

PHYS 240. University Physics I [C3PP] 3.00

PHYS 250. University Physics II 3.00



PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00

CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours  
**Total: 29 Credit Hours**

## ***Chemistry, American Chemical Society Certified Curriculum in Chemical Education Concentration, B.S.***

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration IV must complete the courses below in addition to core courses.

## Degree and Major Requirements

### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours <sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### Additional Information

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

### Core Requirements for all concentrations

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00 <sup>1</sup>  
CHEM 136L. Special General Chemistry Laboratory II 2.00 <sup>1</sup>  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00

**Total: 34 Credit Hours**

### Required Cognate Courses for all Concentrations

MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)  
PHYS 240. University Physics I [C3PP] 3.00

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00

**Total: 16-18 Credit Hours**

### Footnote

<sup>1</sup> CHEM 131L-132L may be substituted.

### Electives

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

### Required Courses

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration IV must complete the courses below in addition to core courses.

CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 432. Physical Chemistry II 3.00

CHEM 438L. Physical Chemistry Laboratory 2.00  
ACS Certified Chemical Education Courses: See Licensure Programs.

### Recommended Schedule for Majors

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00  
CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

#### Second Year

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00

PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00

CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours  
**Total: 29 Credit Hours**

## ***Chemistry, American Chemical Society Certified Curriculum in Chemistry Concentration, B.S.***

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration I must complete the courses below in addition to core courses.

## **Degree and Major Requirements**

### **Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours <sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

**Total: 120 Credit Hours**

### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### **Additional Information**

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

### **Core Requirements for all concentrations**

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00 <sup>1</sup>  
CHEM 136L. Special General Chemistry Laboratory II 2.00 <sup>1</sup>  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00

**Total: 34 Credit Hours**

### **Required Cognate Courses for all Concentrations**

MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)  
PHYS 240. University Physics I [C3PP] 3.00

**Total: 16-18 Credit Hours**

### **Footnote**

<sup>1</sup> CHEM 131L-132L may be substituted.

### **Electives**

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

### **Required Courses**

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration I must complete the courses below in addition to core courses.

CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 432. Physical Chemistry II 3.00  
CHEM 438L. Physical Chemistry Laboratory 2.00

**Total: 21 Credit Hours**

### **Recommended Schedule for Majors**

#### **First Year**

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00  
CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L.  
General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00

CHEM 470. Inorganic Chemistry II 3.00  
MATH 237. Calculus III 4.00  
MATH 238. Linear Algebra with Differential Equations 4.00

General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

#### **Second Year**

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00

PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00

CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours  
**Total: 29 Credit Hours**

## ***Chemistry, American Chemical Society Certified Curriculum in Materials Chemistry Concentration, B.S.***

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration III must complete the courses below in addition to core courses.

## Degree and Major Requirements

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours <sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### Additional Information

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

### Core Requirements for all concentrations

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00 <sup>1</sup>  
CHEM 136L. Special General Chemistry Laboratory II 2.00 <sup>1</sup>  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00

**Total: 34 Credit Hours**

### Required Cognate Courses for all Concentrations

MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)  
PHYS 240. University Physics I [C3PP] 3.00

**Total: 16-18 Credit Hours**

#### Footnote

<sup>1</sup> CHEM 131L-132L may be substituted.

### Electives

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

### Required Courses

All ACS Certified Programs require a minimum of 400 hours of laboratory and research. Students completing concentration III must complete the courses below in addition to core courses.

CHEM 336L. Applied Physical Chemistry Laboratory 2.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 375. An Introduction to Materials Science 3.00  
CHEM 432. Physical Chemistry II 3.00  
CHEM 445. Polymer Chemistry 3.00 (with laboratory)  
MATH 237. Calculus III 4.00  
MATH 238. Linear Algebra with Differential Equations 4.00

### Recommended Schedule for Majors

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00

#### Choose one of the following: 3-4 Credit Hours

CHEM 485. Science of the Small 4.00  
ENGR 314. Materials and Mechanics 4.00  
ENGR 498. Advanced Topics in Engineering 1.00-3.00 (when topic is appropriate)  
GEOL 390. Laboratory Techniques in Geology (2, 2) 3.00  
Total: 28-29 Credit Hours

CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L.  
General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

### Second Year

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours

**Total: 29 Credit Hours**

## Chemistry, Chemistry/Business Program Concentration, B.S.

This program is designed for business-oriented chemistry students preparing for careers in patent law, technical sales, technical service and related areas. Students completing concentration VI must complete the courses below in addition to core courses.

### Degree and Major Requirements

#### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours <sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

#### Additional Information

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

#### Core Requirements for all concentrations

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00 <sup>1</sup>  
CHEM 136L. Special General Chemistry Laboratory II 2.00 <sup>1</sup>  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00

**Total: 34 Credit Hours**

#### Required Cognate Courses for all Concentrations

MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00

**Total: 16-18 Credit Hours**

#### Footnote

<sup>1</sup> CHEM 131L-132L may be substituted.

#### Electives

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

#### Courses

This program is designed for business-oriented chemistry students preparing for careers in patent law, technical sales, technical service and related areas. Students completing concentration VI must complete the courses below in addition to core courses.

CHEM 336L. Applied Physical Chemistry Laboratory 2.00  
ACTG 244. Accounting for Non-Business Majors 3.00  
CIS 204. Computer Information Systems Fundamentals for Non-Business Majors 3.00  
ECON 200. Introduction to Macroeconomics [C4GE] 3.00  
ECON 201. Introduction to Microeconomics 3.00  
FIN 345. Finance Fundamentals for Non-Business Majors 3.00  
MATH 220. Elementary Statistics [C3QR] 3.00  
MGT 305. Management and Organizational Behavior 3.00  
MKTG 380. Principles of Marketing 3.00  
Approved chemistry, science and/or COB 1 courses 5 Credit Hours

**Total: 31 Credit Hours**

#### Footnote

<sup>1</sup> COB 218. Legal and Ethical Environment of Business is a suggested elective. Although business electives may be taken by students in this concentration, the total number of business credit hours may not exceed 27.

## Recommended Schedule for Majors

### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00  
CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L.  
General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

### Second Year

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
PHYS 240. University Physics I [C3PP] 3.00

## Chemistry, General Program in Chemistry Concentration, B.S.

Students completing concentration V must complete the Degree and Major courses below.

## Degree and Major Requirements

### Degree Requirements

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours<sup>2</sup>
- Major requirements and electives 70-74 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. Some courses that are required for this major will meet General Education requirements. <sup>2</sup> The quantitative and scientific literacy requirements are met by courses required in the major.

### Additional Information

Students must complete all course work in one of the six concentrations listed to earn a bachelor's degree in chemistry. The credit hours for major requirements will vary based on the chosen concentration.

### Core Requirements for all concentrations

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00<sup>1</sup>  
CHEM 136L. Special General Chemistry Laboratory II 2.00<sup>1</sup>  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00

**Total: 34 Credit Hours**

### Required Cognate Courses for all Concentrations

MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, 232 and 236)  
PHYS 240. University Physics I [C3PP] 3.00

**Total: 16-18 Credit Hours**

### Footnote

<sup>1</sup> CHEM 131L-132L may be substituted.

### Electives

The well-prepared student is encouraged to take as many of the additional departmental offerings as possible as electives with attention being given to junior and/or senior research projects.

Three credits of undergraduate research (CHEM 390A, B/497A, B, C/499A) may be used to satisfy chemistry elective requirements if the research project is completed with the same faculty mentor over multiple semesters.

### Courses

Students completing concentration V must complete the courses below in addition to core courses.

CHEM 336L. Applied Physical Chemistry Laboratory 2.00  
CHEM 352. Instrumental Analysis 3.00

**Total: 10 Credit Hours**

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours  
**Total: 29 Credit Hours**

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00

CHEM 352L. Instrumental Analysis Laboratory 2.00  
Upper division chemistry elective 3 Credit Hours

## Recommended Schedule for Majors

### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 132. General Chemistry II 3.00  
CHEM 135L. Special General Chemistry Laboratory I 1.00  
CHEM 136L. Special General Chemistry Laboratory II 2.00 or CHEM 131L.  
General Chemistry Laboratory [C3PP] 1.00  
CHEM 132L. General Chemistry Laboratory 1.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
General Education courses or electives 10 Credit Hours

**Total: 30-31 Credit Hours**

### Second Year

CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 270. Inorganic Chemistry I 3.00  
CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00  
CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00  
PHYS 240. University Physics I [C3PP] 3.00

PHYS 250. University Physics II 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250L. University Physics Laboratory II 1.00  
General Education courses or electives 9 Credit Hours

**Total: 30 Credit Hours**

### Third Year

CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 352. Instrumental Analysis 3.00  
CHEM 352L. Instrumental Analysis Laboratory 2.00  
CHEM 361. Biochemistry I 3.00  
CHEM 481. Literature and Seminar I 1.00  
CHEM 482. Literature and Seminar II 1.00  
Courses in the concentration, General Education or electives 13 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Courses in the concentration, General Education or electives 29 Credit Hours  
**Total: 29 Credit Hours**

# Department of Communication Sciences and Disorders

Dr. Cynthia R. O'Donoghue, **Head**

**Phone:** (540) 568-6440

**Email:** odonogr@jmu.edu

**Location:** Health and Behavioral Studies Building, Room 1026 **Website:** <http://www.csd.jmu.edu>

## Professors

R. DePaolis, C. Dudding, L. Gray, C. O'Donoghue

## Associate Professors

C. Clinard, C. Kuo, Y. Nie, S. Pavelko, A. Rout, G. Timler

## Assistant Professors

S. Ingram, E. Kamarunas, J. Lee, M. Longerbeam, E. Piker

## Instructors

E. Clinard, L. Freeman

## Mission

The Department of Communication Sciences and Disorders engages students, faculty and members of the community to advance the state of knowledge through basic and applied research, innovative professional and pre-professional education, and enhanced clinical practices to better serve those with communication disorders.

The department is committed to promoting comprehensive, state-of-the-art undergraduate pre-professional education that includes discipline-specific course work and observation. In keeping with university requirements, this includes a broad-based General Education component. The department also delivers graduate-level course work and practicum experiences for those interested in entering professional practice in either speech-language pathology or audiology, a university teaching and research position, or a management/administrative position in service delivery settings.

The department is committed to advancing the state of knowledge in both basic and applied aspects of communication sciences and disorders through its master's and doctoral research degrees and the research activities of its faculty and students and to providing service to the profession, university and client communities at local, state, national and international levels. Through the Speech, Language, and Hearing Clinic, the department provides services as part of the clinical teaching component of its mission and serves as a clinical research resource for students and faculty.

## Goals

- Providing course work and observation at the undergraduate level, including study of the underlying science and development of human communication, and an introduction to disorders that may occur in human communication.
- Providing course work at the undergraduate level that will prepare students for:
- Graduate study in the areas of speech-language pathology or audiology;
- Graduate school in a related discipline; and
- A liberal education in the discipline of communication sciences and disorders.

## Programs of Study

The department offers a B.A. and B.S. in communication sciences and disorders. The department also offers the M.S. in speech-language pathology (professional preparation), the M.S. in communication sciences and disorders (research), the Au.D. (Doctor of Audiology) and the Ph.D. in communication sciences and disorders with emphases in audiology, speech-language pathology and/or speech and hearing science. Inquiries concerning these graduate programs should be directed to the dean of The Graduate School or the appropriate department graduate coordinator. A master's degree is the minimum requirement for competency/certification endorsed by the American Speech-Language-Hearing Association and for Virginia licensure in speech-language pathology. In audiology, a doctoral degree is the minimum requirement for competency/certification endorsed by the American Speech-Language-Hearing Association and for new Virginia licensure applicants.

## Speech, Language, and Hearing Clinic

The JMU audiology clinic and the JMU Speech-Language clinic provide the following services for communicatively impaired individuals of the university community and its service area. Appointments for services may be made by any member of the community.

## Areas of Service Delivery

- Speech-language and/or hearing assessments
- Intervention programs in speech, language and hearing disorders
- Preventative and educational consultation
- Referrals for other professional services when indicated

## Career Opportunities

With relevant graduate degrees:

- Audiologist in medical centers, medical practice, private practice
- Clinical supervisor
- Hearing scientist
- Researcher, university professor
- Speech-language pathologist in the public schools, rehabilitation centers, medical environment, private practice
- Speech scientist

## Co-curricular Organizations

- National Student Speech-Language-Hearing Association
- Student Academy of Audiology

## *Communication Sciences and Disorders, B.A.*

### Degree Requirements

- General Education *41 Credit Hours*<sup>1,2</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>3</sup>
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*
- University electives *28-34 Credit Hours*
- Major requirements (listed below) *48 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> Biological science, statistics, physics and/or chemistry courses are required. They may be taken as part of the General Education courses or as non-departmental required courses.

<sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>3</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

## Major Requirements

### Required Courses

CSD 200. Introduction to Communication Disorders *3.00*  
CSD 207. Phonetics *3.00*  
CSD 208. Anatomy and Physiology of the Ear and Voice Mechanism *3.00*  
CSD 209. Acoustics of Hearing and Speech *3.00*  
CSD 300. Language Development *3.00*  
CSD 301. Audiology *3.00*  
CSD 314. Phonological and Language Disorders *3.00*  
CSD 318. Aural Rehabilitation *3.00*

CSD 412. Professional Issues and Multicultural Considerations in Communication Disorders *3.00*  
CSD 415. Neuroanatomy and Neurogenic Communication Disorders *3.00* or BIO 415. Neuroanatomy and Neurogenic Communication Disorders *3.00*  
CSD 416. Organic Disorders in Communication Sciences and Disorders *3.00*  
PSYC 101. General Psychology [C5SD] *3.00*  
PSYC 160. Life Span Human Development [C5SD] *3.00*  
EXED 200. Foundations of Exceptional Education *3.00*  
MATH 220. Elementary Statistics [C3QR] *3.00*

### Choose one of the following:

CSD 470. Methods and Observation *3.00*

CSD 471. Methods and Observation in Audiology *3.00*

**Total: 48 Credit Hours**

### Recommended Schedule for Majors

#### First Year

CSD 200. Introduction to Communication Disorders *3.00*  
PSYC 101. General Psychology [C5SD] *3.00*  
Biological sciences course *3-4 Credit Hours* 1  
General Education courses *18 Credit Hours*

**Total: 27-30 Credit Hours**

#### Second Year

CSD 207. Phonetics *3.00*  
CSD 208. Anatomy and Physiology of the Ear and Voice Mechanism *3.00*  
CSD 209. Acoustics of Hearing and Speech *3.00*  
PSYC 160. Life Span Human Development [C5SD] *3.00*  
EXED 200. Foundations of Exceptional Education *3.00*  
MATH 220. Elementary Statistics [C3QR] *3.00*  
Physics and/or chemistry course *3-4 Credit Hours* 1  
General Education and/or elective courses *18 Credit Hours*

**Total: 39-40 Credit Hours**

#### Third Year

##### Footnote

<sup>1</sup> Biological science, statistics, physics and/or chemistry courses are required. It may be taken as part of the General Education courses, as part of the B.S. requirement or as a non-departmental required course.

## Communication Sciences and Disorders, B.S.

### Degree Requirements

- General Education *41-44 Credit Hours* <sup>1,2</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- University electives *25-31 Credit Hours*
- Major requirements *48 Credit Hours*

**Total: 120 Credit Hours**

##### Footnotes

<sup>1</sup> Biological science, statistics, physics and/or chemistry courses are required. They may be taken as part of the General Education courses, as part of the B.S. requirement or as non-departmental required courses.

<sup>2</sup> The General Education programs contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

### Required Courses

CSD 200. Introduction to Communication Disorders *3.00*  
CSD 207. Phonetics *3.00*  
CSD 208. Anatomy and Physiology of the Ear and Voice Mechanism *3.00*  
CSD 209. Acoustics of Hearing and Speech *3.00*  
CSD 300. Language Development *3.00*  
CSD 301. Audiology *3.00*  
CSD 314. Phonological and Language Disorders *3.00*  
CSD 318. Aural Rehabilitation *3.00*

CSD 412. Professional Issues and Multicultural Considerations in Communication Disorders *3.00*  
CSD 415. Neuroanatomy and Neurogenic Communication Disorders *3.00* or BIO 415. Neuroanatomy and Neurogenic Communication Disorders *3.00*  
CSD 416. Organic Disorders in Communication Sciences and Disorders *3.00*  
PSYC 101. General Psychology [C5SD] *3.00*  
PSYC 160. Life Span Human Development [C5SD] *3.00*  
EXED 200. Foundations of Exceptional Education *3.00*  
MATH 220. Elementary Statistics [C3QR] *3.00*

### Choose one of the following: 3 Credit Hours

CSD 470. Methods and Observation *3.00*

CSD 471. Methods and Observation in Audiology *3.00*

**Total: 48 Credit Hours**



## Recommended Schedule for Majors

### First Year

CSD 200. Introduction to Communication Disorders *3.00*  
PSYC 101. General Psychology [C5SD] *3.00*  
Biological sciences course *3-4 Credit Hours* 1  
General Education courses *18 Credit Hours*

**Total: 27-30 Credit Hours**

### Second Year

CSD 207. Phonetics *3.00*  
CSD 208. Anatomy and Physiology of the Ear and Voice Mechanism *3.00*  
CSD 209. Acoustics of Hearing and Speech *3.00*  
PSYC 160. Life Span Human Development [C5SD] *3.00*  
EXED 200. Foundations of Exceptional Education *3.00*  
MATH 220. Elementary Statistics [C3QR] *3.00*  
Physics and/or chemistry course *3-4 Credit Hours* 1  
General Education and/or elective courses *18 Credit Hours*

**Total: 39-40 Credit Hours**

### Third Year

CSD 300. Language Development *3.00*

CSD 301. Audiology *3.00*  
CSD 314. Phonological and Language Disorders *3.00*  
CSD 318. Aural Rehabilitation *3.00*  
General Education and/or elective courses *15 Credit Hours*

**Total: 27 Credit Hours**

### Fourth Year

CSD 412. Professional Issues and Multicultural Considerations in  
Communication Disorders *3.00*  
CSD 415. Neuroanatomy and Neurogenic Communication Disorders *3.00* or BIO  
415. Neuroanatomy and Neurogenic Communication Disorders *3.00*  
CSD 416. Organic Disorders in Communication Sciences and Disorders *3.00*  
Electives *21 Credit Hours*  
Choose one of the following: *3 Credit Hours*  
CSD 470. Methods and Observation *3.00*  
CSD 471. Methods and Observation in Audiology *3.00*

**Total: 30 Credit Hours**

### Footnote

<sup>1</sup> Biological science, statistics, physics and/or chemistry courses are required. It may be taken as part of the General Education courses, as part of the B.S. requirement or as a non-departmental required course.

# School of Communication Studies

Dr. Eric M. Fife, **Director**

Dr. Toni S. Whitfield, **Assistant Director**

**Phone:** (540) 568-6228

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**Location:** Harrison Hall, Room 1276

**Website:** <http://www.jmu.edu/commstudies>

## Professors

M. Aleman, P. Bsumek, E. Fife, C. Hickerson, S. Mazzarella, L. Nelson, S. Richards, D. Schill, R. Soenksen, T. Whitfield

## Associate Professors

C. Aleman, T. Ball, A. Bodkin, L. Harvell-Bowman, L. Britt, Y. Kim, J. Rosier, C. Woo, J. Rosier

## Assistant Professors

I. Basnyat, M. Brigham, M. Broderick, K. Hobson, L. Kristiansen, P. Mabrey, S. Meganck, J. PeeksMease, M. Souders, T. Tylus-Reynolds

## Lecturers/Instructors

E. Armstrong, A. Brickner, A. Dupal, J. Gochenour, G. Hazard, J. Krauklis, L. Mayfield, A. Reid, C. Saindon, S. Taylor

## Mission

We are a community engaged in teaching, researching and practicing communication as central to cultivating ethical, productive and meaningful lives and relationships.

## Goals

As the school offers courses and programs in communication studies, the school seeks to fulfill the following goals:

- To prepare all JMU students who take a communication studies course to use oral communication skills effectively.
- To prepare students with a major or minor in communication studies for graduate and professional study as well as for careers in communication and communication-related professions.
- To provide co-curricular opportunities which enhance and reinforce communication competencies for all JMU students.

## Career Opportunities and Marketable Skills

Students of communication studies develop skill competencies required for effective interaction and leadership in communities, workplaces and groups. Some of these skills include:

- Speaking
- Interacting in small groups
- Using nonverbal communication skills such as use of space, voice, gaze and facial expressions
- Constructing persuasive messages and campaigns
- Using computers for word processing, statistical analysis, desktop publishing, graphic design, web page construction and browsing the Internet
- Analyzing communication at all levels including interpersonal, small group and organizational
- Persuading successfully
- Using language effectively
- Writing effectively
- Mediating and resolving conflicts
- Listening and problem solving

Such careers are part of the following fields:

- Consulting
- Entertainment
- Hospitality Industry
- Management
- Personnel
- Politics
- Sales
- Teaching

Study in communication studies also serves as valuable pre-professional preparation for graduate and professional studies in the following fields:

- Communication
- Counseling
- Law
- Management
- Ministry

Students who study communication studies acquire skills that enable them to interact with others effectively. These skills include:

- Speaking in front of groups
- Interacting effectively in small groups
- Using nonverbal communication skills such as use of space, voice, eyes and facial expressions
- Constructing persuasive messages and campaigns
- Using computers for word processing, statistical analysis, desktop publishing, graphic design, web page construction and browsing the Internet
- Analyzing communication problems at the organizational level
- Persuading successfully
- Using language effectively
- Writing effectively
- Mediating and resolving conflicts

## Co-curricular Activities and Organizations

To enhance courses and programs in communication studies, the school offers a variety of co-curricular activities and organizations open to all JMU students. Co-curricular activities involve practical communication experiences for which credit is available, either through the various practicums or one of the school's applied courses. Co-curricular organizations are student clubs and honorary societies associated with the school's individual programs of study.

## Activities

- Annual Communication Studies Conference: Annual program highlighting undergraduate scholarship in which students deliver professional presentations to the JMU community on a variety of topics that reflect the diverse research methodologies and areas of study in the School of Communication Studies.
- Debate Team: Affords students interested in debating intercollegiate tournament competition and local audience experiences.
- Individual Events Team: Intercollegiate tournament competition and local audience experiences for students interested in public speaking and the oral interpretation of literature can be acquired through individual events team participation.

## Organizations

- Delta Sigma Rho-Tau Kappa Alpha: A chapter of a national honorary organization for students competing in intercollegiate debate and individual events.

- Lambda Pi Eta: A chapter of a national honorary organization for students interested in communication.
- Destination Imagination: Students interested in effective conflict resolution and mediation skills can participate in the activities.
- Public Relations Student Society Association: An award-winning student organization for students pursuing careers in public relations.
- Health Communication Institute: Students interested in effective communication with health communication professionals can work with the institute in a practicum or directed project.

## Admission to the Major

Admission to JMU does not guarantee admission to the School of Communication Studies. All students interested in majoring in the program must apply for a limited number of spaces while first completing SCOM 240 and SCOM 241. In order to register for these classes, students must change their major to "SCOM declared" to register for SCOM 240 and SCOM 241.

The School of Communication Studies reviews applications for admission to the major each semester. Students must submit their applications (which can be accessed from the SCOM website and submitted by email) in the semester in which they are completing the SCOM 240 and SCOM 241 requirements. Applications are due by November 15 (fall semester) and April 15 (spring semester). Students who have applied by the above deadlines will be notified of the department's admission decision at the end of the semester in which they complete the SCOM 240 and SCOM 241 requirements.

Admission to the major is based on availability to the most qualified students as determined by performance in SCOM 240 and SCOM 241. It is possible for a student to be accepted into the major but not into their first choice concentration.

Students who are not admitted may file one more additional application in the next regular semester. Students reapplying must apply in two consecutive semesters of enrollment at the university. If a student reapplies after retaking SCOM 240 and SCOM 241 (whether repeat or repeat/forgive), the school will look only at their highest grades earned when evaluating their second application.

Successful completion of a major in the School of Communication Studies requires, at the very least, a minimum of four semesters after a student is fully admitted to the school. Depending upon the student's particular circumstances and degree progress, more than four semesters may be required for completing the major. Once admitted to the School of Communication Studies, a student cannot retroactively apply more than nine hours of SCOM courses, including SCOM 240 and SCOM 241, to his/her major (SCOM 121/SCOM 122/SCOM 123 does not count towards those nine hours).

## Policy for Students Transferring from Another Institution

Students applying from other institutions are held to the same policies and guidelines as other applicants. However, once admitted to the School of Communication Studies, transfer students may petition for SCOM credit for courses taken at previous institutions. As with other applicants, they cannot retroactively apply more than nine hours of SCOM courses taken at JMU, including SCOM 240 and SCOM 241, to their major or minor once admitted to the School of Communication Studies.

## Minimum Grades

Any course taken to fulfill a degree requirement in communication studies must be completed with a minimum grade of "C-". A communication studies course completed with a grade of "D" may be credited toward graduation but may not be included as course work toward a communication studies major or minor. Additionally, courses completed with a grade less than "C-" will not count as fulfilling prerequisites for future courses, and enrolled students may be administratively removed from courses for which they have not completed a required prerequisite with a grade of "C-" or higher.

## Limitations in Applied Courses

No more than six hours combined credit in SCOM 318. Practicum in Communication Studies, SCOM 390. Directed Projects and SCOM 495. Internship in Communication Studies may be counted toward a major in communication studies unless approved by the academic unit head.

## Double Counting

Students with a communication studies major are allowed to count toward the major a maximum of six hours of credit earned to satisfy requirements in another major or minor.

## Degree and Major Requirements

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

## *Communication Studies Minor*

### Minor Requirements

A minor in communication studies requires 18 hours of course work in communication studies beyond the General Education requirement, including SCOM 240, SCOM 241 and a minimum of nine hours at the 300 level and three hours at the 400 level. Before a student begins a minor in communication studies, the school director and the student's adviser must approve his/her planned program of study.

### Admission to the Minor

Admission to JMU does not guarantee admission to a minor in the School of Communication Studies. All students interested in minoring in the program must apply for a limited number of spaces while first completing SCOM 240 and SCOM 241. In order to register for these classes, students must first declare the SCOM minor online. The School of Communication Studies reviews applications for admission to the minor each semester. Students must submit their applications (which can be accessed from the SCOM website and submitted by email) in the semester in which they are completing the SCOM 240 and 241 requirements. Applications are due by November 15 (fall semester) and April 15 (spring semester). Students who have applied will be notified of the department's admission decision at the end of the semester in which they complete the SCOM 240 and SCOM 241 requirements.

Admission to an SCOM minor is based on availability to the most qualified students as determined by performance in SCOM 240 and SCOM 241.

Students who are not admitted may file one more additional application in the next regular semester. Students reapplying must apply in two consecutive semesters of enrollment at the university. If a student reapplies after retaking SCOM 240 and SCOM 241 (whether repeat or repeat/forgive), the school will look only at their highest grades earned when evaluating their second application.

Successful completion of any minor in the School of Communication Studies requires, at the very least, a minimum of two semesters after a student is fully admitted to the School. Depending upon the student's particular circumstances and degree progress, more than two semesters may be required for completing the minor. Once admitted to the School of Communication Studies, a student cannot retroactively apply more than nine hours of SCOM courses, including SCOM 240 and SCOM 241, to his/her minor. Also, once admitted to an SCOM minor, a student cannot automatically transfer into the SCOM major without reapplying in a subsequent semester, and there is no guarantee of acceptance.

## ***Communication Studies, Advocacy Studies Concentration, B.A.***

### **Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *21-46 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### **Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### **Major Requirements**

#### **Core Requirements**

SCOM 240. Introduction to Communication Theory *2.00*  
 SCOM 241. Communication Theory Lab *1.00*  
 SCOM 242. Presentational Speaking *3.00*

SCOM 280. Introduction to Communication Research *3.00*<sup>1</sup>  
 SCOM 341. Persuasion *3.00*

Completion of Core Assessment in Communication Studies Milestone *0 Credit Hours*

Additional communication studies elective at the 200, 300 or 400 level *3 Credit Hours*

Additional communication studies electives at the 300-400 levels *9 Credit Hours*

#### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication *3.00*  
 SCOM 261. Public Relations Techniques I: Written *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
     Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 332. Mediation *3.00*  
 SCOM 333. Negotiations *3.00*  
 SCOM 335. Communication Consulting *3.00*  
 SCOM 340. Principles and Processes of Interviewing *3.00*

SCOM 342. Argument and Advocacy *3.00*  
 SCOM 344. Oral Interpretation *3.00*  
 SCOM 358. Business and Professional Communication Studies *3.00*  
 SCOM 361. Public Relations Techniques II: Visual *3.00*  
 SCOM 367. Advanced Public Relations Writing *3.00*  
 SCOM 447. Facilitating Public and Organizational Engagement Processes *3.00*  
 SCOM 449. Communication Training *3.00*

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods *3.00*  
 SCOM 383. Quantitative Experimental Research Methods *3.00*  
 SCOM 385. Qualitative Research Methods *3.00*

SCOM 386. Survey Research Methods *3.00*  
 SCOM 388. Campaign Research Methods *3.00*

#### **Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.  
 SCOM 248. Intercultural Communication *3.00*  
 SCOM 260. Introduction to Public Relations *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
     Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 305. Language and Culture *3.00* or ANTH 305. Language and Culture *3.00*  
     (C)  
 SCOM 313. Topics in Communication Studies *1.00 - 3.00*  
 SCOM 314. Communication in Romantic Relationships *3.00*  
 SCOM 320. Introduction to Interpersonal Communication *3.00*  
 SCOM 330. Special Topics in Interpersonal Communication *3.00*

SCOM 331. Communication and Conflict *3.00*  
 SCOM 334. Alternative Dispute Resolution *3.00*  
 SCOM 345. Nonverbal Communication *3.00*  
 SCOM 346. Free Speech in America *3.00*  
 SCOM 347. Communication, Diversity and Popular Culture *3.00*  
 SCOM 348. Communication and Gender *3.00* or WGSS 348. Communication & Gender *3.00*  
 SCOM 349. Ethnographic Approaches to Communication Studies *3.00*  
 SCOM 350. Organizational Communication *3.00*  
 SCOM 351. Visual Rhetoric *3.00* or WRTC 351. Visual Rhetoric *3.00*  
 SCOM 352. Communication and Social Movements *3.00*

SCOM 353. American Political Culture and Communication 3.00  
 SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
 Environmental Communication and Advocacy 3.00  
 SCOM 355. Food as Communication 3.00  
 SCOM 357. Youth, Communication and Culture 3.00  
 SCOM 365. Sports Public Relations 3.00  
 SCOM 369. Topics in Engaged Public Relations 3.00  
 SCOM 370. Introduction to Health Communication 3.00  
 SCOM 395. Study Abroad Seminar 3.00 - 6.00  
 SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits  
 SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00  
 SCOM 425. Leadership Communication 3.00  
 SCOM 431. Legal Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 440. Family Communication 3.00  
 SCOM 441. Oral History 3.00  
 HIST 441. Oral History 3.00  
 SCOM 442. Advanced Topics in Advocacy Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 460. Public Relations Management 3.00  
 SCOM 461. Public Relations Campaigns 3.00  
 SCOM 363. International Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

**Total: 39 Credit Hours**

**Advocacy Studies Concentration**

This concentration prepares students to understand, critically evaluate and engage the communication theories, processes, media institutions and communication technologies that citizens, political leaders, government officials, public administrators, interest groups and community service organizations use to campaign, deliberate, adjudicate, govern and advocate for social change. Skilled advocates adopt, develop and implement diverse sets of communication strategies that help clients articulate interests and goals, determine social systems and audiences most likely to achieve goals, identify effective media and appropriate goal oriented messages, and develop plans for implementing change. In addition to the 12 hours of required communication studies courses, students studying advocacy must complete the following 18 hours from among the depth requirements. The school also recommends that students enroll in an internship during their junior or senior year.

**Courses**

SCOM 342. Argument and Advocacy 3.00  
 SCOM 352. Communication and Social Movements 3.00  
 SCOM 353. American Political Culture and Communication 3.00

SCOM 381. Rhetorical Research Methods 3.00  
 SCOM 442. Advanced Topics in Advocacy Studies 3.00

**Choose one: 3 Credit Hours**

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 OR WGSS 301. Feminist Blogging: Writing for Shout Out! JMU 3.00  
 SCOM 302. Third Wave Ecofeminism 3.00 OR WGSS 302. Third Wave Ecofeminism 3.00  
 SCOM 331. Communication and Conflict 3.00  
 SCOM 343. Contemporary Rhetorical Theory and Practice 3.00 OR WRTC 430. Contemporary Rhetorical Theory and Practice 3.00  
 SCOM 346. Free Speech in America 3.00  
 SCOM 347. Communication, Diversity and Popular Culture 3.00  
 SCOM 354. Environmental Communication and Advocacy 3.00 OR WRTC 326. Environmental Communication and Advocacy 3.00

SCOM 357. Youth, Communication and Culture 3.00  
 SMAD 357. Youth, Communication and Culture 3.00  
 SCOM 420. Feminist Rhetorics 3.00 OR WGSS 420. Feminist Rhetorics 3.00 OR WRTC 420. Feminist Rhetorics 3.00  
 SCOM 431. Legal Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 472. Media and Politics 3.00 OR POSC 472. Media and Politics 3.00 OR SMAD 472. Media and Politics 3.00  
 SCOM 495. Internship in Communication Studies 3.00-6.00, repeatable to 6 credits

**Total: 18 Credit Hours**

***Communication Studies, Advocacy Studies Concentration, B.S.***

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

**Additional Information**

Students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

## Major Requirements

### Core Requirements

SCOM 240. Introduction to Communication Theory 2.00  
SCOM 241. Communication Theory Lab 1.00  
SCOM 242. Presentational Speaking 3.00

Completion of Core Assessment in Communication Studies Milestone 0 *Credit Hours*

Additional communication studies elective at the 200, 300 or 400 level 3 *Credit Hours*

Additional communication studies electives at the 300-400 levels 9 *Credit Hours*

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### Depth Requirement: (15 hours required from the depth areas below)

#### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

#### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

#### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00  
(C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

### Advocacy Studies Concentration

This concentration prepares students to understand, critically evaluate and engage the communication theories, processes, media institutions and communication technologies that citizens, political leaders, government officials, public administrators, interest groups and community service organizations use to campaign, deliberate, adjudicate, govern and advocate for social change. Skilled advocates adopt, develop and implement diverse sets of communication strategies that help clients articulate interests and goals, determine social systems and audiences most likely to achieve goals, identify effective media and appropriate goal oriented messages, and develop plans for implementing change.

In addition to the 12 hours of required communication studies courses, students studying advocacy must complete the following 18 hours from among the depth requirements. The school also recommends that students enroll in an internship during their junior or senior year.

### Courses

SCOM 342. Argument and Advocacy 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00

#### Choose one: 3 Credit Hours

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 302. Third Wave Ecofeminism 3.00 or WGSS 302. Third Wave  
Ecofeminism 3.00

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
SCOM 341. Persuasion 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00  
HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 464. Communication, Culture and Sports 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSC 472. Media and Politics 3.00

SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 357. Youth, Communication and Culture 3.00 or SMAD 357. Youth,  
Communication and Culture 3.00  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00

**Total: 18 Credit Hours**

## ***Communication Studies, B.A.***

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Foreign language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours
- University electives 11-49 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

**Total: 120 Credit Hours**

### **Major Requirements**

#### **Core Requirements**

SCOM 240. Introduction to Communication Theory 2.00  
SCOM 241. Communication Theory Lab 1.00  
SCOM 242. Presentational Speaking 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours

Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours

Additional communication studies electives at the 300-400 levels 9 Credit Hours

#### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

#### **Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 302. Third Wave Ecofeminism 3.00 or WGSS 302. Third Wave  
Ecofeminism 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture  
3.00 (C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 352. Communication and Social Movements 3.00

SCOM 431. Legal Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00 or  
SMAD 472. Media and Politics 3.00  
SCOM 495. Internship in Communication Studies 3.00-6.00, repeatable to 6  
credits

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
SCOM 341. Persuasion 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable  
to 6 credits  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00 or HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00

SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 464. Communication, Culture and Sports 3.00

SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSG 472. Media and Politics 3.00

**Total: 39 Credit Hours**

## ***Communication Studies, B.S.***

### **Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### **Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### **Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### **Major Requirements**

#### **Core Requirements**

SCOM 240. Introduction to Communication Theory 2.00  
SCOM 241. Communication Theory Lab 1.00  
SCOM 242. Presentational Speaking 3.00

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours

Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours

Additional communication studies electives at the 300-400 levels 9 Credit Hours

#### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

#### **Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture  
3.00 (C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00



SCOM 350. Organizational Communication 3.00  
 SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
 SCOM 352. Communication and Social Movements 3.00  
 SCOM 353. American Political Culture and Communication 3.00  
 SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00  
 SCOM 355. Food as Communication 3.00  
 SCOM 357. Youth, Communication and Culture 3.00  
 SCOM 365. Sports Public Relations 3.00  
 SCOM 369. Topics in Engaged Public Relations 3.00  
 SCOM 370. Introduction to Health Communication 3.00  
 SCOM 395. Study Abroad Seminar 3.00 - 6.00  
 SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits  
 SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00  
 SCOM 425. Leadership Communication 3.00

SCOM 431. Legal Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
 SCOM 440. Family Communication 3.00  
 SCOM 441. Oral History 3.00  
 HIST 441. Oral History 3.00  
 SCOM 442. Advanced Topics in Advocacy Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 460. Public Relations Management 3.00  
 SCOM 461. Public Relations Campaigns 3.00  
 SCOM 363. International Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

**Total: 39 Credit Hours**

## ***Communication Studies, Cultural Communication Concentration, B.A.***

### **Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### **Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### **Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### **Major Requirements**

#### **Core Requirements**

SCOM 240. Introduction to Communication Theory 2.00  
 SCOM 241. Communication Theory Lab 1.00  
 SCOM 242. Presentational Speaking 3.00  
 SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
 SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours  
 Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours  
 Additional communication studies electives at the 300-400 levels 9 Credit Hours

#### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication 3.00  
 SCOM 261. Public Relations Techniques I: Written 3.00  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301. Feminist Blogging: Writing for Shout Out! JMU 3.00  
 SCOM 332. Mediation 3.00  
 SCOM 333. Negotiations 3.00  
 SCOM 335. Communication Consulting 3.00  
 SCOM 340. Principles and Processes of Interviewing 3.00

SCOM 342. Argument and Advocacy 3.00  
 SCOM 344. Oral Interpretation 3.00  
 SCOM 358. Business and Professional Communication Studies 3.00  
 SCOM 361. Public Relations Techniques II: Visual 3.00  
 SCOM 367. Advanced Public Relations Writing 3.00  
 SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
 SCOM 449. Communication Training 3.00

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00

### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00

SCOM 260. Introduction to Public Relations 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00  
(C)

SCOM 313. Topics in Communication Studies 1.00 - 3.00

SCOM 314. Communication in Romantic Relationships 3.00

SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00

SCOM 331. Communication and Conflict 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SCOM 345. Nonverbal Communication 3.00

SCOM 346. Free Speech in America 3.00

SCOM 347. Communication, Diversity and Popular Culture 3.00

SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00

SCOM 349. Ethnographic Approaches to Communication Studies 3.00

SCOM 350. Organizational Communication 3.00

SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00

SCOM 352. Communication and Social Movements 3.00

SCOM 353. American Political Culture and Communication 3.00

SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.

Environmental Communication and Advocacy 3.00

SCOM 355. Food as Communication 3.00

SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

### Cultural Communication Concentration Courses

SCOM 248. Intercultural Communication 3.00

SCOM 349. Ethnographic Approaches to Communication Studies 3.00

SCOM 448. Communication, Culture and Identity 3.00

Choose one: 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00

**Total: 18 Credit Hours**

## Communication Studies, Cultural Communication Concentration, B.S.

### Degree and Major Requirements

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### Major Requirements

SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00

SCOM 369. Topics in Engaged Public Relations 3.00

SCOM 370. Introduction to Health Communication 3.00

SCOM 395. Study Abroad Seminar 3.00 - 6.00

SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits

SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00

SCOM 425. Leadership Communication 3.00

SCOM 431. Legal Communication 3.00

SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 440. Family Communication 3.00

SCOM 441. Oral History 3.00

HIST 441. Oral History 3.00

SCOM 442. Advanced Topics in Advocacy Studies 3.00

SCOM 448. Communication, Culture and Identity 3.00

SCOM 450. Advanced Studies in Organizational Communication 3.00

SCOM 453. Political Campaign Communication 3.00

SCOM 460. Public Relations Management 3.00

SCOM 461. Public Relations Campaigns 3.00

SCOM 363. International Public Relations 3.00

SCOM 464. Communication, Culture and Sports 3.00

SCOM 470. Health Communication Campaigns 3.00

SCOM 471. Culture and Health Communication 3.00

SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or

POSC 472. Media and Politics 3.00

Choose two: 6 Credit Hours

SCOM 305. Language and Culture 3.00

SCOM 347. Communication, Diversity and Popular Culture 3.00

SCOM 348. Communication and Gender 3.00

SCOM 352. Communication and Social Movements 3.00

SCOM 355. Food as Communication 3.00

SCOM 357. Youth, Communication and Culture 3.00

## Core Requirements

SCOM 240. Introduction to Communication Theory 2.00  
SCOM 241. Communication Theory Lab 1.00  
SCOM 242. Presentational Speaking 3.00

Completion of Core Assessment in Communication Studies Milestone 0 *Credit Hours*  
Additional communication studies elective at the 200, 300 or 400 level 3 *Credit Hours*  
Additional communication studies electives at the 300-400 levels 9 *Credit Hours*

## Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Depth Requirement: (15 hours required from the depth areas below)

### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00  
(C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

## Cultural Communication Concentration Courses

SCOM 248. Intercultural Communication 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
*Choose one: 3 Credit Hours*  
SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00  
SCOM 386. Survey Research Methods 3.00

**Total: 18 Credit Hours**

## Communication Studies, Generalist Concentration, B.A.

### Degree and Major Requirements

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement. All programs must include at least five elements:

- Twelve hours of required courses.

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
SCOM 341. Persuasion 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00  
HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 464. Communication, Culture and Sports 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSC 472. Media and Politics 3.00

*Choose two: 6 Credit Hours*

SCOM 305. Language and Culture 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00

- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

## Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *21-46 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

## Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

## Major Requirements

SCOM 240. Introduction to Communication Theory *2.00*  
 SCOM 241. Communication Theory Lab *1.00*  
 SCOM 242. Presentational Speaking *3.00*

SCOM 280. Introduction to Communication Research *3.00*<sup>1</sup>  
 SCOM 341. Persuasion *3.00*

Completion of Core Assessment in Communication Studies Milestone *0 Credit Hours*  
 Additional communication studies elective at the 200, 300 or 400 level *3 Credit Hours*  
 Additional communication studies electives at the 300-400 levels *9 Credit Hours*

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Depth Requirement: (15 hours required from the depth areas below)

### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication *3.00*  
 SCOM 261. Public Relations Techniques I: Written *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 332. Mediation *3.00*  
 SCOM 333. Negotiations *3.00*  
 SCOM 335. Communication Consulting *3.00*  
 SCOM 340. Principles and Processes of Interviewing *3.00*

SCOM 342. Argument and Advocacy *3.00*  
 SCOM 344. Oral Interpretation *3.00*  
 SCOM 358. Business and Professional Communication Studies *3.00*  
 SCOM 361. Public Relations Techniques II: Visual *3.00*  
 SCOM 367. Advanced Public Relations Writing *3.00*  
 SCOM 447. Facilitating Public and Organizational Engagement Processes *3.00*  
 SCOM 449. Communication Training *3.00*

### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods *3.00*  
 SCOM 383. Quantitative Experimental Research Methods *3.00*  
 SCOM 385. Qualitative Research Methods *3.00*

SCOM 386. Survey Research Methods *3.00*  
 SCOM 388. Campaign Research Methods *3.00*

### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication *3.00*  
 SCOM 260. Introduction to Public Relations *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 305. Language and Culture *3.00* or ANTH 305. Language and Culture *3.00*  
 (C)  
 SCOM 313. Topics in Communication Studies *1.00 - 3.00*  
 SCOM 314. Communication in Romantic Relationships *3.00*  
 SCOM 320. Introduction to Interpersonal Communication *3.00*  
 SCOM 330. Special Topics in Interpersonal Communication *3.00*  
 SCOM 331. Communication and Conflict *3.00*  
 SCOM 334. Alternative Dispute Resolution *3.00*  
 SCOM 345. Nonverbal Communication *3.00*  
 SCOM 346. Free Speech in America *3.00*  
 SCOM 347. Communication, Diversity and Popular Culture *3.00*  
 SCOM 348. Communication and Gender *3.00* or WGSS 348. Communication & Gender *3.00*  
 SCOM 349. Ethnographic Approaches to Communication Studies *3.00*  
 SCOM 350. Organizational Communication *3.00*  
 SCOM 351. Visual Rhetoric *3.00* or WRTC 351. Visual Rhetoric *3.00*  
 SCOM 352. Communication and Social Movements *3.00*  
 SCOM 353. American Political Culture and Communication *3.00*  
 SCOM 354. Environmental Communication and Advocacy *3.00* or WRTC 326.  
 Environmental Communication and Advocacy *3.00*

SCOM 355. Food as Communication *3.00*  
 SCOM 357. Youth, Communication and Culture *3.00*  
 SCOM 365. Sports Public Relations *3.00*  
 SCOM 369. Topics in Engaged Public Relations *3.00*  
 SCOM 370. Introduction to Health Communication *3.00*  
 SCOM 395. Study Abroad Seminar *3.00 - 6.00*  
 SCOM 413. Advanced Topics in Communication Studies *1.00 - 6.00, repeatable to 6 credits*  
 SCOM 420. Feminist Rhetorics *3.00* or WGSS 420. Feminist Rhetorics *3.00* or WRTC 420. Feminist Rhetorics *3.00*  
 SCOM 425. Leadership Communication *3.00*  
 SCOM 431. Legal Communication *3.00*  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention *3.00*  
 SCOM 440. Family Communication *3.00*  
 SCOM 441. Oral History *3.00*  
 HIST 441. Oral History *3.00*  
 SCOM 442. Advanced Topics in Advocacy Studies *3.00*  
 SCOM 448. Communication, Culture and Identity *3.00*  
 SCOM 450. Advanced Studies in Organizational Communication *3.00*  
 SCOM 453. Political Campaign Communication *3.00*  
 SCOM 460. Public Relations Management *3.00*  
 SCOM 461. Public Relations Campaigns *3.00*  
 SCOM 363. International Public Relations *3.00*  
 SCOM 464. Communication, Culture and Sports *3.00*

SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00

**Total: 39 Credit Hours**

### Generalist Concentration Courses

#### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 332. Mediation 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 338. The Art of Public Debate 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

#### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

#### Communication Theory and Context (choose three): 9 Credit Hours

SCOM 245. Signs, Symbols and Social Interaction 3.00  
SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 302. Third Wave Ecofeminism 3.00 or WGSS 302. Third Wave  
Ecofeminism 3.00  
SCOM 305. Language and Culture 3.00 OR ANTH 305. Language and Culture 3.00  
(C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00 (1-3 credits)  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 OR WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 351. Visual Rhetoric 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 OR WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00

SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSC 472. Media and Politics 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 357. Youth, Communication and Culture 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits  
SCOM 420. Feminist Rhetorics 3.00 OR WGSS 420. Feminist Rhetorics 3.00 OR  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00 OR HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 464. Communication, Culture and Sports 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 OR SMAD 472. Media and Politics 3.00 OR  
POSC 472. Media and Politics 3.00

## Communication Studies, Generalist Concentration, B.S.

### Degree and Major Requirements

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### Degree Requirements

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours<sup>2</sup>
- University electives 21-46 Credit Hours<sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

## Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

## Major Requirements

SCOM 240. Introduction to Communication Theory 2.00

SCOM 241. Communication Theory Lab 1.00

SCOM 242. Presentational Speaking 3.00

Completion of Core Assessment in Communication Studies Milestone 0 *Credit Hours*

Additional communication studies elective at the 200, 300 or 400 level 3 *Credit Hours*

Additional communication studies electives at the 300-400 levels 9 *Credit Hours*

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Depth Requirement: (15 hours required from the depth areas below)

### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00

SCOM 261. Public Relations Techniques I: Written 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 332. Mediation 3.00

SCOM 333. Negotiations 3.00

SCOM 335. Communication Consulting 3.00

SCOM 340. Principles and Processes of Interviewing 3.00

### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00

SCOM 260. Introduction to Public Relations 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00 (C)

SCOM 313. Topics in Communication Studies 1.00 - 3.00

SCOM 314. Communication in Romantic Relationships 3.00

SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00

SCOM 331. Communication and Conflict 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SCOM 345. Nonverbal Communication 3.00

SCOM 346. Free Speech in America 3.00

SCOM 347. Communication, Diversity and Popular Culture 3.00

SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication & Gender 3.00

SCOM 349. Ethnographic Approaches to Communication Studies 3.00

SCOM 350. Organizational Communication 3.00

SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00

SCOM 352. Communication and Social Movements 3.00

SCOM 353. American Political Culture and Communication 3.00

SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00

SCOM 355. Food as Communication 3.00

SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

## Generalist Concentration Courses

### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00

SCOM 261. Public Relations Techniques I: Written 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 332. Mediation 3.00

SCOM 335. Communication Consulting 3.00

SCOM 338. The Art of Public Debate 3.00

SCOM 340. Principles and Processes of Interviewing 3.00

### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 280. Introduction to Communication Research 3.00<sup>1</sup>

SCOM 341. Persuasion 3.00

SCOM 342. Argument and Advocacy 3.00

SCOM 344. Oral Interpretation 3.00

SCOM 358. Business and Professional Communication Studies 3.00

SCOM 361. Public Relations Techniques II: Visual 3.00

SCOM 367. Advanced Public Relations Writing 3.00

SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00

SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00

SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00

SCOM 369. Topics in Engaged Public Relations 3.00

SCOM 370. Introduction to Health Communication 3.00

SCOM 395. Study Abroad Seminar 3.00 - 6.00

SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits

SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00

SCOM 425. Leadership Communication 3.00

SCOM 431. Legal Communication 3.00

SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 440. Family Communication 3.00

SCOM 441. Oral History 3.00

HIST 441. Oral History 3.00

SCOM 442. Advanced Topics in Advocacy Studies 3.00

SCOM 448. Communication, Culture and Identity 3.00

SCOM 450. Advanced Studies in Organizational Communication 3.00

SCOM 453. Political Campaign Communication 3.00

SCOM 460. Public Relations Management 3.00

SCOM 461. Public Relations Campaigns 3.00

SCOM 363. International Public Relations 3.00

SCOM 464. Communication, Culture and Sports 3.00

SCOM 470. Health Communication Campaigns 3.00

SCOM 471. Culture and Health Communication 3.00

SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or

POSC 472. Media and Politics 3.00

SCOM 342. Argument and Advocacy 3.00

SCOM 344. Oral Interpretation 3.00

SCOM 358. Business and Professional Communication Studies 3.00

SCOM 361. Public Relations Techniques II: Visual 3.00

SCOM 367. Advanced Public Relations Writing 3.00

SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00

SCOM 449. Communication Training 3.00

SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00

SCOM 388. Campaign Research Methods 3.00

**Communication Theory and Context (choose three): 9 Credit Hours**

- SCOM 245. Signs, Symbols and Social Interaction 3.00
- SCOM 248. Intercultural Communication 3.00
- SCOM 260. Introduction to Public Relations 3.00
- SCOM 302. Third Wave Ecofeminism 3.00 or WGSS 302. Third Wave Ecofeminism 3.00
- SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00 (C)
- SCOM 313. Topics in Communication Studies 1.00 - 3.00 (1-3 credits)
- SCOM 314. Communication in Romantic Relationships 3.00
- SCOM 320. Introduction to Interpersonal Communication 3.00
- SCOM 330. Special Topics in Interpersonal Communication 3.00
- SCOM 331. Communication and Conflict 3.00
- SCOM 334. Alternative Dispute Resolution 3.00
- SCOM 345. Nonverbal Communication 3.00
- SCOM 346. Free Speech in America 3.00
- SCOM 347. Communication, Diversity and Popular Culture 3.00
- SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication & Gender 3.00
- SCOM 349. Ethnographic Approaches to Communication Studies 3.00
- SCOM 350. Organizational Communication 3.00
- SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00
- SCOM 352. Communication and Social Movements 3.00
- SCOM 353. American Political Culture and Communication 3.00
- SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00
- SCOM 355. Food as Communication 3.00

- SCOM 357. Youth, Communication and Culture 3.00
- SCOM 363. International Public Relations 3.00
- SCOM 365. Sports Public Relations 3.00
- SCOM 369. Topics in Engaged Public Relations 3.00
- SCOM 370. Introduction to Health Communication 3.00
- SCOM 395. Study Abroad Seminar 3.00 - 6.00
- SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits
- SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00
- SCOM 425. Leadership Communication 3.00
- SCOM 431. Legal Communication 3.00
- SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00
- SCOM 440. Family Communication 3.00
- SCOM 441. Oral History 3.00 or HIST 441. Oral History 3.00
- SCOM 442. Advanced Topics in Advocacy Studies 3.00
- SCOM 448. Communication, Culture and Identity 3.00
- SCOM 450. Advanced Studies in Organizational Communication 3.00
- SCOM 453. Political Campaign Communication 3.00
- SCOM 460. Public Relations Management 3.00
- SCOM 461. Public Relations Campaigns 3.00
- SCOM 464. Communication, Culture and Sports 3.00
- SCOM 470. Health Communication Campaigns 3.00
- SCOM 471. Culture and Health Communication 3.00
- SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

**Communication Studies, Health Communication Studies Concentration, B.A.**

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

**Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

**Major Requirements**

- SCOM 240. Introduction to Communication Theory 2.00
- SCOM 241. Communication Theory Lab 1.00
- SCOM 242. Presentational Speaking 3.00
- SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>
- SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours  
Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours  
Additional communication studies electives at the 300-400 levels 9 Credit Hours

**Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

**Depth Requirement: (15 hours required from the depth areas below)**

**Communication Skills (choose one): 3 Credit Hours**

- SCOM 247. Small Group Communication 3.00
- SCOM 261. Public Relations Techniques I: Written 3.00
- SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301. Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00  
SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00

**Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

**Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00  
(C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

**Health Communication Studies Concentration Courses**

This concentration prepares students for careers in a variety of areas including: patient advocacy, patient experience coaching, health educator, wellness coordinator, health policy advocacy and health-related writing. Students will gain strong writing and research skills, project management expertise, leadership, team building and gain knowledge in the areas of: doctor-patient communication, interpersonal health communication, health campaigns, culture and health, public health and current topics in health communication. In addition to the 12 hours of required communication studies courses, students studying health communication must complete the following hours from among the depth requirements. Students are encouraged to enroll in an internship during their junior or senior years.

SCOM 370. Introduction to Health Communication 3.00  
SCOM 468. Patient-Provider Communication 3.00

SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00  
HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 464. Communication, Culture and Sports 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSC 472. Media and Politics 3.00

**Advanced Methods**

**Choose two of the following: 6 Credit Hours**

SCOM 303. Special Topics in Health Communication 3.00  
SCOM 495. Internship in Communication Studies 3.00-6.00, repeatable to 6  
credits<sup>1</sup>

SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00

SCOM 300/400 Elective 3 Credit Hours

**Total: 18 Credit Hours**

**Footnote**

<sup>1</sup> We strongly suggest that the internship option, if selected, be in the area of health communication.

**Communication Studies, Health Communication Studies Concentration, B.S.**

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

- General Education 41 Credit Hours<sup>1</sup>



- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *21-46 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

#### Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

#### Major Requirements

SCOM 240. Introduction to Communication Theory *2.00*  
 SCOM 241. Communication Theory Lab *1.00*  
 SCOM 242. Presentational Speaking *3.00*

SCOM 280. Introduction to Communication Research *3.00*<sup>1</sup>  
 SCOM 341. Persuasion *3.00*

Completion of Core Assessment in Communication Studies Milestone *0 Credit Hours*  
 Additional communication studies elective at the 200, 300 or 400 level *3 Credit Hours*  
 Additional communication studies electives at the 300-400 levels *9 Credit Hours*

#### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

#### Depth Requirement: (15 hours required from the depth areas below)

##### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication *3.00*  
 SCOM 261. Public Relations Techniques I: Written *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 332. Mediation *3.00*  
 SCOM 333. Negotiations *3.00*  
 SCOM 335. Communication Consulting *3.00*  
 SCOM 340. Principles and Processes of Interviewing *3.00*

SCOM 342. Argument and Advocacy *3.00*  
 SCOM 344. Oral Interpretation *3.00*  
 SCOM 358. Business and Professional Communication Studies *3.00*  
 SCOM 361. Public Relations Techniques II: Visual *3.00*  
 SCOM 367. Advanced Public Relations Writing *3.00*  
 SCOM 447. Facilitating Public and Organizational Engagement Processes *3.00*  
 SCOM 449. Communication Training *3.00*

##### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods *3.00*  
 SCOM 383. Quantitative Experimental Research Methods *3.00*  
 SCOM 385. Qualitative Research Methods *3.00*

SCOM 386. Survey Research Methods *3.00*  
 SCOM 388. Campaign Research Methods *3.00*

##### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication *3.00*  
 SCOM 260. Introduction to Public Relations *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 305. Language and Culture *3.00* or ANTH 305. Language and Culture  
*3.00 (C)*  
 SCOM 313. Topics in Communication Studies *1.00 - 3.00*  
 SCOM 314. Communication in Romantic Relationships *3.00*  
 SCOM 320. Introduction to Interpersonal Communication *3.00*  
 SCOM 330. Special Topics in Interpersonal Communication *3.00*  
 SCOM 331. Communication and Conflict *3.00*  
 SCOM 334. Alternative Dispute Resolution *3.00*  
 SCOM 345. Nonverbal Communication *3.00*  
 SCOM 346. Free Speech in America *3.00*  
 SCOM 347. Communication, Diversity and Popular Culture *3.00*  
 SCOM 348. Communication and Gender *3.00* or WGSS 348. Communication &  
 Gender *3.00*  
 SCOM 349. Ethnographic Approaches to Communication Studies *3.00*  
 SCOM 350. Organizational Communication *3.00*  
 SCOM 351. Visual Rhetoric *3.00* or WRTC 351. Visual Rhetoric *3.00*  
 SCOM 352. Communication and Social Movements *3.00*  
 SCOM 353. American Political Culture and Communication *3.00*  
 SCOM 354. Environmental Communication and Advocacy *3.00* or WRTC 326.  
 Environmental Communication and Advocacy *3.00*  
 SCOM 355. Food as Communication *3.00*  
 SCOM 357. Youth, Communication and Culture *3.00*

SCOM 365. Sports Public Relations *3.00*  
 SCOM 369. Topics in Engaged Public Relations *3.00*  
 SCOM 370. Introduction to Health Communication *3.00*  
 SCOM 395. Study Abroad Seminar *3.00 - 6.00*  
 SCOM 413. Advanced Topics in Communication Studies *1.00 - 6.00, repeatable  
 to 6 credits*  
 SCOM 420. Feminist Rhetorics *3.00* or WGSS 420. Feminist Rhetorics *3.00* or  
 WRTC 420. Feminist Rhetorics *3.00*  
 SCOM 425. Leadership Communication *3.00*  
 SCOM 431. Legal Communication *3.00*  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention *3.00*  
 SCOM 440. Family Communication *3.00*  
 SCOM 441. Oral History *3.00*  
 HIST 441. Oral History *3.00*  
 SCOM 442. Advanced Topics in Advocacy Studies *3.00*  
 SCOM 448. Communication, Culture and Identity *3.00*  
 SCOM 450. Advanced Studies in Organizational Communication *3.00*  
 SCOM 453. Political Campaign Communication *3.00*  
 SCOM 460. Public Relations Management *3.00*  
 SCOM 461. Public Relations Campaigns *3.00*  
 SCOM 363. International Public Relations *3.00*  
 SCOM 464. Communication, Culture and Sports *3.00*  
 SCOM 470. Health Communication Campaigns *3.00*  
 SCOM 471. Culture and Health Communication *3.00*  
 SCOM 472. Media and Politics *3.00* or SMAD 472. Media and Politics *3.00* or  
 POSC 472. Media and Politics *3.00*

**Total: 39 Credit Hours**

#### Health Communication Studies Concentration Courses

This concentration prepares students for careers in a variety of areas including patient advocacy, patient experience coaching, health educator, wellness coordinator, health policy advocacy and health-related writing. Students will gain strong writing and research skills, project management expertise, leadership, team building and gain knowledge in the areas of: doctor-patient communication, interpersonal health communication, health campaigns, culture and health, public health and current topics in health communication.

In addition to the 12 hours of required communication studies courses, students studying health communication must complete the following hours from among the depth requirements. Students are encouraged to enroll in an internship during their junior or senior years.

SCOM 370. Introduction to Health Communication 3.00

SCOM 468. Patient-Provider Communication 3.00

SCOM 470. Health Communication Campaigns 3.00

SCOM 471. Culture and Health Communication 3.00

### Advanced Methods

Choose two of the following: 6 Credit Hours

SCOM 303. Special Topics in Health Communication 3.00

SCOM 495. Internship in Communication Studies 3.00-6.00, repeatable to 6 credits<sup>1</sup>

SCOM 300/400 Elective 3 Credit Hours

Total: 18 Credit Hours

### Footnote

<sup>1</sup> We strongly suggest that the internship option, if selected, be in the area of health communication.

## Communication Studies, Interpersonal Communication Studies Concentration, B.A.

### Degree and Major Requirements

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### Degree Requirements

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours<sup>2</sup>
- University electives 21-46 Credit Hours<sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> In addition to course work taken to fulfill General Education requirement.

<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### Major Requirements

SCOM 240. Introduction to Communication Theory 2.00

SCOM 241. Communication Theory Lab 1.00

SCOM 242. Presentational Speaking 3.00

SCOM 280. Introduction to Communication Research 3.00<sup>1</sup>

SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours

Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours

Additional communication studies electives at the 300-400 levels 9 Credit Hours

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### Depth Requirement: (15 hours required from the depth areas below)

Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00

SCOM 261. Public Relations Techniques I: Written 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 332. Mediation 3.00

SCOM 333. Negotiations 3.00

SCOM 335. Communication Consulting 3.00

SCOM 340. Principles and Processes of Interviewing 3.00

SCOM 342. Argument and Advocacy 3.00

SCOM 344. Oral Interpretation 3.00

SCOM 358. Business and Professional Communication Studies 3.00

SCOM 361. Public Relations Techniques II: Visual 3.00

SCOM 367. Advanced Public Relations Writing 3.00

SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00

SCOM 449. Communication Training 3.00

Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00

SCOM 388. Campaign Research Methods 3.00

Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00

SCOM 260. Introduction to Public Relations 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00 (C)  
 SCOM 313. Topics in Communication Studies 1.00 - 3.00  
 SCOM 314. Communication in Romantic Relationships 3.00  
 SCOM 320. Introduction to Interpersonal Communication 3.00  
 SCOM 330. Special Topics in Interpersonal Communication 3.00  
 SCOM 331. Communication and Conflict 3.00  
 SCOM 334. Alternative Dispute Resolution 3.00  
 SCOM 345. Nonverbal Communication 3.00  
 SCOM 346. Free Speech in America 3.00  
 SCOM 347. Communication, Diversity and Popular Culture 3.00  
 SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication & Gender 3.00  
 SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
 SCOM 350. Organizational Communication 3.00  
 SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
 SCOM 352. Communication and Social Movements 3.00  
 SCOM 353. American Political Culture and Communication 3.00  
 SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00  
 SCOM 355. Food as Communication 3.00  
 SCOM 357. Youth, Communication and Culture 3.00  
 SCOM 365. Sports Public Relations 3.00  
 SCOM 369. Topics in Engaged Public Relations 3.00

**Total: 39 Credit Hours**

**Interpersonal Communication Studies Concentration Courses**

SCOM 320. Introduction to Interpersonal Communication 3.00

**Choose one: 3 Credit Hours**

SCOM 247. Small Group Communication  
 SCOM 248. Intercultural Communication 3.00  
 SCOM 334. Alternative Dispute Resolution 3.00

**Choose one research requirement:**

SCOM 381. Rhetorical Research Methods 3.00  
 SCOM 383. Quantitative Experimental Research Methods 3.00  
 SCOM 385. Qualitative Research Methods 3.00  
 SCOM 386. Survey Research Methods 3.00  
 SCOM 388. Campaign Research Methods 3.00  
*Choose one: 3 Credit Hours*  
 SCOM 332. Mediation 3.00

**Total: 18 Credit Hours**

**Additional Information**

Students are encouraged to enroll in SCOM 330 in partial fulfillment of their SCOM elective requirement.

***Communication Studies, Interpersonal Communication Studies Concentration, B.S.***

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

**Courses**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

**Additional Information**

SCOM 370. Introduction to Health Communication 3.00  
 SCOM 395. Study Abroad Seminar 3.00 - 6.00  
 SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits  
 SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00  
 SCOM 425. Leadership Communication 3.00  
 SCOM 431. Legal Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
 SCOM 440. Family Communication 3.00  
 SCOM 441. Oral History 3.00  
 HIST 441. Oral History 3.00  
 SCOM 442. Advanced Topics in Advocacy Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 460. Public Relations Management 3.00  
 SCOM 461. Public Relations Campaigns 3.00  
 SCOM 363. International Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

SCOM 440. Family Communication 3.00

SCOM 370. Introduction to Health Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 340. Principles and Processes of Interviewing 3.00  
*Choose one: 3 Credit Hours*  
 SCOM 314. Communication in Romantic Relationships 3.00  
 SCOM 330. Special Topics in Interpersonal Communication 3.00  
 SCOM 331. Communication and Conflict 3.00  
 SCOM 345. Nonverbal Communication 3.00

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

## Major Requirements

SCOM 240. Introduction to Communication Theory 2.00

SCOM 241. Communication Theory Lab 1.00

SCOM 242. Presentational Speaking 3.00

Completion of Core Assessment in Communication Studies Milestone 0 *Credit Hours*

Additional communication studies elective at the 200, 300 or 400 level 3 *Credit Hours*

Additional communication studies electives at the 300-400 levels 9 *Credit Hours*

## Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Depth Requirement: (15 hours required from the depth areas below)

### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication 3.00

SCOM 261. Public Relations Techniques I: Written 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 332. Mediation 3.00

SCOM 333. Negotiations 3.00

SCOM 335. Communication Consulting 3.00

SCOM 340. Principles and Processes of Interviewing 3.00

### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00

SCOM 260. Introduction to Public Relations 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.

Feminist Blogging: Writing for Shout Out! JMU 3.00

SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00 (C)

SCOM 313. Topics in Communication Studies 1.00 - 3.00

SCOM 314. Communication in Romantic Relationships 3.00

SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00

SCOM 331. Communication and Conflict 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SCOM 345. Nonverbal Communication 3.00

SCOM 346. Free Speech in America 3.00

SCOM 347. Communication, Diversity and Popular Culture 3.00

SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication & Gender 3.00

SCOM 349. Ethnographic Approaches to Communication Studies 3.00

SCOM 350. Organizational Communication 3.00

SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00

SCOM 352. Communication and Social Movements 3.00

SCOM 353. American Political Culture and Communication 3.00

SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.

Environmental Communication and Advocacy 3.00

SCOM 355. Food as Communication 3.00

SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

### Interpersonal Communication Studies Concentration Courses

SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 440. Family Communication 3.00

Choose one: 3 Credit Hours

SCOM 247. Small Group Communication

### Choose one research requirements:

SCOM 381. Rhetorical Research Methods 3.00

SCOM 383. Quantitative Experimental Research Methods 3.00

SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00

Choose one: 3 Credit Hours

SCOM 332. Mediation 3.00

**Total: 18 Credit Hours**

## Additional Information

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>

SCOM 341. Persuasion 3.00

SCOM 342. Argument and Advocacy 3.00

SCOM 344. Oral Interpretation 3.00

SCOM 358. Business and Professional Communication Studies 3.00

SCOM 361. Public Relations Techniques II: Visual 3.00

SCOM 367. Advanced Public Relations Writing 3.00

SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00

SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00

SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00

SCOM 369. Topics in Engaged Public Relations 3.00

SCOM 370. Introduction to Health Communication 3.00

SCOM 395. Study Abroad Seminar 3.00 - 6.00

SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits

SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or

WRTC 420. Feminist Rhetorics 3.00

SCOM 425. Leadership Communication 3.00

SCOM 431. Legal Communication 3.00

SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 440. Family Communication 3.00

SCOM 441. Oral History 3.00

HIST 441. Oral History 3.00

SCOM 442. Advanced Topics in Advocacy Studies 3.00

SCOM 448. Communication, Culture and Identity 3.00

SCOM 450. Advanced Studies in Organizational Communication 3.00

SCOM 453. Political Campaign Communication 3.00

SCOM 460. Public Relations Management 3.00

SCOM 461. Public Relations Campaigns 3.00

SCOM 363. International Public Relations 3.00

SCOM 464. Communication, Culture and Sports 3.00

SCOM 470. Health Communication Campaigns 3.00

SCOM 471. Culture and Health Communication 3.00

SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or

POSC 472. Media and Politics 3.00

SCOM 248. Intercultural Communication 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SCOM 370. Introduction to Health Communication 3.00

SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00

SCOM 340. Principles and Processes of Interviewing 3.00

Choose one: 3 Credit Hours

SCOM 314. Communication in Romantic Relationships 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00

SCOM 331. Communication and Conflict 3.00

SCOM 345. Nonverbal Communication 3.00

Students are encouraged to enroll in SCOM 330. Special Topics in Interpersonal Communication, in partial fulfillment of their SCOM elective requirement.

## ***Communication Studies, Organizational Communication Studies Concentration, B.A.***

### **Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *21-46 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### **Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### **Major Requirements**

#### **Core Requirements**

SCOM 240. Introduction to Communication Theory *2.00*  
SCOM 241. Communication Theory Lab *1.00*  
SCOM 242. Presentational Speaking *3.00*

Completion of Core Assessment in Communication Studies Milestone *0 Credit Hours*

Additional communication studies elective at the 200, 300 or 400 level *3 Credit Hours*

Additional communication studies electives at the 300-400 levels *9 Credit Hours*

#### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication *3.00*  
SCOM 261. Public Relations Techniques I: Written *3.00*  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU *3.00*  
SCOM 332. Mediation *3.00*  
SCOM 333. Negotiations *3.00*  
SCOM 335. Communication Consulting *3.00*  
SCOM 340. Principles and Processes of Interviewing *3.00*

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods *3.00*  
SCOM 383. Quantitative Experimental Research Methods *3.00*  
SCOM 385. Qualitative Research Methods *3.00*

#### **Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication *3.00*  
SCOM 260. Introduction to Public Relations *3.00*  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU *3.00*  
SCOM 305. Language and Culture *3.00* or ANTH 305. Language and Culture *3.00*  
(C)  
SCOM 313. Topics in Communication Studies *1.00 - 3.00*  
SCOM 314. Communication in Romantic Relationships *3.00*  
SCOM 320. Introduction to Interpersonal Communication *3.00*  
SCOM 330. Special Topics in Interpersonal Communication *3.00*  
SCOM 331. Communication and Conflict *3.00*  
SCOM 334. Alternative Dispute Resolution *3.00*  
SCOM 345. Nonverbal Communication *3.00*  
SCOM 346. Free Speech in America *3.00*

SCOM 280. Introduction to Communication Research *3.00*<sup>1</sup>  
SCOM 341. Persuasion *3.00*

SCOM 342. Argument and Advocacy *3.00*  
SCOM 344. Oral Interpretation *3.00*  
SCOM 358. Business and Professional Communication Studies *3.00*  
SCOM 361. Public Relations Techniques II: Visual *3.00*  
SCOM 367. Advanced Public Relations Writing *3.00*  
SCOM 447. Facilitating Public and Organizational Engagement Processes *3.00*  
SCOM 449. Communication Training *3.00*

SCOM 386. Survey Research Methods *3.00*  
SCOM 388. Campaign Research Methods *3.00*

SCOM 347. Communication, Diversity and Popular Culture *3.00*  
SCOM 348. Communication and Gender *3.00* or WGSS 348. Communication & Gender *3.00*  
SCOM 349. Ethnographic Approaches to Communication Studies *3.00*  
SCOM 350. Organizational Communication *3.00*  
SCOM 351. Visual Rhetoric *3.00* or WRTC 351. Visual Rhetoric *3.00*  
SCOM 352. Communication and Social Movements *3.00*  
SCOM 353. American Political Culture and Communication *3.00*  
SCOM 354. Environmental Communication and Advocacy *3.00* or WRTC 326.  
Environmental Communication and Advocacy *3.00*  
SCOM 355. Food as Communication *3.00*  
SCOM 357. Youth, Communication and Culture *3.00*  
SCOM 365. Sports Public Relations *3.00*  
SCOM 369. Topics in Engaged Public Relations *3.00*

SCOM 370. Introduction to Health Communication 3.00  
 SCOM 395. Study Abroad Seminar 3.00 - 6.00  
 SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits  
 SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00  
 SCOM 425. Leadership Communication 3.00  
 SCOM 431. Legal Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
 SCOM 440. Family Communication 3.00  
 SCOM 441. Oral History 3.00  
 HIST 441. Oral History 3.00

**Total: 39 Credit Hours**

**Organizational Communication Studies Concentration Courses**

SCOM 350. Organizational Communication 3.00  
 SCOM 358. Business and Professional Communication Studies 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
*Choose one: 3 Credit Hours*  
 SCOM 320. Introduction to Interpersonal Communication 3.00  
 SCOM 331. Communication and Conflict 3.00  
 SCOM 345. Nonverbal Communication 3.00  
 SCOM 347. Communication, Diversity and Popular Culture 3.00

**Advanced Research Courses: Choose one: 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
 SCOM 383. Quantitative Experimental Research Methods 3.00  
 SCOM 385. Qualitative Research Methods 3.00

**Total: 18 Credit Hours**

SCOM 442. Advanced Topics in Advocacy Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 460. Public Relations Management 3.00  
 SCOM 461. Public Relations Campaigns 3.00  
 SCOM 363. International Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

SCOM 348. Communication and Gender 3.00 OR WGSS 348. Communication & Gender 3.00  
 SCOM 357. Youth, Communication and Culture 3.00  
 SCOM 425. Leadership Communication 3.00  
*Choose one: 3 Credit Hours*  
 SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
 SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
 SCOM 388. Campaign Research Methods 3.00

***Communication Studies, Organizational Communication Studies Concentration, B.S.***

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.  
<sup>2</sup> In addition to course work taken to fulfill General Education requirement.  
<sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

**Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

**Major Requirements**

**Core Requirements**

SCOM 240. Introduction to Communication Theory 2.00  
 SCOM 241. Communication Theory Lab 1.00  
 SCOM 242. Presentational Speaking 3.00

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
 SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours  
 Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours  
 Additional communication studies electives at the 300-400 levels 9 Credit Hours

**Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

**Depth Requirement: (15 hours required from the depth areas below)**

**Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication 3.00

SCOM 261. Public Relations Techniques I: Written 3.00

SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00  
SCOM 342. Argument and Advocacy 3.00

**Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

**Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture 3.00  
(C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
SCOM 350. Organizational Communication 3.00  
SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
SCOM 352. Communication and Social Movements 3.00  
SCOM 353. American Political Culture and Communication 3.00  
SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326.  
Environmental Communication and Advocacy 3.00  
SCOM 355. Food as Communication 3.00  
SCOM 357. Youth, Communication and Culture 3.00

**Total: 39 Credit Hours**

**Organizational Communication Studies Concentration Courses**

SCOM 350. Organizational Communication 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
*Choose one: 3 Credit Hours*  
SCOM 320. Introduction to Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00

**Advanced Research Courses: Choose one: 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

**Total: 18 Credit Hours**

***Communication Studies, Public Relations Studies Concentration, B.A.***

**Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

**Degree Requirements**

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement 3 Credit Hours<sup>2</sup>

SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 365. Sports Public Relations 3.00  
SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 370. Introduction to Health Communication 3.00  
SCOM 395. Study Abroad Seminar 3.00 - 6.00  
SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to  
6 credits  
SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or  
WRTC 420. Feminist Rhetorics 3.00  
SCOM 425. Leadership Communication 3.00  
SCOM 431. Legal Communication 3.00  
SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
SCOM 440. Family Communication 3.00  
SCOM 441. Oral History 3.00  
HIST 441. Oral History 3.00  
SCOM 442. Advanced Topics in Advocacy Studies 3.00  
SCOM 448. Communication, Culture and Identity 3.00  
SCOM 450. Advanced Studies in Organizational Communication 3.00  
SCOM 453. Political Campaign Communication 3.00  
SCOM 460. Public Relations Management 3.00  
SCOM 461. Public Relations Campaigns 3.00  
SCOM 363. International Public Relations 3.00  
SCOM 464. Communication, Culture and Sports 3.00  
SCOM 470. Health Communication Campaigns 3.00  
SCOM 471. Culture and Health Communication 3.00  
SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or  
POSC 472. Media and Politics 3.00

SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 357. Youth, Communication and Culture 3.00  
SCOM 425. Leadership Communication 3.00  
*Choose one: 3 Credit Hours*  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *21-46 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

#### Additional Information

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

#### Major Requirements

SCOM 240. Introduction to Communication Theory *2.00*  
 SCOM 241. Communication Theory Lab *1.00*  
 SCOM 242. Presentational Speaking *3.00*

SCOM 280. Introduction to Communication Research *3.00*<sup>1</sup>  
 SCOM 341. Persuasion *3.00*

Completion of Core Assessment in Communication Studies Milestone *0 Credit Hours*  
 Additional communication studies elective at the 200, 300 or 400 level *3 Credit Hours*  
 Additional communication studies electives at the 300-400 levels *9 Credit Hours*

#### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

#### Depth Requirement: (15 hours required from the depth areas below)

##### Communication Skills (choose one): 3 Credit Hours

SCOM 247. Small Group Communication *3.00*  
 SCOM 261. Public Relations Techniques I: Written *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 332. Mediation *3.00*  
 SCOM 333. Negotiations *3.00*  
 SCOM 335. Communication Consulting *3.00*  
 SCOM 340. Principles and Processes of Interviewing *3.00*

SCOM 342. Argument and Advocacy *3.00*  
 SCOM 344. Oral Interpretation *3.00*  
 SCOM 358. Business and Professional Communication Studies *3.00*  
 SCOM 361. Public Relations Techniques II: Visual *3.00*  
 SCOM 367. Advanced Public Relations Writing *3.00*  
 SCOM 447. Facilitating Public and Organizational Engagement Processes *3.00*  
 SCOM 449. Communication Training *3.00*

##### Communication Research (choose one): 3 Credit Hours

SCOM 381. Rhetorical Research Methods *3.00*  
 SCOM 383. Quantitative Experimental Research Methods *3.00*  
 SCOM 385. Qualitative Research Methods *3.00*

SCOM 386. Survey Research Methods *3.00*  
 SCOM 388. Campaign Research Methods *3.00*

##### Communication Theory and Context (choose three): 9 Credit Hours

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication *3.00*  
 SCOM 260. Introduction to Public Relations *3.00*  
 SCOM 301. Feminist Blogging: Writing for Shout Out! JMU *3.00* or WGSS 301.  
 Feminist Blogging: Writing for Shout Out! JMU *3.00*  
 SCOM 305. Language and Culture *3.00* or ANTH 305. Language and Culture  
*3.00 (C)*  
 SCOM 313. Topics in Communication Studies *1.00 - 3.00*  
 SCOM 314. Communication in Romantic Relationships *3.00*  
 SCOM 320. Introduction to Interpersonal Communication *3.00*  
 SCOM 330. Special Topics in Interpersonal Communication *3.00*  
 SCOM 331. Communication and Conflict *3.00*  
 SCOM 334. Alternative Dispute Resolution *3.00*  
 SCOM 345. Nonverbal Communication *3.00*  
 SCOM 346. Free Speech in America *3.00*  
 SCOM 347. Communication, Diversity and Popular Culture *3.00*  
 SCOM 348. Communication and Gender *3.00* or WGSS 348. Communication &  
 Gender *3.00*  
 SCOM 349. Ethnographic Approaches to Communication Studies *3.00*  
 SCOM 350. Organizational Communication *3.00*  
 SCOM 351. Visual Rhetoric *3.00* or WRTC 351. Visual Rhetoric *3.00*  
 SCOM 352. Communication and Social Movements *3.00*  
 SCOM 353. American Political Culture and Communication *3.00*  
 SCOM 354. Environmental Communication and Advocacy *3.00* or WRTC 326.  
 Environmental Communication and Advocacy *3.00*  
 SCOM 355. Food as Communication *3.00*  
 SCOM 357. Youth, Communication and Culture *3.00*

SCOM 365. Sports Public Relations *3.00*  
 SCOM 369. Topics in Engaged Public Relations *3.00*  
 SCOM 370. Introduction to Health Communication *3.00*  
 SCOM 395. Study Abroad Seminar *3.00 - 6.00*  
 SCOM 413. Advanced Topics in Communication Studies *1.00 - 6.00, repeatable  
 to 6 credits*  
 SCOM 420. Feminist Rhetorics *3.00* or WGSS 420. Feminist Rhetorics *3.00* or  
 WRTC 420. Feminist Rhetorics *3.00*  
 SCOM 425. Leadership Communication *3.00*  
 SCOM 431. Legal Communication *3.00*  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention *3.00*  
 SCOM 440. Family Communication *3.00*  
 SCOM 441. Oral History *3.00*  
 HIST 441. Oral History *3.00*  
 SCOM 442. Advanced Topics in Advocacy Studies *3.00*  
 SCOM 448. Communication, Culture and Identity *3.00*  
 SCOM 450. Advanced Studies in Organizational Communication *3.00*  
 SCOM 453. Political Campaign Communication *3.00*  
 SCOM 460. Public Relations Management *3.00*  
 SCOM 461. Public Relations Campaigns *3.00*  
 SCOM 363. International Public Relations *3.00*  
 SCOM 464. Communication, Culture and Sports *3.00*  
 SCOM 470. Health Communication Campaigns *3.00*  
 SCOM 471. Culture and Health Communication *3.00*  
 SCOM 472. Media and Politics *3.00* or SMAD 472. Media and Politics *3.00* or  
 POSC 472. Media and Politics *3.00*

**Total: 39 Credit Hours**

##### Public Relations Studies Concentration Courses

SCOM 260. Introduction to Public Relations *3.00*  
 SCOM 261. Public Relations Techniques I: Written *3.00*

SCOM 362. Public Relations Theory and Concepts *3.00*  
 SCOM 461. Public Relations Campaigns *3.00*

##### Advanced Public Relations Skills: Choose one: 3 Credit Hours

SCOM 361. Public Relations Techniques II: Visual *3.00*

SCOM 367. Advanced Public Relations Writing *3.00*

##### Advanced Research: Choose one: 3 Credit Hours



SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

**Public Relations in Context: Choose one: 3 Credit Hours**

SCOM 363. International Public Relations 3.00  
SCOM 365. Sports Public Relations 3.00

**Total: 21 Credit Hours**

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

SCOM 369. Topics in Engaged Public Relations 3.00  
SCOM 460. Public Relations Management 3.00

## ***Communication Studies, Public Relations Studies Concentration, B.S.***

### **Degree and Major Requirements**

The School of Communication Studies offers the Bachelor of Science and Bachelor of Arts degrees with a major in communication studies. Students must take at least 39 hours of work in communication studies beyond the General Education requirement.

All programs must include at least five elements:

- Twelve hours of required courses.
- Successful completion of the milestone, Core Assessment in Communication Studies, upon completion of the core requirements
- Fifteen hours of courses within distribution areas to meet the school depth requirement.
- Nine hours of free elective courses in communication studies at the 300 or 400 level and three hours at the 200, 300 or 400 level.
- Twelve hours of course work at the 300 level or above outside of the major program of study; or a second major or minor.

### **Degree Requirements**

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 21-46 Credit Hours <sup>3</sup>
- Major requirements (listed below) 39 Credit Hours

**Total: 120 Credit Hours**

### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement. <sup>3</sup> A minimum of 12 credit hours of university electives must be at the 300 level or above, or students must earn a second major or minor.

### **Additional Information**

In addition, students pursuing a B.S. in communication studies must complete MATH 220. Elementary Statistics [C3QR] or a school-approved statistics course with a grade of "C" (2.0) or better. School-approved statistics courses include, but are not limited to, COB 191. Business Analytics I. MATH 220 can count as either a General Education or a B.S. quantitative requirement, but not both.

### **Major Requirements**

SCOM 240. Introduction to Communication Theory 2.00  
SCOM 241. Communication Theory Lab 1.00  
SCOM 242. Presentational Speaking 3.00

SCOM 280. Introduction to Communication Research 3.00 <sup>1</sup>  
SCOM 341. Persuasion 3.00

Completion of Core Assessment in Communication Studies Milestone 0 Credit Hours  
Additional communication studies elective at the 200, 300 or 400 level 3 Credit Hours  
Additional communication studies electives at the 300-400 levels 9 Credit Hours

### **Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### **Depth Requirement: (15 hours required from the depth areas below)**

#### **Communication Skills (choose one): 3 Credit Hours**

SCOM 247. Small Group Communication 3.00  
SCOM 261. Public Relations Techniques I: Written 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 332. Mediation 3.00  
SCOM 333. Negotiations 3.00  
SCOM 335. Communication Consulting 3.00  
SCOM 340. Principles and Processes of Interviewing 3.00

SCOM 342. Argument and Advocacy 3.00  
SCOM 344. Oral Interpretation 3.00  
SCOM 358. Business and Professional Communication Studies 3.00  
SCOM 361. Public Relations Techniques II: Visual 3.00  
SCOM 367. Advanced Public Relations Writing 3.00  
SCOM 447. Facilitating Public and Organizational Engagement Processes 3.00  
SCOM 449. Communication Training 3.00

#### **Communication Research (choose one): 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
SCOM 383. Quantitative Experimental Research Methods 3.00  
SCOM 385. Qualitative Research Methods 3.00

SCOM 386. Survey Research Methods 3.00  
SCOM 388. Campaign Research Methods 3.00

#### **Communication Theory and Context (choose three): 9 Credit Hours**

At least one theory and context course requirement must be at the 400-level.

SCOM 248. Intercultural Communication 3.00  
SCOM 260. Introduction to Public Relations 3.00  
SCOM 301. Feminist Blogging: Writing for Shout Out! JMU 3.00 or WGSS 301.  
Feminist Blogging: Writing for Shout Out! JMU 3.00  
SCOM 305. Language and Culture 3.00 or ANTH 305. Language and Culture  
3.00 (C)  
SCOM 313. Topics in Communication Studies 1.00 - 3.00  
SCOM 314. Communication in Romantic Relationships 3.00  
SCOM 320. Introduction to Interpersonal Communication 3.00

SCOM 330. Special Topics in Interpersonal Communication 3.00  
SCOM 331. Communication and Conflict 3.00  
SCOM 334. Alternative Dispute Resolution 3.00  
SCOM 345. Nonverbal Communication 3.00  
SCOM 346. Free Speech in America 3.00  
SCOM 347. Communication, Diversity and Popular Culture 3.00  
SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication &  
Gender 3.00  
SCOM 349. Ethnographic Approaches to Communication Studies 3.00

SCOM 350. Organizational Communication 3.00  
 SCOM 351. Visual Rhetoric 3.00 or WRTC 351. Visual Rhetoric 3.00  
 SCOM 352. Communication and Social Movements 3.00  
 SCOM 353. American Political Culture and Communication 3.00  
 SCOM 354. Environmental Communication and Advocacy 3.00 or WRTC 326. Environmental Communication and Advocacy 3.00  
 SCOM 355. Food as Communication 3.00  
 SCOM 357. Youth, Communication and Culture 3.00  
 SCOM 365. Sports Public Relations 3.00  
 SCOM 369. Topics in Engaged Public Relations 3.00  
 SCOM 370. Introduction to Health Communication 3.00  
 SCOM 395. Study Abroad Seminar 3.00 - 6.00  
 SCOM 413. Advanced Topics in Communication Studies 1.00 - 6.00, repeatable to 6 credits  
 SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00 or WRTC 420. Feminist Rhetorics 3.00  
 SCOM 425. Leadership Communication 3.00

**Total: 39 Credit Hours**

**Public Relations Studies Concentration Courses**

SCOM 260. Introduction to Public Relations 3.00  
 SCOM 261. Public Relations Techniques I: Written 3.00

**Advanced Public Relations Skills: Choose one: 3 Credit Hours**

SCOM 361. Public Relations Techniques II: Visual 3.00

**Advanced Research: Choose one: 3 Credit Hours**

SCOM 381. Rhetorical Research Methods 3.00  
 SCOM 383. Quantitative Experimental Research Methods 3.00  
 SCOM 385. Qualitative Research Methods 3.00

**Public Relations in Context: Choose one: 3 Credit Hours**

SCOM 363. International Public Relations 3.00  
 SCOM 365. Sports Public Relations 3.00

**Total: 21 Credit Hours**

**Minors**

**Admission to the Minor**

Admission to JMU does not guarantee admission to a minor in the School of Communication Studies. All students interested in minoring in the program must apply for a limited number of spaces while first completing SCOM 240 and SCOM 241. In order to register for these classes, students must first submit their application for an SCOM minor. Applications can be accessed on the SCOM website and must be submitted by email. The School of Communication Studies reviews applications for admission to the minor each semester. Students who have applied will be notified of the department's admission decision at the end of the semester in which they complete the SCOM 240 and SCOM 241 requirements. Admission to an SCOM minor is based on availability to the most qualified students as determined by performance in SCOM 240 and SCOM 241. Students who are not admitted may file one more additional application in the next regular semester. Students reapplying must apply in two consecutive semesters of enrollment at the university. If a student reapplies after retaking SCOM 240 and SCOM 241 (whether repeat or repeat/forgive), the school will look only at their highest grades earned when evaluating their second application.

Successful completion of any minor in the School of Communication Studies requires, at the very least, a minimum of two semesters after a student is fully admitted to the School. Depending upon the student's particular circumstances and degree progress, more than two semesters may be required for completing the minor. Once admitted to the School of Communication Studies, a student cannot retroactively apply more than nine hours of SCOM courses, including SCOM 240 and SCOM 241, to his/her minor. Also, once admitted to an SCOM minor, a student cannot automatically transfer into the SCOM major without reapplying in a subsequent semester, and there is no guarantee of acceptance.

**Cultural Communication Minor**

The minor in cultural communication is designed to provide students with principles and theories of communication processes that help explain dynamics of intercultural interactions in personal and professional contexts. The program is intended for students not majoring in communication studies who wish to augment their major area of study, develop skills of cultural competence and increase their awareness of diversity

**Courses**

SCOM 240. Introduction to Communication Theory 2.00  
 SCOM 241. Communication Theory Lab 1.00  
 SCOM 248. Intercultural Communication 3.00

**Choose two: 6 Credit Hours**

SCOM 305. Language and Culture 3.00  
 SCOM 347. Communication, Diversity and Popular Culture 3.00  
 SCOM 348. Communication and Gender 3.00 or WGSS 348. Communication & Gender 3.00  
 SCOM 352. Communication and Social Movements 3.00

**Total: 18 Credit Hours**

**Health Communication Minor**

The minor in health communication is designed for students who are interested in working in health care or related fields and are completing coursework in areas such as nursing, health sciences, and for students who are in the pre-professional programs. The minor offers students flexibility in terms of area of focus for the minor, so that they can gain the most applicable knowledge for their future endeavors.

**Courses**

SCOM 240. Introduction to Communication Theory 2.00  
 SCOM 241. Communication Theory Lab 1.00

SCOM 431. Legal Communication 3.00  
 SCOM 432. Senior Seminar in Conflict Analysis and Intervention 3.00  
 SCOM 440. Family Communication 3.00  
 SCOM 441. Oral History 3.00  
 HIST 441. Oral History 3.00  
 SCOM 442. Advanced Topics in Advocacy Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00  
 SCOM 450. Advanced Studies in Organizational Communication 3.00  
 SCOM 453. Political Campaign Communication 3.00  
 SCOM 460. Public Relations Management 3.00  
 SCOM 461. Public Relations Campaigns 3.00  
 SCOM 363. International Public Relations 3.00  
 SCOM 464. Communication, Culture and Sports 3.00  
 SCOM 470. Health Communication Campaigns 3.00  
 SCOM 471. Culture and Health Communication 3.00  
 SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00 or POSC 472. Media and Politics 3.00

SCOM 362. Public Relations Theory and Concepts 3.00  
 SCOM 461. Public Relations Campaigns 3.00

SCOM 367. Advanced Public Relations Writing 3.00

SCOM 386. Survey Research Methods 3.00  
 SCOM 388. Campaign Research Methods 3.00

SCOM 369. Topics in Engaged Public Relations 3.00  
 SCOM 460. Public Relations Management 3.00

SCOM 349. Ethnographic Approaches to Communication Studies 3.00  
 SCOM 448. Communication, Culture and Identity 3.00

SCOM 355. Food as Communication 3.00  
 SCOM 357. Youth, Communication and Culture 3.00 or SMAD 357. Youth, Communication and Culture 3.00

SCOM 370. Introduction to Health Communication 3.00

**Choose Four of the Following Courses: 12 Credit Hours**

SCOM 303. Special Topics in Health Communication *3.00*

SCOM 468. Patient-Provider Communication *3.00*

SCOM 470. Health Communication Campaigns *3.00*

SCOM 471. Culture and Health Communication *3.00*

SCOM 495. Internship in Communication Studies *3.00-6.00, repeatable to 6 credits*

SCOM 300/400 *3.00 Credit Hours*<sup>1</sup>

**Footnote**

<sup>1</sup> We strongly suggest that the internship option, if selected, be in the area of health communication.

**Total: 18 Credit Hours**

# Department of Computer Information Systems and Business Analytics

Dr. Art Gowan, **Department Head**

**Phone:** (540) 568-8796

**Email:** gowanja@jmu.edu

**Location:** Zane Showker Hall, Room 234

**Website:** <http://www.jmu.edu/cob/cis>

## Professors

M. Busing, T. Dillon, A. Gowan, D. Lending, I. Markham, M. Mitri, R. Pal, S. Palocsay, S. Stevens

## Associate Professors

C. Guo, P. Wang

## Assistant Professors

D. Babik, A. Connolly, J. Ezell, K. Lamsal, J. May, L. Mutchler, L. Novoa, E. Torabi, B. Vaziri

## Instructors

L. Atkins, C. Cole, L. Dutt, J. Jewett, S. Lough, L. Tchommo

## Mission Statement

The Department of Computer Information Systems and Business Analytics is committed to:

- Educating students by creating an active, experiential learning environment that prepares them to apply knowledge of information systems, operations, business analytics and business for the betterment of organizations and society; and
- Serving the academic community and business communities through appropriate research and service.

## Objectives

Computer information systems (CIS) is offered as a major through the Department of Computer Information Systems and Business Analytics. This program prepares business students for careers as information systems professionals. The program of study focuses on the development and management of information systems in a business environment. Students develop the technical skills and organizational insights required to analyze, design, implement and administer information systems. The CIS curriculum includes hands-on projects, laboratory exercises, case analysis and business simulations to build strong technical and analytical skills, effective oral and written communication skills, and the ability to work independently and in team-oriented environments. Students are offered the opportunity to gain practical experience through internships and co-op programs. The department faculty endorses the program educational objectives listed below.

The CIS B.B.A. program will produce graduates with the ability to:

- Exhibit leadership in a role as subject matter expert or consultant.
- Exhibit confidence in combining technical, business, and interpersonal skills to innovate and solve problems in a team environment.
- Effectively adapt and apply changing technology to business opportunities and challenges.
- Work effectively in the IS field to make a positive contribution to society.

## Career Opportunities

Computer information systems professionals analyze business opportunities and problems, then design and build solutions using the power of information technologies. Students in the CIS program gain the business and technical skills that will prepare them to move quickly from technical to leadership roles within the organization.

- Consultant
- Business Analyst
- Business Intelligence Specialist
- Computer Forensics Specialist
- IT/IS Auditor
- IT/IS Consultant
- Risk Analyst
- Security Consultant
- Systems Analyst
- Telecommunications Analyst
- IT/IS Manager
- Application Development Manager
- Business Owner (IT/IS Industry)
- Chief Information Officer
- Chief Security Officer
- Data Warehousing Manager
- Information Systems Manager
- Program Manager
- Project Manager
- IT Operations Professional
- Database Administrator
- Information Technology Trainer
- Network and Systems Administrator
- Security Specialist
- Software Engineer
- Web Developer

## Co-curricular Activities and Organizations

The JMU Chapter of the National Association for Information Systems (AIS) was started in 2014 and serves to advance knowledge and to promote excellence in the practice and study of information systems. Along with providing premier networking opportunities with top consulting firms, AIS provides student members the ability to engage in national student competitions, in-house tutoring activities, professional development workshops, and various fundraising and social events.

## Accreditation

The B.B.A. in computer information systems is accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>.

## *Computer Information Systems, B.B.A.*

### Bachelor of Business Administration in Computer Information Systems

The B.B.A. in computer information systems requires a minimum of 120 credit hours of undergraduate work. Sixty credit hours will be taken outside the College of Business. In counting the 60 credit hours of non-business courses, B.B.A. students may include all hours taken in General Education (usually 41), up to a total of nine hours in economics and three hours of COB 191. Business Analytics I. The remaining hours will be taken from any department outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives.

### Degree Requirements

- B.B.A. core courses *39 Credit Hours*<sup>1</sup>
- CIS major requirements *28 Credit Hours*
- General Education courses *41 Credit Hours*<sup>2</sup>
- Non-business electives *12 Credit Hours*<sup>3</sup>

**Total: 120 Credit Hours**

## Footnotes

<sup>1</sup> Assumes that MATH 205 and ECON 200 are taken as General Education courses. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>3</sup> Credit hours may vary. See adviser for details.

## B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I 3.00<sup>1</sup>

COB 202. Interpersonal Skills 3.00

COB 204. Computer Information Systems 3.00

COB 241. Financial Accounting 3.00

COB 291. Business Analytics II 3.00<sup>2</sup>

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

MATH 205. Introductory Calculus I [C3QR] 3.00<sup>3</sup> or MATH 235. Calculus I [C3QR] 4.00<sup>3</sup>

COB 242. Managerial Accounting 3.00<sup>4,5</sup>

## B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management 3.00<sup>5,6</sup>

COB 300B. Integrative Business: Finance 3.00<sup>5,6</sup>

COB 300C. Integrative Business: Operations 3.00<sup>5,6</sup>

COB 300D. Integrative Business: Marketing 3.00<sup>5,6</sup>

COB 318. Legal and Ethical Environment of Business 3.00<sup>7</sup>

COB 487. Strategic Management 3.00<sup>8</sup>

## Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

## Core Courses

CIS 221. Principles of Programming 3.00

CIS 301. Cloud Server Management 1.00

CIS 304. Enterprise Architecture 3.00

CIS 320. Computing and Telecommunications Networks 3.00

CIS 330. Database Design and Application 3.00

CIS 331. Intermediate Computer Programming 3.00

CIS 454. Systems Analysis and Design 3.00

CIS 484. Information Systems Development and Implementation 3.00

Two computer information systems electives: 6 Credit Hours

## Total: 28 Credit Hours

## Footnote

<sup>1</sup> CS 139 or CS 149 or ISAT 252 or IA 241 with a grade of "C" or better or enrollment in CS 159 may be substituted for CIS 221.

## Electives

Students majoring in CIS are highly encouraged to complete an internship in computer information systems for non-academic credit (CIS 361).

CIS 354. Advanced Visual Basic Programming 3.00

CIS 366. Web Design and Development 3.00

CIS 393. Data Mining for Business Analytics 3.00 or BSAN 393. Data Mining for Business Analytics 3.00

CIS 420. Computer-Based Networking 3.00

CIS 424. Computer Security Management 3.00

CIS 425. Defensive Cybersecurity 3.00

CIS 428. Mobile Computing and Security 3.00

CIS 434. Information Technology Consulting 3.00

CIS 463. Business Intelligence 3.00

CIS 464. Information Systems Project Management 3.00

CIS 490. Special Studies in Computer Information Systems or Business Analytics 1.00 - 3.00

CIS 498. Special Topics in Computer Information Systems 3.00

## Recommended Schedule for Majors

Computer information systems majors should follow the course schedule described here to complete the final two years of their program. It is possible to deviate from this program, but care must be taken to ensure that all course prerequisites are met.

### First Two Years

Students normally take the lower-division B.B.A. core curriculum along with many of the General Education curriculum. All lower-division core requirements must be completed before enrolling in the upper-division core courses. It is recommended that CIS 221. Principles of Programming be completed in the second semester of the second year.

### Third Year \*

#### First Semester

Students who are able to complete B.B.A. core requirements early enough to take

COB 300 in the second semester of the second year should take additional

CIS courses in the first semester of the third year and subsequent semesters.

Consult your adviser.

COB 300A. Integrative Business: Management 3.00

COB 300B. Integrative Business: Finance 3.00

COB 300C. Integrative Business: Operations 3.00

COB 300D. Integrative Business: Marketing 3.00

CIS 304. Enterprise Architecture 3.00

#### Second Semester

CIS 301. Cloud Server Management 1.00

CIS 320. Computing and Telecommunications Networks 3.00

CIS 330. Database Design and Application 3.00

COB 318. Legal and Ethical Environment of Business 3.00<sup>1</sup>

### Fourth Year \*

#### First Semester

CIS 331. Intermediate Computer Programming 3.00

CIS 361. Computer Information Systems Internship 0.00

CIS 454. Systems Analysis and Design 3.00

One Computer Information Systems elective 3 Credit Hours

#### Second Semester

CIS 484. Information Systems Development and Implementation 3.00

COB 487. Strategic Management 3.00<sup>2</sup>

One Computer Information Systems elective 3 Credit Hours

## Footnotes

\* Consult your adviser regarding General Education or non-business elective courses required for graduation which are not listed here.

<sup>1</sup> COB 318 may be taken in other semesters, but it has to be taken before COB 487.

<sup>2</sup> COB 487 may be taken in the fall or spring of the senior year.

## Computer Information Systems, Cooperative Education Concentration, B.B.A.

**Coordinator:** Dr. Tom Dillon

The cooperative education concentration in CIS and BSAN offers highly qualified undergraduate majors the opportunity to participate in a six- to eight-month professional experience with well-recognized industry leaders in information technology and operations. Students will be awarded 12 hours of academic credit that will substitute for two required courses in the CIS and BSAN curriculum and for six credits of special topics (CIS 498). Substitution for the two specific courses will be made based on the structure and context of the co-op experience and in cooperation with the co-op firm.

Students must demonstrate competency via examination in the two required courses selected to receive credit in those courses. Students who have at least a 3.0 GPA, are majors in CIS and have fulfilled all of their COB core requirements (except COB 487. Strategic Management) are eligible to apply on a competitive basis through the CIS and BSAN office.

Students who want to participate in a co-op program must apply both to the CIS and BSAN program office and the participating firm at least three months in advance of the start of the co-op. Co-ops typically begin in January or May and last six to eight months. Course substitutions must be approved in conjunction with the co-op coordinator in the CIS and BSAN office and the co-op coordinator in the firm.

A program of study must be placed on file for each student who is accepted for a co-op prior to beginning the co-op experience. Students may participate in a co-op during their junior or senior years, but they are limited to one co-op. Students who want to participate in a co-op as postgraduates may do so as special students. These students will receive a certificate on successful completion of the co-op experience. *Prerequisite: CIS majors with junior standing and a minimum 3.0 grade point average.*

## ***Business Analytics Minor***

**Coordinator:** Dr. Susan W. Palocsay

Business analytics is a technical approach to analyzing problems and making business-related decisions. It uses statistical methods, management science techniques, and mathematical modeling to forecast the implications of various choices and identify the best alternatives. Business analytics focuses on the effective use of data and information to provide fact-based insights and drive positive business actions. The minor in business analytics prepares students to solve complex decision problems in a business environment with a combination of quantitative skills and hands-on expertise using current software applications.

Admission to the BSAN program is limited and competitive. Students seeking to add the BSAN minor must submit an application by October 1. Students will be admitted as a cohort each fall to start the BSAN program in the spring.

To be eligible to apply for admission, students must have completed the following:

- One introductory calculus course (MATH 205, MATH 231, MATH 235, ISAT 151 or equivalent)
- One statistics course (COB 191, MATH 220, MATH 285, MATH 318, ISAT 251 or equivalent)
- One economics course (ECON 200 or ECON 201)
- One business analytics course (COB 291) with a grade of "B-" or higher

In addition, a student must be able to take the 300-level BSAN courses on a schedule of one per semester in a three-consecutive semester period.

A complete application to the minor includes the following:

- A completed BSAN minor application form
- A letter of recommendation from COB 291 instructor

Students may use transfer and/or college credits that have been accepted by JMU to meet competency requirements. Admission is based on an average of a student's highest grades in one course from each competency area and the letter of recommendation. Only grades earned at JMU and verified by the registrar will be used; transfer transcripts will also be reviewed. More emphasis will be placed on grades than on the recommendation letter. Following review by the BSAN Admission Committee, students will be notified about their acceptance into the minor. If accepted, students will be eligible to register for BSAN courses.

### **Required Courses**

**Choose one of the following: 3-4 Credit Hours**

COB 191. Business Analytics I 3.00

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00

MATH 220. Elementary Statistics [C3QR] 3.00

MATH 285. Data Analysis 4.00

MATH 318. Introduction to Probability and Statistics 4.00

### **Other Required Courses**

COB 291. Business Analytics II 3.00<sup>1</sup>

BSAN 390. Statistical Modeling for Business Analytics 3.00

BSAN 391. Decision Modeling for Business Analytics 3.00

BSAN 393. Data Mining for Business Analytics 3.00 or CIS 393. Data Mining for Business Analytics 3.00

**Elective - Choose one of the following: 3 Credit Hours**

CIS 463. Business Intelligence 3.00

ISAT 344. Intelligent Systems 3.00

ECON 385. Econometrics 3.00

FIN 475. Financial Modeling and Risk Analysis 3.00

MATH 322. Applied Linear Regression 3.00

MKTG 482. Marketing Analytics 3.00

**Total: 18-19 Credit Hours**

### **Footnote**

<sup>1</sup> COB 191 and MATH 205 or equivalent are prerequisites for COB 291. A grade of "B-" or higher in COB 291 and junior or senior standing are prerequisites for taking the subsequent required courses (BSAN 390, BSAN 391, and BSAN 393/CIS 393) in the business analytics minor.

## ***Computer Information Systems Minor***

**Coordinator:** Dr. Michel Mitri

The minor in computer information systems is primarily structured to provide students in various disciplines on campus with the opportunity to study business-oriented information systems.

Admission to the CIS minor is based on a student's performance in one course from each of the following seven competency areas:

- One introductory information-systems course (COB 204 or equivalent as determined by the department head)
- One introductory computer programming course (CIS 221, ISAT 252, CS 139, CS 149, CS 159, IA 241 or equivalent as determined by the department head)
- One calculus course (MATH 205, MATH 231, MATH 235, ISAT 151 or equivalent as determined by the department head)
- One statistics course (COB 191, MATH 220 or equivalent as determined by the department head)
- One critical thinking course (student's Cluster One critical thinking course or equivalent as determined by the department head)
- One writing course (WRTC 103 or equivalent as determined by the department head)
- One quantitatively oriented economics/business course (ECON 200, ECON 201, COB 241, COB 242, COB 291 or equivalent as determined by the department head)

Admission is based on weighted average of student's highest grades in one course from each of the seven competency areas and is subject to space availability of CIS courses. Students seeking to add the CIS minor may submit an application to the CIS & BSAN department when they have completed, or are currently completing, all seven classes on the application.

### **Required Courses**

COB 204. Computer Information Systems 3.00

CIS 221. Principles of Programming 3.00

CIS 304. Enterprise Architecture 3.00

CIS 330. Database Design and Application 3.00

CIS 454. Systems Analysis and Design 3.00

CIS elective 3 Credit Hours

**Total: 18 Credit Hours**

### **Footnote**

CS 139 or CS 149 or ISAT 252 or IA 241 with a grade of "C" or better or enrollment in CS 159 may be substituted for CIS 221.

# Department of Computer Science

Dr. Sharon J. Simmons, **Department Head**

**Phone:** (540) 568-3335

**Email:** simmonsj@jmu.edu

**Location:** ISAT/CS Building, Room 222

**Website:** <http://www.jmu.edu/cs>

## Professors

D. Bernstein, F. Buchholz, C. Fox, S. Frysinger, M. Heydari, R. Mata-Toledo, D. McGraw, S. Simmons, B. Tjaden, S. Wang

## Associate Professors

M. Aboutabl, M. Kirkpatrick, C. Mayfield, M. Norton, N. Sprague, D. Weikle

## Assistant Professors

J. Bowers, M. Lam, K. Molloy, M. Stewart

## Mission

The computer science department strives to be an intellectual community that continually explores the broad field of computing, applies this knowledge to solve problems in a variety of domains and engages with the profession and society at large. Undergraduates join this community when they become majors, participating with faculty and other students in exploring computing through classes, projects, clubs and internships.

## Goals

The goals of the computer science department are to:

- Offer small classes that provide opportunities for personal interaction with students.
- Provide a broad, inclusive and up-to-date computing curriculum.
- Provide students opportunities for professional and community engagement and real world experiences.
- Help students to become computing problem solvers and good communicators.
- Produce graduates who will succeed in the computing profession.

## Career Opportunities and Marketable Skills

Computing technology pervades modern society and demand for computing professionals is strong and projected to remain strong for the foreseeable future. Careers in computing range from technical positions specifying, designing, building and maintaining networks and systems of all kinds, through project leadership and technical management. The computer science major prepares students for entry-level technical positions as programmers, software developers, requirements analysts, software designers, testers, software quality assurance professionals, system architects, network engineers, information security specialists and computing consultants.

## Co-curricular Activities and Organizations

The James Madison University Student Chapter of the Association for Computing Machinery is the local student chapter of the national association for computing professionals. The JMU chapter of Upsilon Pi Epsilon, the international honor society in computer science, recognizes outstanding academic achievement by students and outstanding contributions to education by faculty. The department also sponsors the Robotics, Cyber Defense, Digital Forensics and Women in Technology clubs. Students are encouraged to intern in a business or government organization during summer. Students may receive elective credit toward major requirements for internships.

## Admission Requirements

Any student may declare a CS major or minor, but students may enroll in CS courses beyond CS 139 /CS 149, CS 159 and CS 227/CS 227 only if they are fully admitted to the CS major or minor. Full admission to the major or minor is granted as described below.

- Students who have attempted CS 139 /CS 149, CS 159 or CS 227/MATH 227 at JMU may not attempt them elsewhere (that is, they must make any second attempts at JMU).
- Students must submit an application for full admission to the CS major or minor no earlier than the semester in which they complete CS 159.
- Students with a GPA of 3.0 or better in CS 139 /CS 149 and CS 159 who have attempted these classes only once are guaranteed full admission to the major or minor. Others will be granted full admission to the CS major or minor as space permits based on their GPA in CS 139 /CS 149 and CS 159 and faculty evaluation of their potential to succeed in the CS major or minor.
- Students who have completed the CS minor may apply for full admission to the CS major no earlier than the semester in which they complete the last course in the CS minor.
- CS minors with a GPA of 3.0 or higher in the CS minor will be fully admitted to the CS major; others will be admitted as space permits based on their minor GPA.
- Students will be notified of their CS major or minor admission status by January 1st for admission in the spring semester (following application the previous fall semester), and by May 15th for admission in the fall semester (following application the previous spring semester).
- Students who are not granted full admission to the CS major or minor may file one additional application in the next regular semester after they are denied admission.
- Transfer students who have completed the equivalent of CS 159 (or for whom this class is waived) are granted full admission to the CS major or minor. Other transfer students are subject to same process as non-transfer students.

## Computer Science, B.S.

### Degree Requirements

General Education 41 Credit Hours <sup>1</sup>

Quantitative requirement (in addition to General Education) 3 Credit Hours

Major requirements (listed below) 49-52 Credit Hours

University electives 24-27 Credit Hours

**Total: 120 Credit Hours**

### Footnote

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Course Requirements

CS 149. Introduction to Programming 3.00

CS 159. Advanced Programming 3.00

CS 240. Algorithms and Data Structures 3.00

CS 261. Computer Systems I 3.00

CS 327. Discrete Structures II 3.00

CS 345. Software Engineering 3.00

CS 361. Computer Systems II 3.00

CS 430. Programming Languages 3.00

Computer Science electives above CS 300, with at least two above CS 345: 9 Credit Hours

*Choose one introductory discrete math course: 3 Credit Hours*

CS 227. Discrete Structures I 3.00 or MATH 227. Discrete Structures I 3.00

*Choose one calculus sequence: 4-6 Credit Hours*

MATH 235. Calculus I [C3QR] 4.00 or MATH 231. Calculus with Functions I [C3QR] 3.00 and MATH 232. Calculus with Functions II 3.00  
*Choose one statistics course: 3-4 Credit Hours*  
MATH 220. Elementary Statistics [C3QR] 3.00  
MATH 318. Introduction to Probability and Statistics 4.00  
*Choose one algorithms course: 3 Credit Hours*  
CS 412. Applied Algorithms 3.00

CS 452. Design and Analysis of Algorithms 3.00  
*Choose one systems elective: 3 Credit Hours*  
CS 432. Compilers 3.00  
CS 450. Operating Systems 3.00  
CS 456. Computer Architecture 3.00  
CS 470. Parallel and Distributed Systems 3.00  
**Total: 49-52 Credit Hours**

### Additional Information

The credit/no-credit option may not be applied to any courses specifically listed above, nor may that option be applied to computer science electives

### Progressing in the Major

Students may enroll in each of CS 149, CS 159, CS 240 and CS 261 at most twice. Most CS courses require a grade of "C-" or better ("B-" or better in CS 149) in prerequisite courses. Students must achieve a cumulative grade point average of 2.0 or better in all courses used to satisfy CS major degree requirements.

### Computer Science Minor

The Computer Science minor begins with a required two-course introductory sequence (CS 149 and CS 159) that is open to any student who meets the course prerequisites. CS 101 and CS /MATH 227 are optional courses that are also open to any student who meets the course prerequisites. Students wishing to continue in the CS minor beyond CS 159 must apply for full admission. The application procedure and requirements are available on the CS department site (<https://www.jmu.edu/cs>).

**Minor Adviser:** Dr. Michael Kirkpatrick

#### Courses

CS 149. Introduction to Programming 3.00

CS 159. Advanced Programming 3.00

#### Core course (choose one): 3 Credit Hours

CS 240. Algorithms and Data Structures 3.00

CS 345. Software Engineering 3.00

CS 261. Computer Systems I 3.00

#### Electives: 9 Credit Hours

Choose three computer science courses numbered CS 101 or above, excluding CS 280.

Additional core courses completed (CS 240, CS 261 and CS 345) beyond the one required can be counted for this requirement.

**Total: 18 Credit Hours**



# Department of Early, Elementary and Reading Education

Dr. Teresa Harris, **Department Head**

**Phone:** (540) 568- 3866

**Email:** harristt@jmu.edu

**Location:** Memorial Hall, Room 3100

**Website:** <http://www.jmu.edu/coe/eere>

## Professors

T. Harris, M. Hughes, H. McCartney

## Associate Professors

J. Almarode, A. Bodle, G. Font, S. Kang, S. Mathur, J. Merritt, P. Sullivan

## Assistant Professors

C. Bahlmann Bollinger, K. Kavanagh, S. Lupo, J. Myers, M. Sharifian, E. Thacker, R. Wilson

## Instructors

P. Kennedy

## Mission

The Elementary Education program prepares candidates to teach students in grades PreK-6. Drawn from research and theories in child development, teaching and learning, the course work and field experiences prepare teacher candidates to employ a cross-disciplinary approach to instruction that reflects an understanding of the diverse nature of learners and their families.

The JMU Elementary Education program seeks to foster in its candidates an empathic understanding of the ways that children are affected by social contexts and by the children's own abilities/disabilities; the knowledge and pedagogical skills to support each child's right to success; and belief in the value of each child. Our candidates are guided in:

- Critically challenging conventional wisdom and common practices to identify hidden assumptions and activities that constrain or privilege some at the expense of others.
- Learning to ask questions and developing an inquiring approach motivated by the desire to understand the world in its myriad complexities.
- Reflecting deeply on and constructing positive relationships with others.
- Expressing knowledge, skills and attitudes in ways that communicate with others and provide a forum for the creative and academic expression of the profession and the self.
- Developing an appreciation for the global connection of all humanity and our interdependence on the finite, natural resources of the earth.
- Experiencing life among people whose social contexts are unlike the candidates' own to broaden and deepen respect for and sensitivity to various cultures and social contexts.
- Knowing and appreciating the process of human unfolding throughout the cycles of life from conception onward, particularly throughout the period of childhood and preadolescence.
- Valuing the literacies and literate backgrounds of all learners to develop equitable, inclusive instruction that honors diverse learners at all developmental phases.
- Reflecting critically on the ways we embody and enact a sustainable sense of self.
- Building on interdisciplinary connections among content areas to create inclusive, responsive and effective instruction for all learners.

The courses in the Elementary Education program are organized to integrate academic content with pedagogical practice throughout the major. Field experiences are provided along with course work to enable candidates to apply their knowledge in a variety of settings. Candidates must be fully accepted into teacher education to begin the ELED course work in the third year.

Assessment occurs during each semester, and candidate performance is reviewed at the end of each semester. Candidates must demonstrate satisfactory performance before moving on to the next semester. Satisfactory performance includes a "C" or higher in all education course work and an overall 2.5 GPA, demonstration of professional behaviors and acceptable performance in practica and on key assessments.

Candidates in this program must meet with the head of the Department of Early, Elementary and Reading Education early during the first year or as soon thereafter as possible to obtain information concerning the requirements for admission to teacher education and to be assigned an adviser. Candidates should note that they must be fully admitted to teacher education prior to registering for the courses offered during Year Three of the Elementary Education program. Candidates should also note that actual requirements may differ from the catalog requirements listed because of changes enacted by the Virginia Department of Education or other accrediting agencies after the catalog copy is approved. Therefore, it is especially important for candidates to confer with their education advisers on a regular basis. Completion of the Elementary Education major leads to a Virginia teaching license with an endorsement in PK-6 Elementary Education. To be recommended for licensure, all candidates must meet the following requirements:

- Complete General Education requirements.
- Complete the elementary education pre-professional program.
- Complete the disciplinary courses required for the elementary education degree.
- Meet all admission and retention criteria for teacher education including satisfactory scores on the VCLA, Praxis Core Math, RVE and Praxis Elementary Multiple Subjects tests.
- Meet admission requirements for the Elementary Education program.
- Meet performance and behavior standards as indicated by ratings on the program Professional Dispositions Checklist.

## Elementary Education, B.S.

### Degree and Major Requirements

#### Degree Requirements

General Education 41 Credit Hours

Scientific Literacy (in addition to General Education) 3 Credit Hours

Quantitative Reasoning (in addition to General Education) 3 Credit Hours

Major Requirements 36 Credit Hours

Licensure Requirements 28 Credit Hours

Minor in IDLS 12 Credit Hours beyond credits counted toward General Education and B.S. degree requirements

**Total: 122 Credit Hours**

#### Course Requirements

*Elementary Education Core Requirements*

ECED 371. Practicum in Early Childhood Education 1.00

ECED 372. Introduction to Early Childhood Education 3.00

EDUC 165. Social Foundations of Exceptionalities 3.00

EDUC 300. Foundations of American Education 3.00

ELED 310. Diversity in Elementary Education with Service Learning 3.00

ELED 308. Child Development: Birth Through Adolescence 3.00

**Total: 16 Credit Hours**

*Elementary Education Disciplinary Requirements*

ELED 311. Practicum with a Focus on Learners and Learning 1.00-3.00

ELED 411. Practicum with a Focus on Curriculum Integration and Guiding Behavior 1.00

ELED 432. Children and Science 3.00  
ELED 433. Children and Mathematics: Number, Operations, Algebraic and Geometric Reasoning 3.00  
ELED 434. Children and Social Studies 3.00  
ELED 443. Children and Mathematics II 3.00  
LED 366. Early Literacy Development and Acquisition 3.00  
LED 436. Literacy Learning in the Elementary Grades 3.00

**Total: 20 Credit Hours**

*Internship Requirements*

## Recommended Schedule for Elementary Education Majors

### First Year - Fall

SCOM 121. Fundamental Human Communication: Presentations [C1HC] 3.00 or  
SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] 3.00 or SCOM 123. Fundamental Human Communication: Group Presentations [C1HC] 3.00

GEOG 200. Geography: The Global Dimension [C4GE] 3.00 or ANTH 195. Cultural Anthropology [C4GE] 3.00

ISCI 171. Earth and Planetary Science for Teachers [C3NS] 3.00

PSYC 160. Life Span Human Development [C5SD] 3.00

MATH 107. Fundamentals of Mathematics I [C3QR] 3.00

**Total: 15 Credit Hours**

### First Year - Spring

MATH 108. Fundamentals of Mathematics II 3.00

HIST 225. U.S. History [C4AE] 4.00

WRTC 103. Critical Reading and Writing [C1W] 3.00

ISCI 172. Physical Science for Teachers [C3PP] 3.00

*Choose one of the following Cluster One Critical Thinking courses:*

BUS 160. Business Decision Making in a Modern Society [C1CT] 3.00

HIST 150. Critical Issues in Recent Global History [C1CT] 3.00

ISAT 160. Problem Solving Approaches in Science and Technology [C1CT] 3.00

PHIL 120. Critical Thinking [C1CT] 3.00

PHIL 150. Ethical Reasoning [C1CT] 3.00

SMAD 150. Mediated Communication: Issues and Skills [C1CT] 3.00

**Total: 16 Credit Hours**

### Second Year - Fall

EDUC 300. Foundations of American Education 3.00

HIST 102. World History Since 1500 [C2HQC] 3.00

*Choose one of the following Cluster Two Visual and Performing Arts courses:*

ART 200. Art in General Culture [C2VPA] 3.00

ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA] 3.00

ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00

MUS 200. Music in General Culture [C2VPA] 3.00

MUS 203. Music in America [C2VPA] 3.00

MUS 206. Introduction to Global Music [C2VPA] 3.00

THEA 210. Introduction to Theatre [C2VPA] 3.00

*Choose one of the following Cluster Two Literature courses:*

ENG 221. Literature/Culture/Ideas [C2L] 3.00

ENG 222. Genre(s) [C2L] 3.00

ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] 3.00

ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L] 3.00

ENG 239. Studies in World Literature [C2L] 3.00

ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] 3.00

ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L] 3.00

ELED 450. Planning Instruction and Assessment 3.00

ELED 455. Home, School, Communities 3.00

ELED 480. Student Teaching in Elementary Education 8.00

(taken twice for a total of 16.00 Credit Hours)

EXED 485. Systematic Behavioral Support and Interventions 3.00

LED 462. Literacy Across the Curriculum 3.00

**Total: 28 Credit Hours**

ENG 260. Survey of African-American Literature [C2L] 3.00

HUM 200. Great Works [C2L] 3.00

*Choose one of the following Cluster Five Wellness courses:*

HTH 100. Personal Wellness [C5W] 3.00

KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] 3.00

**Total: 15 Credit Hours**

### Second Year - Spring

ECED 371. Practicum in Early Childhood Education 1.00

ECED 372. Introduction to Early Childhood Education 3.00

ELED 308. Child Development: Birth Through Adolescence 3.00

ELED 310. Diversity in Elementary Education with Service Learning 3.00

ISCI 173. Life and Environmental Science for Teachers [C3L] 3.00

MATH 207. Fundamentals of Mathematics III 3.00 1

**Total: 16 Credit Hours**

### Footnote

<sup>1</sup> Part of the minor in IDLS.

### Third Year - Fall

Minor in IDLS 3.00 Credit Hours

EDUC 165. Social Foundations of Exceptionalities 3.00

ELED 311. Practicum with a Focus on Learners and Learning 1.00-3.00

ELED 432. Children and Science 3.00

ELED 433. Children and Mathematics: Number, Operations, Algebraic and Geometric Reasoning 3.00

LED 366. Early Literacy Development and Acquisition 3.00

**Total: 16 Credit Hours**

### Third Year - Spring

Minor in IDLS 6.00 Credit Hours

ELED 411. Practicum with a Focus on Curriculum Integration and Guiding Behavior 1.00

ELED 434. Children and Social Studies 3.00

ELED 443. Children and Mathematics II 3.00

LED 436. Literacy Learning in the Elementary Grades 3.00

**Total: 16 Credit Hours**

### Fourth Year - Fall

ELED 450. Planning Instruction and Assessment 3.00

ELED 480. Student Teaching in Elementary Education 8.00

LED 462. Literacy Across the Curriculum 3.00

**Total: 14 Credit Hours**

### Fourth Year - Spring

ELED 455. Home, School, Communities 3.00

ELED 480. Student Teaching in Elementary Education 8.00

EXED 485. Systematic Behavioral Support and Interventions 3.00

**Total: 14 Credit Hours**

**Total: 122 Credit Hours**

# Department of Economics

Dr. William Wood, **Department Head**

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## Professors

E. Ahmed, J. Doyle, S. Elwood, R. Horn, S. Milliman, W. Wood

## Associate Professors

V. Bhatt, N. Cavusoglu, W. Grant, A. Neveu, A. Smith, J. Subrick

## Assistant Professor

S. Hussain, P. Mutreja

## Lecturers

P. Heap, Z. Gochenour, J. Robinson, M. Sameni

## Mission

The Department of Economics is committed to students' intellectual development by fostering an understanding and appreciation of economic forms of explanation and their relationships to other social sciences. Economics faculty members are dedicated to sound and effective pedagogy, to scholarship of the highest quality and to outreach to the local and business community.

The department provides an intellectual foundation for the appreciation and understanding of economic theory and policy. This foundation is developed within a broader educational perspective that stresses the importance of imaginative thinking, free inquiry and the pursuit of life-long learning. In this way, the program prepares students with the economic literacy necessary to cope with the challenges inherent in a world of accelerating change.

## Goals

- Help students develop analytical and critical thinking skills.
- Promote cross disciplinary forms of instruction.
- Seek continuous improvement in the quality of classroom instruction.
- Serve the community through outreach services.
- Help students pursue careers and additional education.

## Marketable Skills

- Analytical thinking capabilities highly valued by business, government and the nonprofit sector.
- Writing and research skills applicable to a wide variety of careers.
- Statistical and econometric skills used in business and finance.
- Preparation in critical thinking valued by graduate schools, including law, business, and arts and sciences.
- Analytical skills valued by employers for internships in business, government and consulting.

## Co-curricular Activities and Organizations

- Economics Club (open membership)
- Omicron Delta Epsilon (national honor society in economics)

## Admission to the Major

Students wishing to pursue a B.A., B.B.A. or B.S. degree program in economics must be formally admitted to the program in order to enroll in the required core courses ECON 331, ECON 332 and ECON 385, which all require grades of "C" or better in their prerequisite courses. In order to be admitted as either a B.A. or B.S. candidate, the student must have at least three semesters remaining at JMU to complete the degree requirements. In order to be accepted as a B.B.A. candidate, the student must also meet all of the College of Business admission requirements (described in the College of Business section of the catalog).

To declare economics as a major, students must apply online through the JMU registrar's website and have an interview with the department head.

## Credit by Examination

Credit in ECON 200 will be granted to students who achieve a grade of 4 or 5 on the Advanced Placement Test in Macroeconomics administered by the Educational Testing Service. Credit in ECON 201 will be granted to students who achieve a grade of 4 or 5 on the Advanced Placement Test in Microeconomics.

## Preparation for Graduate Study in Economics

While not formal requirements, students intending to pursue graduate work in economics are encouraged to select as many of the following courses as possible:

### Courses

- |  |   |
|--|---|
| ECON 384. Mathematical Economics 3.00        | MATH 236. Calculus II 4.00                                |
| ECON 430. Monetary Theory 3.00               | MATH 237. Calculus III 4.00                               |
| ECON 431. Advanced Microeconomic Theory 3.00 | MATH 238. Linear Algebra with Differential Equations 4.00 |
| ECON 432. Advanced Macroeconomics 3.00       | MATH 336. Elementary Differential Equations 3.00          |
| MATH 235. Calculus I [C3QR] 4.00             | PHIL 250. Introduction to Symbolic Logic 3.00             |

## Economics, B.A.

### Degree Requirements

Economics majors choose from a B.A., B.S. or B.B.A. degree. The B.A. and B.S. degrees are traditional liberal arts degrees that lead to a variety of career and graduate school options; the B.B.A. is designed to prepare students for careers in business.

The minimum requirement for a B.A. degree in economics is 33 credit hours of economics, including 18 credit hours of core courses and 15 credit hours of electives. It is also necessary for the student to complete the foreign language and philosophy requirements for a B.A. degree as well as complete the General Education program.

### Required Courses

- General Education 41 Credit Hours <sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course(s) (in addition to General Education courses) 3 Credit Hours
- Major requirements (listed below) and electives 62-76 Credit Hours

**Total: 120 Credit Hours**

## Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Language, Literatures and Cultures' placement test.

## Major Requirements

### Required Economics Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00  
ECON 201. Introduction to Microeconomics 3.00  
ECON 331. Intermediate Microeconomic Theory 3.00  
ECON 332. Intermediate Macroeconomic Theory 3.00

**Total: 33 Credit Hours**

### Additional Information

Students need to complete ECON 331, ECON 332 and ECON 385 with a grade of "C" or better.

## Recommended Schedule for B.A. in Economics Majors

### First Two Years

During the first two years, students should complete:

Most of the General Education program

ECON 201. Introduction to Microeconomics 3.00

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

COB 191. Business Analytics I 3.00

*Choose one of the following:*

MATH 205. Introductory Calculus I [C3QR] 3.00

MATH 231. Calculus with Functions I [C3QR] 3.00

MATH 235. Calculus I [C3QR] 4.00

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] 4.00

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Economics electives (at least six credits must be at the 400 level, not including ECON 488, ECON 490 or ECON 499A) 15 Credit Hours

### Additional Information

Students are encouraged to take ECON 331 and/or ECON 332 in their sophomore year, which can only be taken once the prerequisites of ECON 200, ECON 201 and the prerequisite math course are completed.

### Third and Fourth Years

B.A. economics majors should complete ECON 331, ECON 332, and preferably ECON 385 by the end of their junior year. While most majors will complete the 400-level requirements in economics during their senior year, students may take a 400-level course during their junior year if the prerequisite for the course has been met. ECON 488 should be taken during the senior year.

## Economics, B.B.A.

### Degree and Major Requirements

Economics majors choose from a B.A., B.S. or B.B.A. degree. The B.A. and B.S. degrees are traditional liberal arts degrees that lead to a variety of career and graduate school options; the B.B.A. is designed to prepare students for careers in business.

### Degree Requirements

The B.B.A. degree in economics requires a minimum of 120 credit hours of undergraduate work of which 60 credit hours must be taken outside the College of Business. The 60 credit hours of non-business courses may include all General Education program credits, up to nine hours in economics and three hours of COB 191. The remaining hours must be taken from any academic unit outside the College of Business. It is recommended that students carefully select non-business electives to effectively complement their economics and business education.

The minimum requirement for a B.B.A. degree in economics is 33 credit hours of economics including 18 credit hours of core courses and 15 credit hours of electives. B.B.A. students also complete the core business requirements as well as complete the General Education program.

### Required Courses

- B.B.A. core courses 45-46 Credit Hours <sup>1</sup>
- Economics major requirements (minus overlapping B.B.A. requirements) 27 Credit Hours
- General Education courses 41 Credit Hours <sup>2</sup>
- Non-business electives 6-7 Credit Hours

**Total: 120 Credit Hours**

## Footnotes

<sup>1</sup> Up to seven credit hours of core requirements in economics and calculus may also be taken for General Education credit. Students who take the General Education packages and courses recommended by the College of Business will have only 39 credit hours of additional B.B.A. core requirements.

<sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

### Required Economics Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00  
ECON 201. Introduction to Microeconomics 3.00  
ECON 331. Intermediate Microeconomic Theory 3.00  
ECON 332. Intermediate Macroeconomic Theory 3.00

**Total: 33 Credit Hours**

### Additional Information

Students need to complete ECON 331, ECON 332 and ECON 385 with a grade of "C" or better.

## B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I 3.00 <sup>1</sup>

COB 202. Interpersonal Skills 3.00

COB 204. Computer Information Systems 3.00

COB 241. Financial Accounting 3.00

COB 291. Business Analytics II 3.00 <sup>2</sup>

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Economics electives (at least six credits must be at the 400 level, not including ECON 488, ECON 490 or ECON 499A) 15 Credit Hours

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

MATH 205. Introductory Calculus I [C3QR] 3.00 <sup>3</sup> or MATH 235. Calculus I [C3QR] 4.00 <sup>3</sup>

COB 242. Managerial Accounting 3.00 <sup>4,5</sup>

## B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management 3.00<sup>5,6</sup>  
COB 300B. Integrative Business: Finance 3.00<sup>5,6</sup>  
COB 300C. Integrative Business: Operations 3.00<sup>5,6</sup>

COB 300D. Integrative Business: Marketing 3.00<sup>5,6</sup>  
COB 318. Legal and Ethical Environment of Business 3.00<sup>7</sup>  
COB 487. Strategic Management 3.00<sup>8</sup>

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

## Recommended Schedule for B.B.A. in Economics Majors

### First Two Years

During the first two years, students should complete:

The 30-31 hour, lower-division B.B.A. core curriculum (failing to complete these courses before the first semester of the junior year could delay admission to the degree program and enrollment in COB 300A/COB 300B/COB 300C/COB 300D).

Most of the General Education curriculum

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

COB 191. Business Analytics I 3.00

Choose one of the following:

MATH 205. Introductory Calculus I [C3QR] 3.00

MATH 231. Calculus with Functions I [C3QR] 3.00

MATH 235. Calculus I [C3QR] 4.00

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] 4.00

### Third and Fourth Years

B.B.A. economics majors should take COB 300A, COB 300B, COB 300C, COB 300D before the spring semester of their junior year and complete ECON 331, ECON 332, and preferably ECON 385 by the end of their junior year.

While most majors will complete the 400-level requirements in economics during their senior year, students may take a 400-level course during their junior year if the prerequisite for the course has been met. ECON 488 should be taken during the senior year.

## Economics, B.S.

### Degree and Major Requirements

Economics majors choose from a B.A., B.S. or B.B.A. degree. The B.A. and B.S. degrees are traditional liberal arts degrees that lead to a variety of career and graduate school options; the B.B.A. is designed to prepare students for careers in business.

### Degree Requirements

The minimum requirement for a B.S. degree in economics is 33 credit hours of economics including 18 credit hours of core courses and 15 credit hours of electives. It is also necessary for the student to complete the quantitative and scientific literacy requirements for a B.S. degree as well as complete the General Education program.

### Required courses

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours<sup>2</sup>
- Major requirements (listed below) and electives 72-73 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to courses taken to fulfill General Education requirement.

## Major Requirements

### Required Economics Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Economics electives (at least six credits must be at the 400 level, not including ECON 488, ECON 490 or ECON 499A) 15 Credit Hours

**Total: 33 Credit Hours**

### Additional Information

Students need to complete ECON 331, ECON 332 and ECON 385 with a grade of "C" or better.

## Recommended Schedule for B.S. in Economics Majors

### First Two Years

During the first two years, students should complete:

Most of the General Education program

ECON 201. Introduction to Microeconomics 3.00

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

COB 191. Business Analytics I 3.00

Choose one of the following:

MATH 205. Introductory Calculus I [C3QR] 3.00

MATH 231. Calculus with Functions I [C3QR] 3.00

MATH 235. Calculus I [C3QR] 4.00

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] 4.00

### Additional Information

Students are encouraged to take ECON 331 and/or ECON 332 in their sophomore year, which can only be taken once the prerequisites of ECON 200, ECON 201 and the prerequisite math course are completed.

### Third and Fourth Years

B.S. economics majors should complete ECON 331, ECON 332, and preferably ECON 385 by the end of their junior year. While most majors will complete the 400-level requirements in economics during their senior year, students may take a 400-level course during their junior year if the prerequisite for the course has been met. ECON 488 should be taken during the senior year.

## Concentrations

### Concentration in Environmental and Natural Resource Economics

#### Required Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 305. Environmental Economics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 340. Economics of Natural Resources 3.00

ECON 385. Econometrics 3.00  
One 200- or 300-level economics elective 3 Credit Hours  
Two 400-level economics elective 6 Credit Hours

**Total: 34 Credit Hours**

### Option A or Option B

In addition, students must choose Option A or Option B.

#### Option A

For students with specific interests in forests, fisheries and wildlife: 12 Credit Hours

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

Choose one of the following (serves as the prerequisite to BIO 250):

BIO 150. Foundations of Biology II (3,3) 4.00

GEOL 110. Physical Geology [C3NS] 3.00 plus GEOL 110L. Physical Geology Laboratory [C3NS] 1.00

GEOG 210. Physical Geography (2, 2) 4.00

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

**Total: 46 Credit Hours**

ECON 488. Senior Capstone Seminar in Economics 3.00  
ECON 490. Special Studies in Economics 1.00 - 3.00 (1 Credit ECON 490 is required)

#### Option B

For students interested in pollution prevention and control: 9-10 Credit Hours

Choose one of the following: (3-4 credits)

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

GEOL 115. Earth Systems and Climate Change [C3NS] 3.00

GEOG 210. Physical Geography (2, 2) 4.00

Choose one of the following: (3 credits)

GEOG 325. Environmental Ethics 3.00

GEOG 429. Sustainability: An Ecological Perspective 3.00 or ISAT 429. Sustainability: An Ecological Perspective 3.00

Choose one of the following: (3-4 credits)

ISAT 320. Fundamentals of Environmental Science & Technology I 4.00

ISAT 321. Fundamentals of Environmental Science & Technology II 3.00

**Total: 43-44 Credit Hours**

## Concentration in Financial Economics

The minimum requirement for a B.A., B.S. or B.B.A. degree in economics with a concentration in financial economics is 27 credit hours of required economics courses and 12 credit hours of required finance courses (in addition to previous requirements).

### Required Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 372. International Finance and Payments 3.00

ECON 385. Econometrics 3.00

ECON 430. Monetary Theory 3.00

**Total: 36-39 Credit Hours**

ECON 488. Senior Capstone Seminar in Economics 3.00

Economics elective (400 level, not including ECON 490, ECON 499A) 3 Credit Hours

FIN 301. Principles of Finance 3.00 (only if not completing COB 300)

FIN 360. Analytical Methods in Finance 3.00

FIN 371. Principles of Investments 3.00

FIN 380. Elemental and Derivative Securities Analysis 3.00

## Concentration in International Economics

Students who elect a major in economics with a concentration in international economics are required to complete the following courses:

### Required Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 370. International Trade and Trade Policies 3.00

ECON 372. International Finance and Payments 3.00 or FIN 372. International Finance and Payments 3.00

**Total: 36 Credit Hours**

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Choose two of the following: 6 Credit Hours

ECON 312. Comparative Economic Systems 3.00

ECON 365. Economic Development 3.00

Two 400-level economics electives: 6 Credit Hours

### Additional Information

In addition, students completing this course of study must have a genuine international experience (such as an internship or semester abroad) and must complete a foreign language through the civilization course, including all of the prerequisites for that course.

## Concentration in Political Economy

Students who elect a major in economics with a concentration in political economy are required to complete the following courses.

### Required Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Choose four of the following: 12 Credit Hours

ECON 312. Comparative Economic Systems 3.00

ECON 326. Public Finance 3.00

ECON 327. Game Theory 3.00

ECON 405. Political Economy 3.00

ECON 426. Theory of Public Choice 3.00

Two 400-level economics electives: 6 Credit Hours (Can include ECON 405 and/or ECON 426)

**Total: 36 Credit Hours**

## Concentration in Quantitative Economics

The Concentration in Quantitative Economics will consist of a combination of three courses offered by the Economics Department that develop the students' quantitative skills.

Completion of the concentration will help signal the students' quantitative abilities as well as interests to prospective employers.

ECON 384. Mathematical Economics 3.00

Choose two of the following three options (six credits):

ECON 483. Applied Time Series Analysis 3.00

ECON 485. Advanced Econometrics 3.00

ECON 431. Advanced Microeconomic Theory 3.00 or ECON 432. Advanced Macroeconomics 3.00

(Credit may be received for either ECON 431 or ECON 432, but not both)

## Concentration in Socioeconomics

Students who elect a major in economics with a concentration in socioeconomics are required to complete the following courses.

### Required Courses

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00

ECON 385. Econometrics 3.00

ECON 488. Senior Capstone Seminar in Economics 3.00

Two 400-level economics electives 6 Credit Hours

**Total: 24 Credit Hours**

### Electives

Choose four of the following: 12 Credit Hours

ECON 340. Economics of Natural Resources 3.00

ECON 360. Labor Economics 3.00

ECON 365. Economic Development 3.00

ECON 382. Urban Economics 3.00

Choose four of the following: 12 Credit Hours

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

SOCI 336. Race and Ethnicity 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00

SOCI 337. Sociology of Gender 3.00

SOCI 344. Work and Society 3.00

SOCI 358. Sociology of Consumption 3.00

HIST 320. Women in U.S. History 3.00

HIST 428. American Workers in the Industrial Age, 1877-1948 3.00

HIST 466. The Family, 1400-1800 3.00

**Total: 45-48 Credit Hours**

### *Economics Minor*

The minimum requirement for a minor in economics is 18 credit hours in economics, including ECON 200 and ECON 201. At least six credit hours of the remaining twelve credit hours must be 300- or 400- level economics courses. Students may not receive credit toward the minor in economics for both ECON 270 and ECON 370.

# Department of Educational Foundations and Exceptionalities

Dr. William White, **Department Head**

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**Location:** Memorial Hall, Room 3126

**Website:** <http://www.jmu.edu/coe/efex/index.shtml>

## Professors

L. Desportes, S. Wasta

## Associate Professors

D. Allen-Bronaugh, K. Bethune, S. Blatz, C.R. Bosch, K. Koubek, T. Thomas

## Assistant Professors

T. Brown, R. Rodriguez, S. Snyder, M. Williams

## Instructor

L. Schick

The Department of Educational Foundations and Exceptionalities offers programs in special education, inclusive education, teaching English to speakers of other languages and gifted education.

## *Inclusive Early Childhood Education, B.S.*

## Vision

The undergraduate inclusive early childhood education major and licensure program is designed to prepare resilient, culturally responsive educators who are advocates for children and youth in inclusive public education settings.

Academic experiences in the major, including coursework and field experiences assist students as they gain knowledge and understanding of early childhood inclusion (Birth-3rd grade) and practices that promote access, participation, and support for young children and their families. Students completing the four-year licensure program are prepared to serve as teachers of students birth through 3rd grade with and without exceptionalities (Birth- age 5 special education and PK-3rd grade general education).

## Goals/Objectives

The inclusive early childhood education pre-professional major enables students to become knowledgeable about and understand:

- young children's characteristics and needs, and of multiple interacting influences on children's development and learning,
- diverse family and community characteristics<sup>1,2,3</sup>
- supporting and engage families and communities through respectful, reciprocal relationships
- collaborate with colleagues and families using multiple types of assessment information
- general and specialized curricula to individualize learning for individuals with exceptionalities.
- the significance of lifelong learning and participate in professional activities and learning communities.

## Degree and Major Requirements

### Degree Requirements

- General Education, <sup>1,2,3</sup> 41 credits
- Quantitative Requirement, 3 credits
- Scientific Literacy Requirement, 3 credits
- IECE Major, 48 credits
- Licensure Requirements and Electives, 3-25 credits

**Total: 120 credits**

### Footnotes

<sup>1</sup> Must include PSYC 160.

<sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>3</sup> The number of credits taken to meet requirements may vary if courses are double-counted for General Education to meet B.S. degree requirements. Courses may not be double-counted between General Education and B.S. degree requirements.

### Major Requirements

#### Core Requirements

EDUC 300. Foundations of American Education 3.00

EDUC 310. Teaching in a Diverse Society 3.00

Disciplinary Requirements

EXED 429. Teaching Learners with Complex Care Needs 3.00

IECE 300. Issues and Trends in Inclusive Early Childhood Education 3.00

IECE 303. Development of Young Children Birth Through Age 8 3.00

IECE 321. Initial Field Experience in IECE 1.00

IECE 322. Curriculum and Instruction in Inclusive Early Childhood Education 3.00

IECE 324. Assessment of the Young Child 3.00

IECE 421. Intermediate Field Experience in IECE 2.00

IECE 450. Contemporary Family Issues in Inclusive Education 3.00

IECE 464. Instructional Practices in Social Studies for Young Children 3.00

IECE 466. Managing Classrooms and Guiding Behavior 3.00

IECE 470. Individualized Behavior Intervention for Young Children 3.00

READ 355. Inclusive Early Literacy Development and Acquisition 3.00

#### Student Teaching/Internship Requirements

IECE 461. Advanced Field Experience in IECE 3.00

IECE 480. Student Teaching in Inclusive Early Childhood Education 10.00

IECE 481. Seminar in Inclusive Early Childhood Education 3.00

### Recommended Schedule of Classes

#### First Year

EDUC 300. Foundations of American Education

PSYC 160. Life Span Human Development [C5SD]

WRTC 103. Critical Reading and Writing [C1W]

Any Gen. Ed. Cluster 3 course with a MATH designation [C3QR]

#### Second Year

EDUC 310. Teaching in a Diverse Society

EXED 200. Foundations of Exceptional Education (spring semester)

MSSE 240. Foundations of General Education 6-12 (spring semester)

#### Third Year

MSSE 425. Assessment in Middle and Secondary Education

MSSE 470. Content Area Teaching Methods, Grades 6-8

MSSE 471. Field Experience in Middle Grades Education

LED 440. Literacy-Based Learning in Secondary Education

#### Fourth Year

MSSE 460. Differentiation for Adolescents (fall semester)

MSSE 480. Content Area Teaching Methods, Grades 9-12 (fall semester)

MSSE 481. Field Placement, Grades 9-12 (fall semester)



MSSE 403. Behavior and Classroom Management in a Diverse Society (spring semester)  
MSSE 450. Internship Seminar (spring semester)

MSSE 475. Internship in Middle and Secondary Education (spring semester)  
Pedagogical Content Knowledge Courses - varies by content area (spring semester)

## ***Special Education, B.S.***

This major prepares individuals to become special education teachers for student's grades K-12. Student majors in special education with a concentration in either general curriculum or adapted curriculum.

### **Mission**

The Special Education degree program builds on the foundational content knowledge students develop in their general education course work, a foundational understanding of how schools work, and general education practices developed during their foundational education course work. The special education course work and field experiences offered in two concentrations—General Curriculum and Adapted Curriculum—are drawn from research and theories in learning such as information processing and behaviorism along with child normal and abnormal development, teaching, literacy, and learning.

The Special Education degree program seeks to foster in its candidates an empathic understanding of the ways that children are affected by social contexts and by the children's own abilities/disabilities; the knowledge and pedagogical skills to support each child's right to success; and belief in the value of each child. The foundations of the Special Education degree program are based in:

- Critically challenging conventional wisdom and common practices to identify hidden assumptions and activities that constrain or privilege some at the expense of others.
- Understanding and advocating for the educational needs of individuals with disabilities.
- Learning to ask questions and supporting an inquiring approach motivated by the desire to understand the world in its myriad complexities.
- Reflecting deeply on and constructing positive and collaborative relationships with others.
- Expressing knowledge, skills, and attitudes in ways that communicate with others and provide a forum for the creative and academic expression of the profession and the self.
- Developing an appreciation for the global connection of all humanity and humans' interdependence on the finite, natural resources of the earth.
- Experiencing life among people whose social contexts are unlike the candidates' own to broaden and deepen respect for and sensitivity to various cultures and social contexts.
- Knowing and appreciating the process of human unfolding throughout the cycles of life from conception onward, particularly throughout the period of childhood.
- Valuing the literacies and literate backgrounds of all learners and developing equitable, inclusive instruction that honors diverse learners at all developmental phases.
- Reflecting critically on the ways people embody and enact a sustainable sense of self.
- Understanding and focusing on critical elements of academic, social, and behavioral content needed to function within society.
- Building on interdisciplinary connections among content areas to create inclusive, responsive, and effective instruction for all learners.

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education <sup>1,2,3</sup>, 41 credits
- Quantitative Requirement, 3 credits
- Scientific Literacy Requirement, 3 credits
- Special Education Major and Selected Concentration, 46 credits
- Licensure Requirements, 15 credits
- Minor Requirements, 12-24 credits

**Total: 120-126 credits**

#### **Footnotes**

1 Must include PSYC 160.

2 The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

3 The number of credits taken to meet requirements may vary if courses are double-counted for General Education to meet B.S. degree requirements. Courses may not be double-counted between General Education and B.S. degree requirements.

#### **Major Requirements**

##### **Core Requirements**

EDUC 300. Foundations of American Education 3.00  
EDUC 303. Foundations of Curriculum and Instruction 2.00  
EDUC 310. Teaching in a Diverse Society 3.00  
EXED 200. Foundations of Exceptional Education 3.00

##### **Disciplinary Requirements**

EXED 303. Foundations of Classroom and Behavior Management 3.00  
EXED 407. Transitions of Learners with Disabilities 4.00  
EXED 474. Assessment and Evaluation in Special Education 3.00  
EXED 475. Program Planning in Special Education 3.00

EXED 484. Inclusive Practices in Special Education 4.00  
EXED 485. Systematic Behavioral Support and Interventions 3.00  
READ 430. Development, Assessment and Instruction of Literacy: K-12 3.00

##### **Concentration Courses 12.00**

##### **Student Teaching/Internship Requirements**

EXED 476. Practicum in Literacy and Assessment 2.00  
\*EXED 478. Supervised Practice in Special Education Methods 2.00  
\*EXED 480. Student Teaching 4.00  
\*EXED 483. Teachers as Professionals 3.00

### **Concentrations**

The General curriculum licensure prepares teacher candidates to work with students with disabilities who are pursuing a standard high school diploma, whereas the adapted curriculum licensure prepares teacher candidates to work with students with disabilities who are more significantly impacted by their disability and working on a specialized curriculum. Both licensures may be obtained through specialized advising.

#### **Adapted Curriculum Concentration Requirements**

EXED 342. Characteristics of Learners with Low Incidence Disabilities Accessing the Adapted Curriculum 3.00  
EXED 417. Communication, Language and Sensory Issues of Learners with ASD and/or on the Adapted Curriculum 3.00

EXED 429. Teaching Learners with Complex Care Needs 3.00  
EXED 473. Methods of Instruction for Learners Accessing the Adapted Curriculum 3.00

## General Curriculum Concentration Requirements

EXED 341. Characteristics of Learners with Disabilities Accessing the General Curriculum 3.00  
EXED 450. Principles of Specialized Reading Instruction 3.00

EXED 477. Remedial Methods in Special Education 3.00  
MAED 430. Teaching Mathematics in Grades K-12 3.00

## *Special Education Non-Teaching Minor*

**Program Coordinator:** Dr. Laura Desportes

**Phone:** (540) 568-4527

**Email:** desportl@jmu.edu

The non-teaching minor program in exceptional education is designed for students in other major fields who wish to acquire professional knowledge related to assisting individuals with disabilities but who do not want to pursue Virginia teaching licensure. All students seeking to complete the minor must meet with the non-teaching program adviser to develop an approved program of study.

### Required Courses

EXED 200. Foundations of Exceptional Education 3.00 (Prerequisite for all EXED courses. Offered online in the summer)

*Complete two survey courses:*

EXED 310. Survey of Emotional Disturbance 3.00

EXED 320. Survey of Learning Disabilities 3.00

EXED 330. Survey of Intellectual Disabilities 3.00

EXED 375. Overview Study of Autism Spectrum Disorders 3.00<sup>1</sup>

EXED 305. Characteristics of Acquired Brain Injury 3.00

*Select nine credits from electives:*

EXED 303. Foundations of Classroom and Behavior Management 3.00

EXED 306. Lifespan Issues for Individuals with Disabilities 3.00

EXED 309. Supporting Community Access for Adults with Disabilities 3.00

EXED 401. Issues in Exceptional Education 1.00 - 3.00

EXED 443. Assistive Technology Use for Individuals With Disabilities 3.00

EXED 455. Collaborative Teaching for Learners with Disabilities 3.00

EXED 465. Perspectives of Early Childhood Special Education 3.00

EXED 490. Special Studies in Special Education 1.00 - 3.00 each semester<sup>2</sup>

CSD 420. Introduction to Sign Language 3.00

CSD 421. Sign Language II 3.00

KIN 313. Adapted Physical Education 3.00<sup>3</sup>

TESL 426. Concepts in First and Second Language Acquisition 3.00

### Autism Certificate Courses

Students completing the autism certificate must complete these three courses in sequential order. No other electives must be completed if a student chooses this option. Not permitted in enrolling in EXED 375.

EXED 416. Overview and Assessment of Autism Disorders 3.00

EXED 417. Communication, Language and Sensory Issues of Learners with ASD and/or on the Adapted Curriculum 3.00

EXED 418. Challenging Behaviors, Positive Behavioral Supports, Functional Behavioral Assessment and Behavior Intervention Plans 3.00

**Total: 18 Credit Hours**

### Footnotes

<sup>1</sup> Permitted only if the student is not enrolling the autism series (EXED 416, EXED 417, EXED 418). <sup>2</sup> Independent study must be approved and supervised by individual faculty. <sup>3</sup> For kinesiology majors only; KIN 310 is a corequisite.

## *Special Education: General Curriculum K-Twelve*

**Program Coordinator:** Dr. Sharon Blatz

**Phone:** (540) 568-6784

**Email:** blatzsl@jmu.edu

Completion of the five-year professional program may lead to eligibility for a Virginia teaching license for the special education general curriculum K-12. Assessment occurs each semester and performance will be reviewed at each assessment gate. Candidates must demonstrate satisfactory performance before moving on to the next semester. Satisfactory performance includes a "C" or better in course work, demonstration of professional behaviors, and acceptable performance in practicums and on key assessments. To be recommended for licensure, all students must meet the following requirements:

- Complete General Education and major requirements.
- Complete the special education pre-professional program as it corresponds to the related teaching track.
- Meet all admission and retention criteria for teacher education.
- Meet admission requirements for the special education M.A.T. program.
- Complete the graduate portion of the licensure program.

## *Special Education: Gifted Education*

**Program Coordinator:** Dani Allen-Bronaugh

**Phone:** (540) 568-4952

**Email:** bronauda@jmu.edu

The Educational Foundations and Exceptionalities, Department of offers an add-on endorsement in gifted education at the graduate level only. See the graduate catalog for information.

## *Special Education: Inclusive Early Childhood Education (IECE) Master's Level Licensure Birth - Third Grade*

**Program Coordinator:** Dr. Mira Cole Williams

**Phone:** (540) 568-3473

**Email:** willi9mc@jmu.edu

**Practicum Coordinator:** Dr. Holly McCartney

**Phone:** (540) 568-8753

**Email:** mccarthhb@jmu.edu

The IECE program draws heavily from research and theories in child development, family systems, special education, differentiated teaching and learning.

Through course work and extensive field experiences, the teacher candidate is prepared to design activities that have an cross disciplinary focus, reflect an understanding of the individual child's development and learning, recognize the importance of family and developmental influences, support the young child in constructing knowledge about self and the world, and involve parents in supporting the child's growth and development.

The JMU program prepares teachers for endorsements in Early Childhood Special Education, birth to five, and Early Childhood Education, PreK-3. The program is based on these assumptions:

- Early childhood educators must have a strong liberal education.
- Early childhood educators should possess a broad range of knowledge that provides a context for understanding individual behavior, family and environmental influences and major social issues in a modern democratic and technological society.
- Early childhood educators must have professional preparation that develops critical thinking and problem-solving skills to become educational decision makers who consciously choose appropriate curriculum based on an understanding of how children develop and learn.

The courses in the IECE Education program are sequentially organized throughout four undergraduate and three graduate semesters to help candidates develop an understanding of how children learn and interact in learning environments as well as familiarity with methods and materials appropriate for teaching and working in a collaborative way with families and other professionals.

Field experiences are provided along with course work to enable candidates to apply their knowledge in a variety of family and learning settings. Candidates must be accepted in teacher education to begin upper level IECE course work.

Assessment occurs each semester and performance will be reviewed at each assessment gate. Candidates must demonstrate satisfactory performance before moving on to the next semester.

Satisfactory performance includes a "C" or higher in all education coursework with an overall 2.5 GPA, demonstration of professional behaviors, and acceptable performance in practica and on key assessments.

To be recommended for licensure in ECSE and PreK-3, candidates must satisfy the following requirements:

- Complete the General Education and degree requirements of the university.
- Complete a major in IDLS.
- Meet all admission and retention requirements for teacher education and the IECE program.
- Complete the 49 credit hour pre-professional program with an overall 2.75 GPA.
- Be admitted to The Graduate School.
- Complete the 30 hour graduate program including student teaching.
- Candidates in this program must meet with an IECE program adviser to declare the pre-professional licensure program in inclusive early childhood education.

The IDLS major is assigned two advisers. One adviser is the adviser for the education pre-professional licensure program who will guide the student through the licensure program requirements. The other adviser is the IDLS adviser who will guide the student through the IDLS major requirements. Students should plan on consulting both advisers regularly. Typically, the education adviser is assigned when the student meets with the head of his/her licensure program and elects the licensure program. This may be as early as the first semester of the first year. The IDLS adviser is assigned when the first year student advising folders are transferred to the IDLS office (second semester, first year) Students are required to check with advisers regularly to ensure timely graduation.

### Degree and Major Requirements

- General Education requirements *41 Credit Hours*<sup>1</sup>
- Interdisciplinary Liberal Studies Major *37 Credit Hours*
- IECE Licensure Pre-professional Course Work *49 Credit Hours*
- Graduate Degree Course Work *30 Credit Hours*

#### Footnote

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Recommended Schedule for IECE

#### Second Year Fall

EXED 200. Foundations of Exceptional Education *3.00*

EDUC 300. Foundations of American Education *3.00*

EDUC 310. Teaching in a Diverse Society *3.00*

#### Third Year Fall

IECE 300. Issues and Trends in Inclusive Early Childhood Education *3.00*

IECE 301. Initial Field Experience in Inclusive Early Childhood Education *1.00*

IECE 303. Development of Young Children Birth Through Age 8 *3.00*

#### Third Year Spring

IECE 321. Initial Field Experience in IECE *1.00*

IECE 322. Curriculum and Instruction in Inclusive Early Childhood Education *3.00*

IECE 324. Assessment of the Young Child *3.00*

LED 366. Early Literacy Development and Acquisition *3.00*

#### Fourth Year Fall

IECE 423. Intermediate Practicum II *2.00*

IECE 450. Contemporary Family Issues in Inclusive Education *3.00*

IECE 466. Managing Classrooms and Guiding Behavior *3.00*

#### Fourth Year Spring

IECE 460. Instructional Practices in Numeracy *3.00*

IECE 461. Advanced Field Experience in IECE (MODIFY) *2.00-3.00*

IECE 462. Instructional Practices in Natural Sciences for Young Children *3.00*

IECE 464. Instructional Practices in Social Studies for Young Children *3.00*

LED 436. Literacy Learning in the Elementary Grades *3.00*

#### Graduate Year Fall

IECE 612. Effective Teaching in IECE *3 Credit Hours*

IECE 613. Advanced Field Experience in IECE II *3 Credit Hours*

IECE 614. Individualized Behavior Intervention for Young Children *3 Credit Hours*

IECE 632. Creativity, Play and Representation *3 Credit Hours*

EXED 625. Medical Aspects of Working with Children with Significant Medical Needs *3 Credit Hours*

#### Graduate Year Spring

IECE 620. Seminar in IECE Student Teaching *3 Credit Hours*

IECE 680. Student Teaching in IECE *12 Credit Hours*

### *Teaching English to Speakers of Other Languages (TESOL) PK-12: Undergraduate Licensure Program*

**Coordinator:** Dr. Katya Koubek

**Phone:** (540) 568-6760

**Email:** koubekex@jmu.edu

### Teaching English to Speakers of Other Languages

The Teaching English to Speakers of Other Languages (TESOL) program is designed to enable students to complete the TESOL non-licensure minor or the TESOL PK-12 licensure. Both programs prepare students to work effectively in promoting English language acquisition of children and adults who are not native English speakers. These programs also promote development of skills in cross-cultural competence and draw heavily upon theories of linguistics, research on social and cultural variables that influence second language acquisition, and the knowledge required to facilitate second language learning.

Candidates currently enrolled in initial teaching licensure programs may be able to complete the TESOL requirements in conjunction with completing their other preparation program. With careful planning, dual licensure is possible. Candidates interested in dual licensure should consult with the TESOL coordinator and the other program area adviser for more information.

### Student Teaching

Candidates must apply to student teach one year prior to their student teaching semester. At that time, students must be fully accepted into teacher education, be admitted unconditionally to graduate school and have a 3.0 graduate GPA.

### Teaching English to Speakers of Other Languages (TESOL) PK-12: Undergraduate Licensure Program

James Madison University's College of Education, through the Educational Foundations and Exceptionalities Department (EFEX) offers licensure preparation for PK-12 Teaching English to Speakers of Other Languages (TESOL). This program draws on theories of linguistics, research on social and cultural variables that influence second language acquisition and the knowledge required to facilitate second language learning. The TESOL program will prepare future educators to understand and implement more equitable and effective ways of working with English Learners (ELs) in a variety of contexts, including inclusion in content/general education classes, sheltered-ESL classes and pullout classes.

Completion of this four-year program leads to eligibility for a Virginia teaching license for PK-12 English as a Second Language.

The College of Education's TESOL Program is interested in candidates who are committed to social justice and to creating affirming and academically challenging learning environments. Candidates must also complete a major in a liberal arts discipline closely associated with a teaching area (e.g., biology, history, mathematics, psychology, chemistry, English, etc. but not business administration, nursing, engineering, etc.).

Students considering PK-12 initial licensure in TESOL follow the process described below. Students pursuing initial licensure in other approved areas may also be admitted to the TESOL Program and simultaneously achieve initial licensure in TESOL.

All teacher education admission requirements are submitted through the Education Support Center, located in Memorial Hall, room 7230. Candidates must be fully admitted into teacher education before they can register for certain designated undergraduate education courses.

Teacher education candidates must maintain an overall GPA of 2.5 or better and complete general education courses with a minimum grade of "C." Candidates must also complete academic major content courses and TESOL course work with a minimum grade of "C."

### Recommended Schedule for TESOL

Professional Education Courses

PSYC 160. Life Span Human Development [C5SD] 3.00

EDUC 300. Foundations of American Education 3.00

EDUC 310. Teaching in a Diverse Society 3.00

EDUC 370. Instructional Technology 3.00

LED 366. Early Literacy Development and Acquisition 3.00

TESL 384. Practicum in Literacy Development 1.00 (corequisite LED 366)

**Total: 16 Credit Hours**

### Additional Information

Students must complete PSYC 160 and EDUC 300 prior to admission to Teacher Education. Other Professional Education courses should be completed prior to taking the TESOL Core Requirements. For students obtaining licensure in other areas, many of the professional education courses will be the same. In most cases, student teaching can be combined with other licensure areas and completed in one semester.

### TESOL Core Requirements

ENG 308. Introduction to Linguistics 3.00

TESL 426. Concepts in First and Second Language Acquisition 3.00 (Prerequisite for other TESOL courses, except ENG 308).

TESL 382. Practicum in TESOL First/2nd Language Acquisition 1.00 (Prerequisite for other TESOL courses, except ENG 308. corequisite TESL 426).

TESL 428. Assessment for Curriculum Development in English as a Second Language 3.00

LED 435. Literacy Development and Instruction for English Language Learners 3.00

TESL 383. Practicum in TESOL Literacy Development 1.00 (corequisite LED 435)

TESL 470. Instructional Strategies for Teaching English as a Second Language 3.00

TESL 381. Practicum in TESOL Instructional Strategies 3.00

TESL 480. Student Teaching/Internship 6.00 - 12.00 (One eight-week block preK-6, one eight-week block 6-12)

TESL 482. Field Work in Professional Development, Partnership and Advocacy Seminar 1 Credit Hour

Modern Foreign Language or Proficiency at Intermediate Level 0-12 Credit Hour(s)

**Total: 33-45 Credit Hours**

## *Teaching English to Speakers of Other Languages: Non-Licensure TESOL Minor*

**Coordinator:** Dr. Katya Koubek

**Phone:** (540) 568-6760

**Email:** koubekex@jmu.edu

The Teaching English to Speakers of Other Languages (TESOL) program is designed to enable students to complete the TESOL non-licensure minor or the TESOL PK-12 licensure. Both programs prepare students to work effectively in promoting English language acquisition of children and adults who are not native English speakers. These programs also promote development of skills in cross-cultural competence and draw heavily upon theories of linguistics, research on social and cultural variables that influence second language acquisition, and the knowledge required to facilitate second language learning.

Candidates currently enrolled in initial teaching licensure programs may be able to complete the TESOL requirements in conjunction with completing their other preparation program. With careful planning, dual licensure is possible. Candidates interested in dual licensure should consult with the TESOL coordinator and the other program area adviser for more information.

The non-licensure minor program in TESOL is designed for students in various fields, who wish to acquire professional knowledge related to teaching English to speakers of other languages, but who do not want to pursue Virginia teaching licensure. Students will acquire skills in cross-cultural competence, understand and implement more equitable and effective ways of working with English learners (ELs), and become familiar with the processes of first and second language acquisition. Students will gain a foundational knowledge of effective teaching practices to assist and assess ELs. The TESOL non-licensure minor requires a minimum of 19-20 credit hours; 16 credits are required core courses and 3-4 credits are electives selected in consultation with a program adviser.

### Required Courses

EDUC 310. Teaching in a Diverse Society 3.00

LED 430. Development, Assessment and Instruction of Literacy: K-12 3.00

TESL 426. Concepts in First and Second Language Acquisition 3.00

TESL 428. Assessment for Curriculum Development in English as a Second Language 3.00

TESL 385. Practicum in TESOL 1.00-3.00

TESL 470. Instructional Strategies for Teaching English as a Second Language 3.00<sup>1</sup>

*Electives (choose one): 3-4 Credit Hours*

EDUC 300. Foundations of American Education 3.00

EDUC 370. Instructional Technology 3.00 (Lab course)

ENG 308. Introduction to Linguistics 3.00

EXED 303. Foundations of Classroom and Behavior Management 3.00

LED 435. Literacy Development and Instruction for English Language Learners 3.00<sup>2</sup>

**Total: 19-20 Credit Hours**

### Footnotes

<sup>1</sup> This course has an additional one credit practicum, TESL 385.    <sup>2</sup> This course has an additional one credit practicum, TESL 383.

# Department of Engineering

Dr. Kurt G. Paterson, **Department Head**

**Phone:** (540) 568-6241

**Email:** paterskg@jmu.edu

**Location:** Health & Human Services Building, Room 3234

**Website:** <http://www.jmu.edu/engineering>

## Professor

K. Paterson, B. Striebig

## Associate Professors

K. Gipson, S. Harper, J. Henriques, S. Holland, S. Morton, J. Nagel, R. Nagel, A. Ogundipe, R. Prins

## Assistant Professors

D. Castaneda, J. Fortsyth, S. Joshi, H. Kirkvold, C. Miller

## Mission

Through an engineering curriculum grounded in effective instructional practices, we nurture an engaged educational community of conscientious and adaptable learners who develop solutions for the betterment of society.

## Objectives

The JMU Engineering program provides an eight-semester project-driven platform for students to contribute engineering work for sustainable societies. We seek engineers who are eager to:

- understand the needs of people and communities, effectively communicate with project partners, and provide leadership for diverse teams,
- make beneficial solutions for society and the planet using innovation, design thinking, engineering analyses, and an understanding of complexities involved in real projects.
- function effectively in the work environment with integrity and professionalism, and
- demonstrate a commitment to professional development through self-motivated learning, career advancement, or advanced studies.

The Bachelor of Science in Engineering is a single cross disciplinary engineering degree that integrates many traditional engineering disciplines with course work in business, project management, engineering, design and liberal arts. The foci of the program are sustainability, engineering design and project delivery.

Engineering for a sustainable world is, in short, a body of knowledge and set of holistic analytical design skills that contribute to the development of products, processes, services and infrastructure that simultaneously protect the environment, conserve resources and meet human needs at an acceptable financial cost. By reframing traditional engineering practice, sustainability provides a way of moving toward the development of sustainable societies, where human quality of life is advanced with a minimum impact on finite resources and the environment. Traditional approaches to engineering, such as mechanical, electrical or chemical are not offered in this program.

Rather, this modern, project-based, engineering curriculum spans many areas of engineering to create adaptable engineers with practical know-how.

The curriculum is ABET accredited and prepares students for the Fundamentals of Engineering (FE) pre-licensure examination. Graduates will be prepared to succeed in the engineering workforce or in advanced engineering degree programs by accumulating a professional portfolio of engineering project experiences throughout the curriculum.

## Career Opportunities

Upon graduation, alumni will be prepared for a wide range of opportunities in the engineering workforce or in graduate school. Typical fields of engineering that students will be prepared to enter include sustainable design, process design, product design, process engineering, project management and systems engineering. Other industry options include product service system design, technical sales, management training and technical marketing.

A wide range of graduate school options include master's and doctoral programs in civil engineering, environmental engineering, industrial engineering, materials engineering, mechanical engineering and systems engineering. Other postgraduation options include business school, law school, AmeriCorps, Peace Corps, military service, entrepreneurship (starting a small business), applied science fields, international experiences, medical school and careers in politics/public policy.

Some examples of the industries that hire engineers include, among others, design and build companies, aeronautic firms, automobile manufacturers, colleges and universities, computer service and software firms, consulting firms, energy systems firms, federal contractors, federal, state and local governments (e.g., NASA, EPA, NIST, DOD, DOE), non-profit agencies, manufacturing firms, inspection agencies, mining and petroleum firms, pharmaceutical and medical research companies, research and development laboratories, telecommunication companies, and waste management and recycling firms.

## Admission to the Major

The B.S. in engineering admits a limited number of students each year. To be eligible to apply for admission, students must have completed the following:

All courses (or approved equivalents) required for the engineering major with a grade of "C" or higher:

MATH 235, MATH 236, MATH 237, MATH 238

PHYS 140L, PHYS 150L, PHYS 240, PHYS 250

CHEM 131, CHEM 131L and CHEM 132, CHEM 132L or CHEM 133E, 133LE

ENGR 112, ENGR 212, ENGR 221, ENGR 231, ENGR 232

Any of the preceding courses may only be repeated once to be considered for admission.

No more than 85 students (including transfer students with qualifying transcripts) will be admitted to the major at the junior level. If more than 85 students meet the above standards, enrollment will be limited to the top 85 students. For on-campus students, the admission criterion will be grade point average (GPA) in the five ENGR courses (ENGR 112, ENGR 212, ENGR 221, ENGR 231, ENGR 232). In the event of a tie, GPA in the lower division MATH, CHEM and PHYS courses required for the engineering major (listed in #1) will be used as a tie-breaker. The student coordinator will work with the engineering Academic Unit Head to assess the relative merit of transfer students. Students who are not among the top 85 in their cohort may elect to wait one year and be considered with the next cohort, if they so choose, though the same selection criteria applies.

## Progressing in the Major

Once admitted to the engineering program, students must maintain an in-major and cumulative GPA of 2.0 or higher. Once admitted, any course required as part of the engineering major may only be repeated once.

## Engineering, B.S.

### Required courses

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3 Credit Hours*<sup>2</sup>
- Major requirements (listed below) and electives *80 Credit Hours*

**Total: 127 Credit Hours**

## Additional Information

Students must complete a total of nine hours of approved electives, including at least six hours of technical electives. Students may not use courses required for the engineering major to fulfill elective requirements.

- Technical Electives: Must include at least three credit hours of ENGR 440- ENGR 479. Up to three credit hours of technical electives may be from ENGR 480 or ENGR 498.
- Free electives: May include up to three credit hours of any other 300 or 400 level courses at JMU (both ENGR and nonENGR courses are eligible). This may include courses that qualify as technical electives but were not used to meet the technical elective requirement.

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> In addition to course work taken to fulfill General Education requirement.

## Recommended Schedule for Majors

### First Year

#### Fall Semester

MATH 235. Calculus I [C3QR] 4.00 <sup>1</sup>  
PHYS 240. University Physics I [C3PP] 3.00 <sup>2</sup>  
PHYS 140L. General Physics Laboratory [C3PP] 1.00 <sup>2</sup>  
General Education 6 Credit Hours 3

**Total: 14 Credit Hours**

#### Spring Semester

MATH 236. Calculus II 4.00  
PHYS 250. University Physics II 3.00  
PHYS 150L. General Physics Laboratory 1.00  
ENGR 112. Engineering Decisions 3.00. (Engineering Decisions)  
General Education 3 Credit Hours 3

**Total: 14 Credit Hours**

### Second Year

#### Fall Semester

MATH 237. Calculus III 4.00  
CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
ENGR 231. Engineering Design I 2.00  
General Education 6 Credit Hours 4

**Total: 16 Credit Hours**

#### Spring Semester

MATH 238. Linear Algebra with Differential Equations 4.00  
ENGR 212. Statics and Dynamics (3,1) 4.00  
ENGR 221. Management of Technology I: Product Development and Entrepreneurial Engineering 3.00  
ENGR 232. Engineering Design II 2.00.  
CHEM 132. General Chemistry II 3.00  
CHEM 132L. General Chemistry Laboratory 1.00

**Total: 17 Credit Hours**

### Third Year

#### Fall Semester

ENGR 311. Thermal-Fluids I 4.00  
ENGR 313. Circuits and Instrumentation 4.00  
ENGR 322. Engineering Management II: Engineering Project Management 3.00  
ENGR 331. Engineering Design III 3.00  
General Education 3 Credit Hours 3

**Total: 17 Credit Hours**

#### Spring Semester

ENGR 312. Thermal-Fluids II 4.00  
ENGR 314. Materials and Mechanics 4.00  
ENGR 332. Engineering Design IV 3.00

**Total: 17 Credit Hours**

### Fourth Year

#### Fall Semester

ENGR 411. Fundamentals of Sustainable Engineering and Design 3.00  
ENGR 413. Systems Analysis 3.00  
ENGR 431. Engineering Design V 3.00  
Approved engineering elective 3 Credit Hours  
General Education 6 Credit Hours 6

**Total: 18 Credit Hours**

#### Spring Semester

ENGR 412. Sustainable Engineering and Design II 3.00  
ENGR 432. Engineering Design VI 3.00  
Approved engineering elective 3 Credit Hours  
General Education 7 Credit Hours 7

**Total: 16 Credit Hours**

### Footnotes

<sup>1</sup> Also fulfills General Education requirement for Cluster Three, Group 1. <sup>2</sup> Also fulfills General Education requirement for Cluster Three, Group 2. <sup>3</sup> Fulfills General Education requirement for Cluster One. <sup>4</sup> Engineering students are required to take either BIO 222 or GEOL 210 to meet engineering requirements as well as Cluster Three, Group 3 requirements.

# Department of English

Dr. Dabney A. Bankert, **Department Head**

Phone: (540) 568-6797

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Location: Keezell Hall, Room 215

Website: <http://www.jmu.edu/english>

## Professors

R. Aguirre, D. Bankert, K. Castellano, M. Favila, A. Federico, J. Gabbin, B. Johnson, L. Kutchins, R. Majors, D. Mookerjee-Leonard, M. Parker, M. Rankin, M. Rebhorn

## Associate Professors

L. Alleyne, P. Bogard, E. Cavanagh, S. Cote, A. Fagan, R. Gaughran, M. Godfrey, D. Goode, B. Hefner, L. Henigman, B. Muhonja, B. Nowwiskie, M. Thompson, S. White

## Assistant Professors

D. Babcock, D. Lo, H. Pennington, D. Price, S. Samatar, G. Wrenn

## Mission

Our mission is to prepare our students to be appreciative yet critical readers and creators of language, texts, and ideas, attending to the powerful link between the literary arts and the human condition. We develop in students the ability to write with clarity, creativity, and rhetorical power, and to recognize and explore the complex interaction between texts of various genres and diverse contexts of production and reception that they may emerge with superior dexterity of reasoning, a heightened empathy, and an expanded worldview.

## Goals

To build upon the skills introduced in the General Education program, the Department of English strives to:

- Provide students advanced instruction in writing styles ranging from expository and creative writing to literary criticism.
- Help students master advanced skills in analytical and critical thinking.
- Develop skills in research and information access.

## Career Opportunities

Careers that involve critical thinking, document analysis or oral and written communication such as:

- Career counseling
- Corporate recruiting
- Consulting
- Editing
- Educational administration
- Film and food critic
- Graduate school in English, creative writing, law and library science
- Human resources
- Insurance underwriting
- Intelligence analyst
- Law school
- Library science (librarian, archivist, preservationist)
- Literary agent
- Literacy instructor
- Lobbyist
- Magazine writing and editing (print and online)
- Marketing
- Newspaper reporting/foreign correspondent
- Non-profit advocacy and administration
- Public relations and public affairs officer
- Publishing
- Research
- Speech writer
- Stockbroker
- Teaching

## Co-curricular Activities and Organizations

- Sigma Tau Delta (the National English Honor Society)
- gardy loo! (a literary magazine)
- Sister Speak (JMU's feminist journal)
- MacGuffin Film Journal
- Cinemuse Film Club
- Hopscotch (children's literature magazine)

## Cross Disciplinary Minors

English participates in the following cross disciplinary minors:

- African, African American and Diaspora Studies Minor
- American Studies Minor
- Book Arts Minor
- British Communication and Media Minor
- Classical Studies Minor
- Creative Writing Minor
- Environmental Humanities Minor
- Environmental Studies Minor
- Film Studies Minor
- Latin American, Latinx and Caribbean Studies Minor
- Medical Humanities Minor
- Medieval and Renaissance Studies Minor
- Middle Eastern Communities and Migrations Minor
- Modern European Studies Minor
- Women's, Gender and Sexuality Studies Minor
- World Literature Minor

## English, B.A.

### Degree and Major Requirements

Students majoring in English earn the B.A. degree unless they are completing an additional major in a degree program other than the B.A. The minimum requirement for a major in English is 36 credit hours of course work in the major.

The department recommends that students choose a variety of courses from among different periods and topics. Students progress through the major by taking ENG 299 and three 200 level surveys, and then moving on to 300 level courses and at least two 400 level Advanced Studies courses. They also fulfill three distributional overlay requirements.

Courses taken to fulfill General Education Cluster Two requirements may also fulfill requirements in the English major. Students may complete credit requirements by taking additional electives.

### Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*

- University electives *26-40 Credit Hours*
- Major requirements (listed below) *36 Credit Hours*

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement exam.

## Major Requirements

All students must include in their program the following core courses:

### Core Courses

- ENG 299. Writing About Literature *3.00*<sup>1</sup>
- Choose one course at the 200 or 300 level *3 Credit Hours*
- Choose five courses from the 300 level *15 Credit Hours*

Choose two approved 400-level courses from the Advanced Studies list *6 Credit Hours*

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

### Choose one from the following: 3 Credit Hours

- ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] *3.00*

- ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] *3.00*

### Choose one from the following: 3 Credit Hours

- ENG 221. Literature/Culture/Ideas [C2L] *3.00*
- ENG 222. Genre(s) [C2L] *3.00*
- ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] *3.00*
- ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L] *3.00*
- ENG 239. Studies in World Literature [C2L] *3.00*

- ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] *3.00*
- ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L] *3.00*
- ENG 260. Survey of African-American Literature [C2L] *3.00*

### Choose one from the following: 3 Credit Hours

- ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] *3.00*
- ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L] *3.00*
- ENG 239. Studies in World Literature [C2L] *3.00*

- ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] *3.00*
- ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L] *3.00*
- ENG 260. Survey of African-American Literature [C2L] *3.00*

## Total: 36 Credit Hours

The courses selected must include the following:

### One course at the 300 or 400 level, pre-1700:

- ENG 306. The Bible as Literature *3.00*
- ENG 311. Medieval Literature and Culture *3.00*
- ENG 313. Sixteenth Century British Literature *3.00*
- ENG 315. Seventeenth Century British Literature *3.00*
- ENG 316. Early Modern Drama *3.00*
- ENG 317. Shakespeare's Tragedies and Romances *3.00*

- ENG 318. Shakespeare's Comedies and Histories *3.00*
- ENG 319. Teaching Shakespeare *3.00*
- ENG 320L. Shakespeare on the Page and Stage in London
- ENG 401. Advanced Studies in Medieval Literature *3.00*
- ENG 402. Advanced Studies in British Literature Before 1700 *3.00*

### One course at the 300 or 400 level, pre-1900:

- ENG 306. The Bible as Literature *3.00*
- ENG 311. Medieval Literature and Culture *3.00*
- ENG 313. Sixteenth Century British Literature *3.00*
- ENG 315. Seventeenth Century British Literature *3.00*
- ENG 316. Early Modern Drama *3.00*
- ENG 317. Shakespeare's Tragedies and Romances *3.00*
- ENG 318. Shakespeare's Comedies and Histories *3.00*
- ENG 319. Teaching Shakespeare *3.00*
- ENG 320L. Shakespeare on the Page and Stage in London
- ENG 321. Restoration and 18th-Century British Prose and Poetry *3.00*
- ENG 322. Restoration and Eighteenth Century British Drama *3.00*

- ENG 325. Romantic Literature *3.00*
- ENG 327. Gothic Literature *3.00*
- ENG 329. Victorian Literature *3.00*
- ENG 330. Nineteenth Century British Novel *3.00*
- ENG 342. Early American Literature *3.00*
- ENG 343. Antebellum American Literature *3.00*
- ENG 344. Late Nineteenth Century American Literature *3.00*
- ENG 352. The American Novel to 1914 *3.00*
- ENG 363. Native American Literature *3.00*
- ENG 401. Advanced Studies in Medieval Literature *3.00*
- ENG 402. Advanced Studies in British Literature Before 1700 *3.00*

### One course from the Identity, Diversity and Power selections:

- ENG 358. Oral Literature *3.00*
- ENG 360. Introduction to Ethnic American Literature *3.00*
- ENG 361. African-American Fiction *3.00*
- ENG 362. African-American Poetry *3.00*
- ENG 363. Native American Literature *3.00*
- ENG 364. Introduction to Asian-American Literature *3.00*
- ENG 368. Women's Literature *3.00*
- ENG 369. Feminist Literary Theory *3.00*
- ENG 370. Queer Literature *3.00*
- ENG 377. Introduction to African Literature *3.00*

- ENG 378. Studies in South Asian Literature *3.00*
- ENG 379. Literature and Empire *3.00*
- ENG 408. Advanced Studies in African-American Literature *3.00*
- ENG 423. Advanced Studies in Gender and Sexuality in Literature *3.00*
- ENG 432. Advanced Studies in African Literature *3.00*
- ENG 434. Advanced Studies in Latin American Literature in Translation *3.00* or SPAN 434. Advanced Studies in Latin American Literature in Translation *3.00*
- ENG 466. Advanced Studies in Women's Literature *3.00*

### Two courses at the 400 level:

- ENG 401. Advanced Studies in Medieval Literature *3.00*
- ENG 402. Advanced Studies in British Literature Before 1700 *3.00*
- ENG 403. Advanced Studies in British Literature After 1700 *3.00*
- ENG 405. Advanced Studies in Anglophone Literature *3.00*
- ENG 407. Advanced Studies in American Literature *3.00*
- ENG 408. Advanced Studies in African-American Literature *3.00*

- ENG 410. Advanced Studies in Author *3.00*
- ENG 413. Advanced Studies in Literature and Ideas *3.00*
- ENG 414. Advanced Studies in Genre *3.00*
- ENG 415. Advanced Studies in Textuality and the History of the Book *3.00*
- ENG 417. Advanced Studies in Linguistics and the English Language *3.00*
- ENG 420. Advanced Studies in Theory and Cultural Studies *3.00*



ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00  
ENG 430. Advanced Studies in Comparative Literature 3.00  
ENG 432. Advanced Studies in African Literature 3.00  
ENG 433. Advanced Studies in Arabic Literature 3.00

ENG 434. Advanced Studies in Latin American Literature in Translation 3.00  
ENG 439. Advanced Studies in Major Authors of Literature in Spanish in Translation 3.00  
ENG 466. Advanced Studies in Women's Literature 3.00

### Additional Information

Other courses may be applied to these requirements via course directive. Students should consult advisers and the departmental semester list about other options.

### Recommended Schedule for Majors

#### First Year

Foreign language courses 6-8 Credit Hours  
General Education courses 23 Credit Hours

**Total: 29-31 Credit Hours**

#### Second Year

Two of three required courses from among ENG 221-ENG 260 6 Credit Hours  
ENG 299. Writing About Literature 3.00  
General Education courses 15 Credit Hours  
Foreign language courses 6 Credit Hours

**Total: 30 Credit Hours**

#### Concentrations

In consultation with their advisers, students may choose nine credit hours of courses at the 300- or 400-level that acquaint them with the scope of one of the fields below. Students may also consult advisers and individual professors about additional courses that may, because of content covered in a particular semester, be eligible for a concentration by special permission (for example, ENG 302, ENG 412 or others).

#### British Literature

Select appropriate courses in consultation with adviser.

#### American Literature

Select appropriate courses in consultation with adviser.

#### World Literature

ENG 305. Mythology 3.00.  
ENG 306. The Bible as Literature 3.00  
ENG 358. Oral Literature 3.00  
ENG 360. Introduction to Ethnic American Literature 3.00  
ENG 361. African-American Fiction 3.00  
ENG 362. African-American Poetry 3.00  
ENG 363. Native American Literature 3.00  
ENG 364. Introduction to Asian-American Literature 3.00  
ENG 368. Women's Literature 3.00  
ENG 377. Introduction to African Literature 3.00  
ENG 378. Studies in South Asian Literature 3.00  
ENG 379. Literature and Empire 3.00  
ENG 405. Advanced Studies in Anglophone Literature 3.00  
ENG 408. Advanced Studies in African-American Literature 3.00  
ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00  
ENG 430. Advanced Studies in Comparative Literature 3.00

#### Environmental Literature and Writing

ENG 363. Native American Literature 3.00  
ENG 371. Literature and the Environment 3.00

#### Language and Theory

ENG 301. Old English Language and Literature 3.00  
ENG 303. History of the English Language 3.00  
ENG 308. Introduction to Linguistics 3.00  
ENG 309. Traditional English Grammar 3.00  
ENG 310. Modern English Grammar 3.00  
ENG 348. Studies in Linguistics and the English Language 3.00

#### Print Culture

ENG 313. Sixteenth Century British Literature 3.00  
ENG 358. Oral Literature 3.00

#### Gender and Sexuality Studies

ENG 304. Feminist Perspectives on Literature and Religion 3.00  
ENG 327. Gothic Literature 3.00  
ENG 368. Women's Literature 3.00  
ENG 369. Feminist Literary Theory 3.00

#### Race and Ethnicity Studies

ENG 358. Oral Literature 3.00  
ENG 360. Introduction to Ethnic American Literature 3.00  
ENG 361. African-American Fiction 3.00  
ENG 362. African-American Poetry 3.00

#### Third Year

Remaining requirement from General Education 3 Credit Hours  
English 300-level courses 12-15 Credit Hours  
Other electives 15 Credit Hours

**Total: 30 Credit Hours**

#### Fourth Year

English 400 level Advanced Studies courses 6 Credit Hours  
English 300-400 level courses 6-9 Credit Hours  
Other electives 15-18 Credit Hours

**Total: 30 Credit Hours**

ENG 432. Advanced Studies in African Literature 3.00  
ENG 433. Advanced Studies in Arabic Literature 3.00.  
ENG 434. Advanced Studies in Latin American Literature in Translation 3.00 or SPAN 434. Advanced Studies in Latin American Literature in Translation 3.00  
ENG 436. Studies in German Literature 3.00 or GER 436. Studies in German Literature 3.00  
ENG 437. Studies in Italian Literature 3.00 or ITAL 437. Studies in Italian Literature 3.00  
ENG 438. Studies in Russian Literature 3.00 or RUS 438. Studies in Russian Literature 3.00  
ENG 439. Advanced Studies in Major Authors of Literature in Spanish in Translation 3.00 or SPAN 439. Major Authors of Literature in Spanish in Translation 3.00  
ENG 466. Advanced Studies in Women's Literature 3.00

ENG 372. Ecocriticism and Environmental Ethics 3.00  
ENG 390. The Environmental Imagination 3.00

ENG 358. Oral Literature 3.00  
ENG 365. History of Literary Criticism 3.00  
ENG 366. Contemporary Critical Theory 3.00  
ENG 369. Feminist Literary Theory 3.00  
ENG 417. Advanced Studies in Linguistics and the English Language 3.00  
ENG 420. Advanced Studies in Theory and Cultural Studies 3.00

ENG 415. Advanced Studies in Textuality and the History of the Book 3.00

ENG 370. Queer Literature 3.00  
ENG 423. Advanced Studies in Gender and Sexuality in Literature 3.00  
ENG 466. Advanced Studies in Women's Literature 3.00

ENG 363. Native American Literature 3.00  
ENG 364. Introduction to Asian-American Literature 3.00  
ENG 377. Introduction to African Literature 3.00  
ENG 378. Studies in South Asian Literature 3.00

ENG 379. Literature and Empire 3.00  
ENG 408. Advanced Studies in African-American Literature 3.00

ENG 432. Advanced Studies in African Literature 3.00  
ENG 433. Advanced Studies in Arabic Literature 3.00

### **Creative Writing**

Students with a strong interest in developing various writing skills should include in their program nine credit hours of electives from the following courses.

Choose three of the following:

ENG 347. Playwriting 3.00 or THEA 347. Playwriting 3.00  
ENG 390. The Environmental Imagination 3.00  
ENG 391. Introduction to Creative Writing - Nonfiction 3.00  
ENG 392. Introduction to Creative Writing - Poetry 3.00  
ENG 393. Introduction to Creative Writing - Fiction 3.00  
ENG 483. Narrative Form 3.00

ENG 484. Poetic Craft and Creativity 3.00  
ENG 493. Advanced Creative Nonfiction 3.00  
ENG 494. Advanced Poetry Writing 3.00  
ENG 495. Advanced Fiction Writing 3.00  
ENG 496. Advanced Topics in Creative Writing 3.00

### **English, Teaching Licensure**

#### **Licensure Requirements**

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. English majors desiring secondary teacher licensure must complete LED 254, include among their core courses the surveys of both English and American literature (ENG 235, ENG 236, ENG 247 and ENG 248), and include among their electives the following:

Choose one of the following:

ENG 309. Traditional English Grammar 3.00  
ENG 310. Modern English Grammar 3.00

Choose one of the following:

ENG 317. Shakespeare's Tragedies and Romances 3.00  
ENG 318. Shakespeare's Comedies and Histories 3.00

ENG 319. Teaching Shakespeare 3.00  
ENG 320L. Shakespeare on the Page and Stage in London

Additional Courses

At least one course at any level in American literature

At least one course at any level in British literature

At least one course at any level in world literature

#### **Additional Information**

In addition to the General Education and academic major requirements, English majors desiring secondary teacher licensure must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of, in addition to the College of Education.

#### **Teaching English as a Second Language**

For a description of the TESOL program, refer to the College of Education section of the catalog.

### **English Minor**

#### **Minor Requirements**

The minimum requirement for a minor in English is 18 credit hours. At least nine hours must be taken in courses at the 300 level or above. A minor in English does not meet requirements for the Secondary Teaching License.

# Department of Finance and Business Law

Dr. Hui Sono, **Department Head**

**Phone:** (540) 568-6530

**Email:** sonohh@jmu.edu

**Location:** Zane Showker Hall, Room 315

**Website:** www.jmu.edu/cob/finance

## Professors

P. Drake, J. Fink, K. Fink, A. Hamilton, Q. Liu, H. Sono

## Associate Professors

J. Chowdhury, E. Semaan, C. Ullrich

## Assistant Professors

C. Fox, C. Larsson, E. McCarthy, A. Usman, W. Zhang

## Lecturers

W. Collier, M. Graham, D. Parker, R. Rubin

## Mission

The Department of Finance and Business Law, together with our partners in the business community, is committed to preparing students to be principled, productive contributors to business and society.

## Values

To support its mission, the Department of Finance and Business Law is committed to the following values:

- **Ethics:** Develop decision makers who are respectful of stakeholders and the rule of law.
- **Engagement:** Connect students and faculty with stakeholders in the local and global communities.
- **Critical Thinking:** Foster intellectual curiosity and analytical skills to enable an understanding of the role of finance and business law in the global economy.
- **Innovation:** Challenge students to develop their own solutions to financial issues in a dynamic economy.

## Career Opportunities

The finance major is designed to prepare students for careers in the financial management of industrial and commercial enterprises; commercial, retail and mortgage banking; investment analysis and portfolio management; real estate; insurance; finance positions in federal, state and local governments; and graduate study.

Job titles held by graduates of the programs include:

- Analyst, Real Estate Development
- Analyst, Structured Finance
- Assistant Treasurer
- Associate, Forensic Technology
- Business Systems Analyst
- Consultant
- Consultant/Engineer Analytics
- Consultant/Financial Advisory
- Corporate Model Analyst
- Credit Manager
- Credit Risk Associate
- Financial Planner
- Financial Analyst
- Financial Engineer
- Internal Auditor
- Junior Analyst
- Lending Officer
- Loan Analyst
- Manager, Capital Budgeting
- Manager, Pension Fund Investments
- Manager, Project Finance
- Mortgage Analyst
- Operations Analyst
- Portfolio Analyst
- Pricing Analyst
- REIT Analyst
- Securities Analyst

## Co-curricular Activities and Organizations

- Beta Alpha Psi
- Financial Management Association
- Madison Investment Fund
- Madison Venture Group

## Degree and Major Requirements

The Finance and Business Law, Department of offers programs leading to the Bachelor of Business Administration degree in finance and the Bachelor of Science degree in quantitative finance. As part of the JMU assessment program, graduating seniors are required to participate in assessment activities. Assessment information is used to assist the College of Business and department faculty in curricula.

## Transfer Credit

Each program in the CoB will accept no more than two courses of transfer credit toward the major except in extraordinary circumstances. The major is defined as the course work required by a major field of study in addition to the lower and upper-level BBA core courses. For a course to be considered for acceptance in the student's major, it must have been completed in an AACSB International-accredited business program, or a similarly accredited program, at a four-year university.

In general, all finance course work must be completed at JMU. Transfer credit for finance courses is awarded only in certain circumstances. In no case will transfer credit be awarded for FIN 488 Advanced Financial Policy. Contact the department head for more information on transfer credit.

## *Finance, B.B.A.*

### Bachelor of Business Administration in Finance

The B.B.A. degree with a major in finance requires a minimum of 120 credit hours of undergraduate course work. Fifty percent of this work, or 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of non-business courses, students may include all hours taken in General Education, up to a total of nine hours in economics (ECON courses must be counted as economics), and three hours of COB 191. Business Analytics I. The remaining hours, to bring the total to 60, must be taken from any department outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives.

Students enrolled at James Madison University who wish to change their major to finance should go to the Student Center in MyMadison to submit a request. Students must be in good academic standing to change their major to finance and, if they have taken any FIN prefix courses at the time of the change request, must meet the prerequisites for the required courses in the finance major.

Students who plan to major in finance and earn a score on the Math Placement Exam sufficient for placement into MATH 235 are strongly encouraged to enroll in MATH 235.

Required major courses provide finance majors with a foundation in financial management, investments and institutions. Electives within the major permit students to obtain an additional emphasis and explore other areas within the field of finance.

## Degree Requirements

- B.B.A. core courses *45-46 Credit Hours*<sup>1</sup>
- Finance major requirements *24 Credit Hours*
- Free elective *3 Credit Hours*<sup>2</sup>
- General Education courses *41 Credit Hours*<sup>3</sup>
- Non-business electives *6-7 Credit Hours*<sup>2</sup>

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> Up to seven hours of core requirements in economics and calculus may also be taken for General Education credit. <sup>2</sup> Any course taught by the university outside the College of Business.

<sup>3</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I *3.00*<sup>1</sup>

COB 202. Interpersonal Skills *3.00*

COB 204. Computer Information Systems *3.00*

COB 241. Financial Accounting *3.00*

COB 291. Business Analytics II *3.00*<sup>2</sup>

ECON 200. Introduction to Macroeconomics [C4GE] *3.00*

ECON 201. Introduction to Microeconomics *3.00*

MATH 205. Introductory Calculus I [C3QR] *3.00*<sup>3</sup> or MATH 235. Calculus I [C3QR] *4.00*<sup>3</sup>

COB 242. Managerial Accounting *3.00*<sup>4,5</sup>

## B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management *3.00*<sup>5,6</sup>

COB 300B. Integrative Business: Finance *3.00*<sup>5,6</sup>

COB 300C. Integrative Business: Operations *3.00*<sup>5,6</sup>

COB 300D. Integrative Business: Marketing *3.00*<sup>5,6</sup>

COB 318. Legal and Ethical Environment of Business *3.00*<sup>7</sup>

COB 487. Strategic Management *3.00*<sup>8</sup>

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

## Major Requirements

### Finance Major Core Courses

FIN 360. Analytical Methods in Finance *3.00*

FIN 365. Intermediate Financial Management *3.00*

FIN 371. Principles of Investments *3.00*

FIN 488. Advanced Financial Policy *3.00*

### Additional Information

In addition to these core courses, the student majoring in finance must successfully complete 12 credit hours of finance elective courses. Finance electives include any 300-level or 400-level finance course other than FIN 301, FIN 345, FIN 499A and the finance major core courses.

A student may choose up to one of the following courses to satisfy the finance elective credit hours: ACTG 313, ACTG 343, ACTG 344, ACTG 377, BLAW 470, BLAW 494, BLAW 496, BLAW 497, BLAW 498, and CIS 330. A finance major cannot take more than 10 credit hours of FIN prefix courses in any one semester.

## Recommended Schedule for Majors

### First Two Years

Students planning to major in finance must complete the 30-31 hour, lower-division B.B.A. core curriculum prior to enrolling in upper-division core courses, normally taken in the first semester of the junior year. It is expected that the lower-division core curriculum will be completed during the first two years of study along with most of the university General Education curriculum. Failing to complete all lower-division B.B.A. core requirements on time will delay enrollment in upper-division core and major courses.

### Third and Fourth Years

Finance majors will follow the course schedule below to complete the final two years of their program. It is possible to deviate from this program, but care must be taken to ensure that all course prerequisites are met. Finance majors are encouraged to enroll in FIN 360 during the same semester as COB 300 or during the semester following completion of COB 300. Note that students taking FIN 360 concurrently with COB 300 will have more choices in finance electives in subsequent semesters because FIN 360 is a prerequisite for most finance courses. It is anticipated that students will complete the finance requirements in three semesters following COB 300.

### Third Year

#### First Semester

COB 300A. Integrative Business: Management *3.00*

COB 300B. Integrative Business: Finance *3.00*

COB 300C. Integrative Business: Operations *3.00*

COB 300D. Integrative Business: Marketing *3.00*

FIN 360. Analytical Methods in Finance *3.00*

#### Second Semester

FIN 365. Intermediate Financial Management *3.00*

FIN 371. Principles of Investments *3.00*

Finance elective *3 Credit Hours*

#### Fourth Year

COB 487 is required during a student's senior year but may be taken either semester.

#### First Semester

Finance electives *6 Credit Hours*

#### Second Semester

COB 487. Strategic Management *3.00*

FIN 488. Advanced Financial Policy *3.00*

Finance elective *3 Credit Hours*

## Concentrations

Though not required, finance majors may elect a concentration. The concentrations are financial analysis and risk management. Students electing these concentrations will be taking specific electives in place of the required four electives for the major. Finance majors who wish to declare a concentration may do so once accepted into COB 300 or during any semester following. A student must earn a 2.0 in the courses designated for a concentration in order to have successfully completed the concentration.

### Financial Analysis Concentration

Many James Madison University finance graduates go on to careers in financial analysis, and the need for financial analysts remains strong. The financial analysis concentration helps prepare students for these careers and also Levels I and II of the Chartered Financial Analyst exam. Students wishing to declare and complete the financial analysis concentration must have a minimum of a "B" in COB 241 and COB 242.

### Required Courses

FIN 362. Financial Analysis *3.00*

FIN 378. Fixed Income Analysis *3.00*

FIN 380. Elemental and Derivative Securities Analysis 3.00  
Choose one of the following: 3 Credit Hours  
FIN 475. Financial Modeling and Risk Analysis 3.00

ACTG 343. Corporate Financial Reporting I 3.00  
**Total: 12 Credit Hours**

### Risk Management Concentration

A focus in risk management is designed for finance majors pursuing a more in-depth review of the issues facing organizations and the tools needed to address those uncertainties. In the risk management concentration, students focus on the theory of risk management, risk identification, risk measurement and applications in the form of risk modeling techniques such as Value-at-Risk and Monte Carlo simulations.

#### Required Courses

FIN 380. Elemental and Derivative Securities Analysis 3.00  
FIN 450. Financial Risk Management 3.00  
FIN 451. Risk Management II 3.00

FIN 475. Financial Modeling and Risk Analysis 3.00  
**Total: 12 Credit Hours**

### Quantitative Finance Major with a Minor in Economics and Mathematics, B.S.

The B.S. degree with a major in quantitative finance is designed to prepare students for careers in financial engineering, structured finance, financial modeling, securitization, actuarial science, financial analysis and portfolio management. The focus of this major is on problem solving in the quantitative areas of finance with an added emphasis on the application of complex securities to a variety of financial situations.

The quantitative finance program, which is a cross disciplinary major with many courses co-listed with the math department, is a highly structured program requiring minor fields in both mathematics and economics, though many students choose to double major in mathematics and quantitative finance. If the double major is selected, students are required to take ECON 200, ECON 201 and ECON 331, but are not required to complete the economics minor. Students electing this program should consult with their major adviser as early as possible to identify the appropriate course sequencing. Students electing to double major in mathematics and quantitative finance should also consult with a mathematics adviser as soon as possible.

Students enrolled in James Madison University who wish to change their major to quantitative finance should go to the Student Center in MyMadison to submit a request. Students must be in good academic standing to change their major to quantitative finance and, if they have taken any FIN prefix courses at the time of the change request, must meet the prerequisites for the required courses in the quantitative finance major.

#### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Scientific Literacy requirement 3 Credit Hours <sup>2</sup>
- Electives 11 Credit Hours
- Major requirements (listed below) 65 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to courses taken to fulfill General Education requirement.

### Major Requirements

COB 241. Financial Accounting 3.00

#### Finance Courses: 27 Credit Hours

FIN 250. Introduction to Quantitative Finance 3.00  
FIN 365. Intermediate Financial Management 3.00  
FIN 371. Principles of Investments 3.00  
FIN 380. Elemental and Derivative Securities Analysis 3.00  
FIN 395. Mathematical Finance 3.00 or MATH 395. Mathematical Finance 3.00  
FIN 405. Securities Pricing 3.00 or MATH 405. Securities Pricing 3.00  
FIN 450. Financial Risk Management 3.00  
FIN 480. Seminar in Financial Engineering 3.00

Plus one of the following:

FIN 328. Time Series Analysis 3.00 or MATH 328. Time Series Analysis 3.00  
FIN 372. International Finance and Payments 3.00 or ECON 372. International Finance and Payments 3.00  
FIN 451. Risk Management II 3.00  
FIN 455. Advanced International Financial Management 3.00  
FIN 471. Portfolio Management 3.00  
FIN 475. Financial Modeling and Risk Analysis 3.00

#### Mathematics Courses: 27 Credit Hours

(Four of the 27 credits count for General Education)  
MATH 235. Calculus I [C3QR] 4.00 <sup>1</sup>  
MATH 236. Calculus II 4.00  
MATH 237. Calculus III 4.00  
MATH 238. Linear Algebra with Differential Equations 4.00  
MATH 248. Computers & Numerical Algorithms 4.00

MATH 318. Introduction to Probability and Statistics 4.00  
One of the following recommended MATH electives:  
MATH 423. Stochastic Process 3.00  
MATH 424. Statistical Decision Theory 3.00  
MATH 426. Probability and Mathematical Statistics I 3.00  
MATH 440. Fourier Analysis and Partial Differential Equation 3.00

#### Economics Courses: 18 Credit Hours

(Six of the 18 credits count for General Education)  
ECON 200. Introduction to Macroeconomics [C4GE] 3.00 <sup>2</sup>  
ECON 201. Introduction to Microeconomics 3.00 <sup>3</sup>  
ECON 331. Intermediate Microeconomic Theory 3.00

ECON 332. Intermediate Macroeconomic Theory 3.00 or MATH 322. Applied Linear Regression 3.00  
ECON 385. Econometrics 3.00  
One upper-level economics elective

**Total: 75 Credit Hours**

#### Footnotes

<sup>1</sup> General Education requirement Cluster Three. <sup>2</sup> General Education requirement Cluster Four. <sup>3</sup> Satisfies the scientific literacy requirement.

### Risk Management Concentration

Though not required, quantitative finance majors may elect the risk management concentration. Students electing this concentration will be taking specific electives and two additional electives. Students may add this concentration to their program when they progress to FIN 380. Quantitative finance majors who wish to declare the risk management concentration may do so after successfully completing FIN 250 or any semester following. A focus in risk management is designed for qualitative finance majors pursuing a more in-depth review of the issues facing organizations and the tools needed to address those uncertainties. In the risk management concentration, students focus on the theory of risk management, risk identification, risk measurement and applications in the form of risk modeling techniques such as Value-at-Risk and Monte Carlo simulations.

#### Required Courses

FIN 380. Elemental and Derivative Securities Analysis 3.00  
FIN 450. Financial Risk Management 3.00

FIN 451. Risk Management II 3.00  
FIN 475. Financial Modeling and Risk Analysis 3.00

**Total: 12 Credit Hours****Additional Information**

FIN 450 is a requirement for quantitative finance majors and FIN 451 and FIN 475 are possible electives for this major. Students electing this concentration take two courses beyond the typical quantitative finance major.

***Quantitative Finance/Mathematics Double Major, B.S.***

The B.S. degree with a major in quantitative finance is designed to prepare students for careers in financial engineering, structured finance, financial modeling, securitization, actuarial science, financial analysis and portfolio management. The focus of this major is on problem solving in the quantitative areas of finance with an added emphasis on the application of complex securities to a variety of financial situations.

The quantitative finance program, which is a cross disciplinary major with many courses co-listed with the math department, is a highly structured program requiring minor fields in both mathematics and economics, though many students choose to double major in mathematics and quantitative finance. If the double major is selected, students are required to take ECON 200, ECON 201 and ECON 331, but are not required to complete the economics minor. Students electing this program should consult with their major adviser as early as possible to identify the appropriate course sequencing. Students electing to double major in mathematics and quantitative finance should also consult with a mathematics adviser as soon as possible.

Students enrolled in James Madison University who wish to change their major to quantitative finance should go to the Student Center in MyMadison to submit a request. Students must be in good academic standing to change their major to quantitative finance and, if they have taken any FIN prefix courses at the time of the change request, must meet the prerequisites for the required courses in the quantitative finance major.

**Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Scientific Literacy requirement *3 Credit Hours*<sup>2</sup>
- Free electives *0-1 Credit Hours*
- Major requirements (listed below) and electives *75-76 Credit Hours*

**Total: 120 Credit Hours****Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to courses taken to fulfill General Education requirement.

**Major Requirements**

COB 241. Financial Accounting *3.00*

**Finance Courses: 27 Credit Hours**

- FIN 250. Introduction to Quantitative Finance *3.00*
- FIN 365. Intermediate Financial Management *3.00*
- FIN 371. Principles of Investments *3.00*
- FIN 380. Elemental and Derivative Securities Analysis *3.00*
- FIN 395. Mathematical Finance *3.00* or MATH 395. Mathematical Finance *3.00*
- FIN 405. Securities Pricing *3.00* or MATH 405. Securities Pricing *3.00*
- FIN 450. Financial Risk Management *3.00*
- FIN 480. Seminar in Financial Engineering *3.00*

- Plus one of the following:
- FIN 328. Time Series Analysis *3.00* or MATH 328. Time Series Analysis *3.00*
  - FIN 372. International Finance and Payments *3.00* or ECON 372. International Finance and Payments *3.00*
  - FIN 451. Risk Management II *3.00*
  - FIN 455. Advanced International Financial Management *3.00*
  - FIN 471. Portfolio Management *3.00*
  - FIN 475. Financial Modeling and Risk Analysis *3.00*

**Economics Courses: 9 Credit Hours**

(Three of which count for General Education and three of which count for the B.S. scientific literacy requirement)

ECON 200. Introduction to Macroeconomics [C4GE] *3.00*<sup>2</sup>

- ECON 201. Introduction to Microeconomics *3.00*<sup>3</sup>
- ECON 331. Intermediate Microeconomic Theory *3.00*

**Mathematics Courses: 42-43 Credit Hours**

(Four of which count for General Education)

- MATH 235. Calculus I [C3QR] *4.00*<sup>1</sup>
- MATH 236. Calculus II *4.00*
- MATH 237. Calculus III *4.00*
- MATH 238. Linear Algebra with Differential Equations *4.00*
- MATH 245. Discrete Mathematics *3.00*
- MATH 248. Computers & Numerical Algorithms *4.00*
- MATH 318. Introduction to Probability and Statistics *4.00*
- MATH 410. Advanced Calculus I *3.00*
- MATH 430. Abstract Algebra I *3.00*

- MATH 411. Advanced Calculus II *3.00*
  - MATH 431. Abstract Algebra II *3.00*
  - MATH 434. Advanced Linear Algebra *3.00*
  - MATH 435. Introduction to Topology *3.00*
- One of the following recommended mathematics electives:
- MATH 322. Applied Linear Regression *3.00*
  - MATH 423. Stochastic Process *3.00*
  - MATH 424. Statistical Decision Theory *3.00*
  - MATH 426. Probability and Mathematical Statistics I *3.00*
  - MATH 440. Fourier Analysis and Partial Differential Equation *3.00*

**Total: 81-82 Credit Hours**

**Footnotes**

<sup>1</sup> General Education requirement Cluster Three.

<sup>2</sup> General Education requirement Cluster Four.

<sup>3</sup> Satisfies the scientific literacy requirement.

**Risk Management Concentration**

Though not required, quantitative finance majors may elect the risk management concentration. Students electing this concentration will be taking specific electives and two additional electives. Students may add this concentration to their program when they progress to FIN 380.

Quantitative finance majors who wish to declare the risk management concentration may do so after successfully completing FIN 250 or any semester following.

A focus in risk management is designed for qualitative finance majors pursuing a more in-depth review of the issues facing organizations and the tools needed to address those uncertainties. In the risk management concentration, students focus on the theory of risk management, risk identification, risk measurement and applications in the form of risk modeling techniques such as Value-at-Risk and Monte Carlo simulations.

**Required Courses**

- FIN 380. Elemental and Derivative Securities Analysis *3.00*
- FIN 450. Financial Risk Management *3.00*
- FIN 451. Risk Management II *3.00*

FIN 475. Financial Modeling and Risk Analysis *3.00*

**Total: 12 Credit Hours**

**Additional Information**

FIN 450 is a requirement for quantitative finance majors and FIN 451 and FIN 475 are possible electives for this major. Students electing this concentration take two courses beyond the typical quantitative finance major.

## Department of Foreign Languages, Literatures and Cultures

Dr. Giuliana Fazzion, **Department Head**

**Phone:** (540) 568-6128

**Email:** fazziojx@jmu.edu

**Location:** Keezell Hall, Room 301

**Website:** <http://www.jmu.edu/forlang>

### Professors

J. I. Barrio Olano, G. Fazzion, C. Szeps-Fralin

### Associate Professors

P. Eubanks, T. Regalado LÃ³pez, A. Shahin

### Assistant Professors

G. Cardillo, D. Galarreta-Aima, J. Lang-Rigal, M. Mason, Y. Montes de Oca, D. Polanz, H. Yanacek

### Lecturers

L. Cangiano, E. Castro, V. Haun, K. Kline-Gabel, L. Morris, J. Tkac, B. Warden

### Instructors

D. Campora, G. Danielli, M. Fiorello, E. Guolo, I. Haseloff, S. HernÃ¡ndez, H. Moreira, V. Riso

## Mission

The Department of Foreign Languages, Literatures and Cultures (FLLC) is a central site on campus for the implementation of James Madison University internationalization efforts. Through its course offerings, study abroad programs, organizations and clubs, and the presence of faculty with research areas in diverse foreign cultures, the department embodies cultural diversity, particularly international diversity, at JMU. The strong presence of international students and faculty on campus is a critical indicator of this recognition of international diversity.

The Department of Foreign Languages, Literatures and Cultures offers students and the community a broad range of educational courses and programs that help develop foreign language competence, a global perspective, and an understanding of foreign cultures both ancient and modern.

The department's mission is to ensure that all graduates with a B.A. have sufficient knowledge of a modern foreign language to build fluency in that language when future personal or professional needs require it; prepare language majors for success as professionals in language-related career fields; enhance the education of non-language majors by providing them foreign language skills that complement their chosen major; teach understanding and appreciation of foreign cultures and provide basic knowledge about the literature, culture, and intellectual achievements of countries other than the U.S.; play a leading role in internationalizing the college curriculum; provide opportunities for language and cultural study abroad; support cross-listed courses for the departments of English and History as part of their major requirements, and the General Education program with courses for the Cluster Two requirements.

The department also plays an important role in the university cross disciplinary minors by offering courses for Russian Studies, Latin American, Latinx and Caribbean Studies Minor, World Literature and Classical Studies.

## Goals and Objectives

The department strives to fulfill this mission by pursuing the following goals. Within each area, students should:

### Knowledge

- Be familiar with a variety of linguistic principles in both the target language and their own.
- Understand the major literary movements of the target culture and be familiar with selected major literary texts of the target culture.
- Be familiar with the great ideas of humanity and of Western civilization in particular, especially as they have originated in or influenced the target culture.
- Understand the institutions and history of the target culture.
- Understand similarities and differences between the target culture and their own.

### Skills

- Demonstrate reading, writing, listening and speaking skills in both English and the target language.
- Think critically, analytically and objectively.
- Make and formulate informed aesthetic and linguistic judgments.
- Research a topic thoroughly using both traditional and online sources.
- Use computers effectively for a variety of purposes, from word processors and spell checkers in the target language to terminological databases and machine-aided translation tools.

### Experiences

- Ponder what it means to be human in response to literary and cultural studies.
- Engage great texts and great ideas.
- Realize what it is like to be a foreigner with incomplete cultural and linguistic competence.
- See the world through the filter of another language and culture.
- Realize that every language is an imperfect vehicle, riddled with traps and ambiguities.

### Attitudes

- Embrace life-long learning.
- Approach issues from cross disciplinary, global and historical perspectives.
- Respect diversity among cultures and within any given culture.
- Respect the opinions and beliefs of other people - and other peoples - while defining and advancing their own.
- Recognize the contingent nature of knowledge.

The department offerings address a wide spectrum of student needs. Our program seeks to:

- Offer a minor and a major in a specific language.
- Strongly recommend a second major and/or minor in another discipline.

- Offer advanced courses for cross disciplinary programs.
- Offer basic courses required for Bachelor of Arts candidates.
- Organize and participate in Honors courses.
- Provide General Education courses in Cluster Two and reinforce Cluster One goals in all courses.

### General Objectives

All language majors are expected to acquire:

- Knowledge of critical thinking methods and the ability to apply them.
- Know-how with regard to computers, including word processing skills and the ability to use software devoted to grammar exercises, vocabulary development, literature and culture.
- An appreciation and affective feel for other cultures in addition to an intellectual perspective.

### Specific Objectives

Foreign Languages, Literatures and Cultures offers programs designed to:

- Teach students to understand and speak a language with relative ease.
- Develop skills in reading and writing.
- Provide an acquaintance with foreign literatures.
- Develop an appreciation of foreign cultures.
- Prepare students for professions in education, government work and international trade or for research leading to advanced degrees.

### Career Opportunities

- |                    |              |                    |
|--------------------|--------------|--------------------|
| • Banking          | • Law        | • Museum work      |
| • Criminal Justice | • Management | • Public Relations |
| • Education        | • Marketing  | • Social work      |
| • Foreign Service  | • Medicine   | • Translation      |
| • Imports/Exports  | • Ministry   |                    |

### Co-curricular Organizations

The department supports the following organizations:

- |                         |                                 |                     |
|-------------------------|---------------------------------|---------------------|
| • Le Cercle Francophone | • Il Circolo Culturale Italiano | • El Club de España |
| • Dobro Slovo           | • Phi Sigma Iota                | • Sigma Delta Pi    |
| • German Club           | • Russian Club                  |                     |

### Minimum Grades

A student must receive a minimum grade of "C-" for course credits to count toward any major or minor in the Department of FLLC.

### International Education and Studies Abroad

The department strongly supports - and greatly benefits from - the university's excellent Studies Abroad programs. Majors are strongly encouraged to spend a significant amount of time abroad and teaching licensure candidates must either spend a semester abroad and/or demonstrate an advanced level of foreign language proficiency. Students are urged to check with their language advisers to see which courses taken abroad count toward the language major. Majors in modern foreign languages must take 33 credit hours of foreign language courses specified by the department. Students are required to take 18 of those in courses taught in the Department of Foreign Languages, Literatures and Cultures based on the main JMU campus.

Minors in modern foreign languages must take 18 credit hours of foreign language courses specified by the department. Students are required to take nine of those in courses taught in the Department of Foreign Languages, Literatures and Cultures based on the main JMU campus.

### Placement Tests

The score a student receives from the online placement test will be valid for registering in a language class that takes place up to and including the second semester of the sophomore year at JMU. A student who chooses to wait until his/her junior year to begin language study will be required to repeat the online placement test. Students will be placed in a class according to the new score, even if this means starting in a lower-level class than was indicated by the first placement test. In this circumstance, the student will take more classes to fulfill the language requirement for the B.A. degree.

The faculty of the Department of Foreign Languages, Literatures and Cultures strongly recommend that students begin their required language classes no later than the second semester of the sophomore year, and ideally as soon as possible after taking the online placement exam.

Semester Registering	Accepted Placement Score
Fall, first year	First year test
Spring, first year	First year test
Fall, sophomore year	First year test
Spring, sophomore year	First year test
Fall, junior year (and all later semesters)	Must retake test in spring of sophomore year or later in order to register for language classes for this semester and all later semesters

### Heritage Speakers and International Students

Heritage speakers who would like to pursue a major or minor in FLLC studies in their heritage language must take the JMU Foreign Language placement test. Placement into level 300 is required in order to qualify to take the examination for credit for 300. Students who pass the examination for credit for 300 are entitled to register in other FLLC courses that have 300 as a prerequisite or to proceed to take the examination for credit for 320.

International students who are admitted to JMU and would like to pursue a major or minor in FLLC studies in their native language(s) need to take the examination for credit for 300 and 320 and then register for more advanced courses.



Heritage Speakers and international students who need to satisfy a language requirement need to complete a waiver form after being tested for proficiency. Heritage Speakers and international students who wish to take elective credits in their language need to be tested for proficiency. For testing of languages not offered by the FLLC department, contact the department.

## Modern Foreign Languages, B.A.

Students can earn both a B.A. in Modern Foreign Languages and a minor in a specific language. Currently the department provides:

- Four years of instruction in Arabic, French, German, Italian and Spanish.
- Three years of instruction Chinese and Japanese.
- Two years of instruction in Ancient Greek, Latin, Korean, Persian, Portuguese, Russian and Swahili.

The minimum requirement for a major in languages is 33 upper-division credit hours in a specific language.

## Additional Language

Students majoring in modern foreign languages must complete the intermediate level of a second language unless they are:

- Completing a second major.
- Completing a teaching licensure or an education minor.
- Completing two degrees.
- Completing a pre-professional health program.

If the student has a previous background in a second language, the second language requirement may also be satisfied by placing out of it through the Department of Foreign Languages, Literatures and Cultures' placement test. However, in this case, the student must proportionally increase the number of university electives as indicated in the B.A. degree requirements.

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Second Foreign Language (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *15-43 Credit Hours*<sup>3</sup>
- Major requirements (listed below) *33 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement and the second language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. The second language is not required of double majors or education minors or of those seeking teaching licensure.

<sup>3</sup> The number of university electives varies depending on the number of actual credits earned with the first and second language requirements. These language requirements may be fully or partly satisfied through the Department of Foreign Languages, Literatures and Cultures' placement tests, but these tests do not confer actual credits and subsequently the number of university electives students take will vary.

## Major Requirements

All language sections share certain core requirements.

### Courses

- Two language courses (300 and 320 or 321) *6 Credit Hours*<sup>1</sup>
- Two civilization courses (307 and 308) *6 Credit Hours*
- Literature courses in the target language *6-12 Credit Hours*
- Other courses as specified by the section *9-15 Credit Hours*<sup>2</sup>

**Total: 33 Credit Hours**

### Footnotes

<sup>1</sup> These courses fulfill the College of Arts and Letters writing-intensive requirement for the major.

<sup>2</sup> The courses required for Spanish majors are different, as shown in the Spanish listing.

## Arabic

### Courses

- ARAB 300. Arabic Grammar and Communication *3.00*<sup>1</sup>
- ARAB 307. A History of Islamic Civilization 600-1600 A.D. *3.00*
- ARAB 308. Contemporary Islamic Civilization *3.00*
- ARAB 320. Arabic Oral and Written Communication *3.00*
- ARAB 371. Advanced Arabic Grammar and Translation *3.00*
- Two 300- or 400-level ARAB literature courses *6 Credit Hours*
- Three other 300- or 400-level ARAB courses *9 Credit Hours*

*Choose one of the following courses: 3 Credit Hours*

- ARAB 400. Advanced Arabic Writing and Conversation *3.00*
- ARAB 411. Colloquial Egyptian Arabic I *3.00*
- ARAB 412. Colloquial Egyptian Arabic II *3.00*
- ARAB 413. Colloquial Levantine Arabic I (Jordanian/Palestinian) *3.00*
- ARAB 414. Colloquial Levantine Arabic II (Syrian/Lebanese) *3.00*

**Total: 33 Credit Hours**

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## French

### Courses

- FR 300. Grammar and Communication *3.00*<sup>1</sup>
- FR 307. History of French Civilization *3.00*
- FR 308. Contemporary French Civilization *3.00*
- FR 320. French Oral and Written Communication *3.00*

- FR 335. Introduction to French Literature *3.00*
- Three 300- or 400-level FR literature courses *9 Credit Hours*
- Three other 300- or 400-level FR courses *9 Credit Hours*

**Total: 33 Credit Hours**

### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## German

### Courses

GER 300. Grammar and Communication 3.00 <sup>1</sup>  
GER 307. History of German Civilization 3.00  
GER 308. Contemporary German Civilization 3.00  
GER 320. Oral and Written Communication 3.00  
GER 341. Translation Competencies 3.00  
Two 300- or 400-level GER literature courses 6 Credit Hours  
Four More Courses: 12 Credit Hours  
Group 1:

**Total: 33 Credit Hours**

**Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

**Italian**

**Courses**

ITAL 300. Italian Grammar and Communication 3.00 <sup>1</sup>  
ITAL 307. Italian Civilization 3.00  
ITAL 308. Contemporary Italian Civilization 3.00  
ITAL 320. Oral and Written Communication 3.00

**Total: 33 Credit Hours**

**Footnote**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

**Russian**

(not available in 2019-2020 academic year)

**Spanish**

**Courses**

SPAN 300. Grammar and Communication 3.00 <sup>1</sup>  
SPAN 307. Spanish Civilization 3.00  
SPAN 308. Latin American Civilization 3.00  
SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00

**Total: 33 Credit Hours**

**Minors**

**Business French Minor**

**Courses**

FR 300. Grammar and Communication 3.00  
FR 308. Contemporary French Civilization 3.00  
FR 320. French Oral and Written Communication 3.00

**Total: 18 Credit Hours**

**Business German Minor**

**Courses**

GER 300. Grammar and Communication 3.00  
GER 308. Contemporary German Civilization 3.00  
GER 320. Oral and Written Communication 3.00

**Total: 18 Credit Hours**

**Business Italian Minor**

**Courses**

ITAL 300. Italian Grammar and Communication 3.00  
ITAL 308. Contemporary Italian Civilization 3.00  
ITAL 320. Oral and Written Communication 3.00

**Total: 18 Credit Hours**

**Business Spanish Minor**

**Adviser:** Veronica Haun

**Phone:** (540) 568-6851

**Email:** haunvx@jmu.edu

The professional minor in business Spanish is intended for students who wish to consolidate and improve their knowledge of Spanish in several business areas. The main aim of the minor is to teach students how to use specific business terms in Spanish and to handle selling techniques, negotiation strategies, product presentations, commercial activities, marketing, and business correspondence in Spanish. Students acquire a greater knowledge of Spanish as well as deeper understanding of Spanish or Hispanic societies and their business cultures.

The minor comprises one linguistic component, one elective component, one translation/interpretation component and three profession-specific linguistic components.

**Required Courses**

SPAN 300. Grammar and Communication 3.00  
SPAN 330. Business Spanish 3.00  
SPAN 430. Advanced Business Spanish 3.00  
One elective Spanish course: 3 Credit Hours  
SPAN 307. Spanish Civilization 3.00  
SPAN 308. Latin American Civilization 3.00  
SPAN 311. Contrastive Linguistics 3.00

GER 308. Contemporary German Civilization 3.00 (may be repeated)  
GER 330. Business German 3.00  
GER 341. Translation Competencies 3.00 (may be repeated)  
Any 300- or 400-level GER literature courses  
Group 2: (no more than one)  
GER 436. Studies in German Literature 3.00  
HUM 200. Great Works [C2L] 3.00 (German works in translation)  
HIST 388\*. Germany Since 1871 3.00

ITAL 335. Introduction to Italian Literature 3.00  
ITAL 435. Translation Strategies 3.00  
Two 300- or 400-level ITAL literature courses 6 Credit Hours  
Three other 300- or 400-level ITAL courses 9 Credit Hours

SPAN 335. Introduction to Spanish Literature 3.00  
Three SPAN literature courses 9 Credit Hours  
Three other 300- or 400-level SPAN courses 9 Credit Hours

FR 330. Business French 3.00  
FR 351. French/English Translation 3.00  
One 300 or 400-level FR course 3 Credit Hours

GER 330. Business German 3.00  
GER 341. Translation Competencies 3.00  
GER 375. Business and Society in Germany 3.00

ITAL 330. Business Italian 3.00  
ITAL 375. Business and Society in Italy 3.00  
ITAL 435. Translation Strategies 3.00

SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00  
SPAN 407. Aspects of Spanish Civilization 3.00  
SPAN 447. Special Topics in Spanish Civilization and Culture 3.00  
Choose one: 3 Credit Hours  
SPAN 485. Business and Society in Latin America 3.00  
SPAN 486. Business and Society in Spain 3.00

Choose one: 3 Credit Hours  
SPAN 435. Translation Strategies 3.00

SPAN 436. Introduction to Interpretation 3.00

**Total: 18 Credit Hours**

### Legal Spanish Minor

**Adviser:** Marianne Mason      **Phone:** (540) 568-6327      **Email:** masonmx@jmu.edu

The minor in legal Spanish is designed for students who wish to improve and consolidate their knowledge of Spanish in several legal areas. Students acquire a basic understanding of the differences between common law and Roman law and investigate several branches of law such as civil law, labor law, criminal law and commercial law in Spanish-speaking countries. The main aims of the minor are to teach students how to use specific legal terms in Spanish and to manage legal documents such as contracts, as well as to prepare students to understand cultural differences and to identify and communicate terminology and phraseology needed for effective cross-cultural communication in the public safety arena. The minor provides a framework for learning the appropriate Spanish usage for thematic areas such as victim reporting, field interviews, investigations, traffic stops, armed and dangerous calls, medical emergencies, and public safety situations.

#### Required Courses

SPAN 300. Grammar and Communication 3.00  
SPAN 360. Spanish for Public Safety 3.00  
SPAN 370. Legal Spanish 3.00  
SPAN 435. Translation Strategies 3.00 or SPAN 436. Introduction to Interpretation 3.00

(SPAN 435 or SPAN 436, but not both)  
SPAN 470. Advanced Legal Spanish 3.00  
SPAN 495. Practical Spanish for Public Safety/Legal Spanish 3.00

**Total: 18 Credit Hours**

### Medical Spanish Minor

**Adviser:** Diana Galarreta      **Phone:** (540) 568-6128      **Email:** galarrdf@jmu.edu

For health service professionals, knowledge of medical Spanish is no longer an option but a necessity. Unless they have a reasonable level of Spanish, communication with patients whose only language is Spanish will be difficult. Courses in medical Spanish are therefore hugely relevant today. The minor in medical Spanish is intended for all future health service professionals, including physicians and their assistants, nurses, pharmacists, dentists, physical therapists, occupational therapists, medical laboratory technicians, emergency medical technicians, medical aides, medical interpreters, healthcare industry professionals and psychologists.

The minor comprises one linguistic component, one elective component, one translation/interpretation component and three profession-specific linguistic components.

#### Required Courses

SPAN 300. Grammar and Communication 3.00  
SPAN 365. Medical Spanish 3.00  
SPAN 475. Advanced Medical Spanish 3.00  
SPAN 476. Culture and Medicine in Latin America 3.00  
One elective Spanish course: 3 Credit Hours  
SPAN 307. Spanish Civilization 3.00  
SPAN 308. Latin American Civilization 3.00

SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00  
SPAN 407. Aspects of Spanish Civilization 3.00  
SPAN 447. Special Topics in Spanish Civilization and Culture 3.00  
Choose one: 3 Credit Hours  
SPAN 435. Translation Strategies 3.00  
SPAN 436. Introduction to Interpretation 3.00  
SPAN 494. Practical Medical Spanish 3.00

**Total: 18 Credit Hours**

### Modern Foreign Language Minor

A minor in a modern foreign language consists of the specified upper-division courses in a specific language.

#### Arabic Minor

##### Courses

ARAB 300. Arabic Grammar and Communication 3.00  
ARAB 320. Arabic Oral and Written Communication 3.00

One 300 or 400-level ARAB literature course 3 Credit Hours  
Three other 300 or 400-level ARAB courses 9 Credit Hours

**Total: 18 Credit Hours**

#### Chinese Minor

##### Courses

CHIN 300. Chinese Grammar and Communication 3.00  
CHIN 320. Chinese Oral and Written Communication 3.00

One 300 or 400-level CHIN literature course 3 Credit Hours  
Three other 300 or 400-level CHIN courses 9 Credit Hours

**Total: 18 Credit Hours**

#### French Minor

##### Courses

FR 300. Grammar and Communication 3.00  
FR 320. French Oral and Written Communication 3.00

One 300 or 400-level FR literature course 3 Credit Hours  
Three 300 or 400-level FR courses 9 Credit Hours

**Total: 18 Credit Hours**

#### German Minor

##### Courses

GER 300. Grammar and Communication 3.00  
GER 320. Oral and Written Communication 3.00

One 300 or 400-level GER literature course 3 Credit Hours  
Three other 300 or 400-level GER courses 9 Credit Hours

**Total: 18 Credit Hours**

#### Italian Minor

##### Courses

ITAL 300. Italian Grammar and Communication 3.00  
ITAL 320. Oral and Written Communication 3.00

One 300 or 400-level ITAL literature course 3 Credit Hours  
Three other 300 or 400-level ITAL courses 9 Credit Hours

**Total: 18 Credit Hours**

#### Russian Minor

##### Courses

RUS 300. Grammar and Communication 3.00  
RUS 320. Russian Oral and Written Communication 3.00

**Total: 18 Credit Hours**

### Spanish Minor

#### Courses

SPAN 300. Grammar and Communication 3.00  
SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00

**Total: 18 Credit Hours**

### Spanish-English Translation and Interpretation Minor

**Adviser:** Marianne Mason      **Phone:** (540) 568-6327      **Email:** masonmx@jmu.edu

Translation and interpretation are two of today's fastest growing professions. An obvious requirement for anyone wishing to enter these professions is the ability to speak two languages fluently. Students who wish to make a positive impact as a translator or interpreter, however, require more than just the ability to speak two languages well. What they need is the linguistic, cultural and technical expertise they can only get from courses designed specifically to prepare them for the demands of these challenging professions. In the minor in translation and interpretation, students take their first steps toward acquiring this expertise.

The minor comprises one linguistic component, one elective component and four profession-specific linguistic components for a total of 18 credit hours.

#### Courses

Required: 9 Credit Hours  
SPAN 300. Grammar and Communication 3.00  
SPAN 435. Translation Strategies 3.00  
SPAN 436. Introduction to Interpretation 3.00  
One elective Spanish course: 3 Credit Hours  
SPAN 307. Spanish Civilization 3.00  
SPAN 308. Latin American Civilization 3.00  
SPAN 312. Translation Competencies 3.00  
SPAN 320. Oral and Written Communication 3.00 or SPAN 321. Oral and Written Communication (for Heritage Speakers) 3.00  
SPAN 407. Aspects of Spanish Civilization 3.00  
SPAN 447. Special Topics in Spanish Civilization and Culture 3.00  
SPAN 476. Culture and Medicine in Latin America 3.00  
SPAN 477. Culture and Medicine in Spain 3.00

**Total: 18 Credit Hours**

One 300 or 400-level RUS literature course 3 Credit Hours  
Three 300 or 400-level RUS courses 9 Credit Hours

SPAN 335. Introduction to Spanish Literature 3.00  
Three other 300 or 400-level SPAN courses 9 Credit Hours

SPAN 485. Business and Society in Latin America 3.00  
SPAN 486. Business and Society in Spain 3.00  
Choose one: 3 Credit Hours  
SPAN 310. Introduction to Spanish Linguistics 3.00  
SPAN 311. Contrastive Linguistics 3.00  
SPAN 315. Spanish Phonetics 3.00  
SPAN 404. Spanish in the United States 3.00  
SPAN 448. Special Topics in Spanish Linguistics 3.00  
Choose one: 3 Credit Hours  
SPAN 494. Practical Medical Spanish 3.00  
SPAN 495. Practical Spanish for Public Safety/Legal Spanish 3.00  
SPAN 496. Translation/Interpreting Internship 3.00

### Modern Foreign Languages Teaching Licensure

**Interim Coordinator:** José I. Barrio Olano      **Phone:** (540) 568-6128      **Email:** barrioji@jmu.edu

In conjunction with the College of Education, the department offers programs leading to the teaching license in French, German, Italian and Spanish. In addition to the General Education and academic major requirements, students desiring preK-12 teaching licensure in French, German, Italian or Spanish must be accepted for admission to the teacher education program offered by the College of Education prior to enrolling in professional education courses. In addition to the 33 foreign language credits, an additional 39 credits are required for teaching licensure.

Students interested in teacher licensure in French, German, Italian or Spanish must also meet the specific curriculum requirements of their foreign language major as part of the undergraduate academic degree.

For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education. Students seeking licensure are encouraged to consult regularly with the teaching licensure coordinator.

#### Required Courses

PSYC 160. Life Span Human Development [C5SD] 3.00  
EDUC 300. Foundations of American Education 3.00  
EXED 303. Foundations of Classroom and Behavior Management 3.00  
MSSE 370. General Instructional Methods for Grades 6-12 3.00  
MSSE 371. Clinical Experience in Adolescent Education 1.00  
FLED 370. Modern Foreign Language Assessment 3.00

**Total: 39 Credit Hours**

**Total: 33 Credit Hours**

#### Footnote

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

FLED 470. Methods of Modern Foreign Language Teaching 3.00  
FLED 471. Modern Foreign Language Field Experience 3.00  
FLED 475. Supervised Student Teaching Experience 12.00  
FLED 476. Student Teaching Seminar 3.00  
LED 420. Content Area Literacy, K-12 2.00

# Department of Geology and Environmental Science

Dr. Stephen A. Leslie, **Department Head**

**Phone:** (540) 568-6130

**Email:** lesliesa@jmu.edu

**Location:** Memorial Hall, Room 7335

**Website:** <https://www.jmu.edu/geology/>

## Professors

S. Baedke, L. Eaton, L. Fichter, S. Leslie, E. Pyle, K. St. John, S. Whitmeyer

## Associate Professors

Y. Admassu, J. Haynes, E. Johnson

## Assistant Professors

C. Elmi, R. McGary

## Visiting Assistant Professors

Y. Chen, A. Garcia, M. Schultz

## Instructors

C. Kearns, S. Whitmeyer

## Mission Statement

Our mission is to serve two vital needs of the JMU students. First, the majors in geology present high-quality programs of specialized study focusing on Earth materials, internal and external Earth processes, analysis of Earth history and application of geology to environmental and engineering issues. In support of this mission is a commitment to foster the ability to think analytically and to communicate both within the discipline and with non-scientists. Course work and research experiences prepare the student for postgraduate study or professional careers that are subject to rapidly changing societal needs. Second, our department strives to enhance the university's general education program by offering timely and challenging courses that provide insight into Earth processes and human-environment interactions. These courses promote life-long liberal learning by fostering critical thinking and an awareness of natural science.

## Goals

- Provide a stimulating, intellectual environment for students in geology and environmental science that will generate interest and enthusiasm for learning and will provide a solid foundation for graduate work and careers in geology and environmental science.
- Teach science as science is practiced. Since the advancement of scientific knowledge often occurs within a social context - collaboration among scientists, conferences, seminars - the goal is to develop a similar mode of operation for the geology program.
- Provide high-quality, relevant general studies courses within the discipline that focus on the fundamental science in the societal context (e.g., environmental change, climate change, hazards). These courses will incorporate critical thinking and an appreciation of human-environment interactions.

## Career Opportunities

- Earth Science Teacher
- Engineering Geologist
- Environmental Geologist
- Environmental Scientist/Specialist
- Geochemist
- Government or Industry Geologist
- Geological Oceanographer
- Geomorphologist
- Geophysicist
- Hydrogeologist
- Meteorologist
- Science Museum Curator
- Paleoclimatologist/paleoceanographer
- Paleontologist
- Petroleum Geologist
- Soil Scientist

## Co-curricular Activities and Organization

The department encourages majors and minors to participate in the student Geology Club, which sponsors field trips, camping excursions, and hosts educational activities for elementary school students. Geology majors are encouraged to apply to be laboratory teaching assistants and research assistants for faculty in the department. Majors and minors are also strongly encouraged to become members of one or more of the following geoscience organizations and to present their research at the affiliated regional or national meetings:

- Geological Society of America (GSA)
- American Geophysical Union (AGU)
- American Association of Petroleum Geologists (AAPG)
- National Association of Geoscience Teachers (NAGT)

## *Earth Science Teaching Licensure*

### Teaching Licensure

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. The B.A. in Earth science includes state course requirements in astronomy, meteorology and oceanography, to total no less than 32 hours in the Earth sciences (including geology) and a minimum of 16 hours total in physics, chemistry and biology.

In addition to the general education and academic major requirements, Earth science majors desiring secondary teacher licensure must be admitted to the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking teaching licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of, in addition to the College of Education.

### *Earth Science, B.A.*

There are two bachelor degrees offered in the Geology and Environmental Science, Department of, a B.S. in geology and a B.A. in Earth science. Both degree options have a research requirement that includes a formal presentation. The B.S. degree has two concentrations: a general geology concentration designed for students who want to take a wider range of geology elective courses and an environmental and engineering geology concentration designed for students who want to focus their geology electives toward applied environmental science.

The B.A. in Earth science prepares individuals to work in a wide range of professional public sector service careers where preparation in Earth science and communication of science to nonscientific audiences is a requirement or an asset. This includes the preparation of Earth science teachers.

The B.A. in Earth science degree is designed to integrate all the Earth sciences in a systems approach to understanding the Earth. This includes incorporating and integrating subjects such as oceanography, meteorology and astronomy. The emphasis is on the preparation of individuals to work in a wide range of professional public sector service careers where preparation in Earth science and communication of science to non-scientific audiences is a requirement or an asset.

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*<sup>3</sup>
- Major requirements (listed below including cognate sciences and math) *59-63 Credit Hours*
- General Electives *0-17 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement exam.

<sup>3</sup> 100, 200, 300 or 400-level course acceptable or consult the list of courses satisfying B.A. degree requirements at <http://www/jmu.edu/registrar>.

#### Major Requirements

B.A. degree students are expected to complete CHEM 131-CHEM 131L before enrolling in geology courses numbered 300 and higher.

#### Core Requirements

- |  |  |
|--|--|
| GEOL 110L. Physical Geology Laboratory [C3NS] <i>1.00</i>  | GEOL 477. Contemporary Issues in the Geosciences <i>3.00</i>                         |
| GEOL 167. History and Philosophy of the Geosciences <i>3.00</i>  | Choose one of the following: 3 Credit Hours  |
| GEOL 211. Introduction to Oceanography [C3NS] <i>3.00</i> or GEOL 401. Oceanography for Teachers <i>3.00</i> | GEOL 102. Environment: Earth [C3NS] <i>3.00</i>                                      |
| GEOL 230. Evolution of Earth (3, 2) <i>4.00</i>  | GEOL 110. Physical Geology [C3NS] <i>3.00</i>  |
| GEOL 291. Writing and Communicating in the Geosciences <i>1.00</i>   | GEOL 115. Earth Systems and Climate Change [C3NS] <i>3.00</i>                        |
| GEOL 320. Meteorology <i>3.00</i>  | GEOL 210. Applied Physical Geology [C3NS] <i>3.00</i>                                |
| GEOL 367. Genesis of Solid Earth Materials (3, 2) <i>4.00</i>  | Choose one of the following: 3 Credit Hours  |
| GEOL 377. Earth Surface Processes (2, 2) <i>3.00</i>   | ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars <i>3.00</i> |
| GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) <i>4.00</i>  | GEOL 272. Planetary Geology (2, 2) <i>3.00</i>                                       |

#### Research Requirements: 2-6 Credit Hours

In addition to GEOL 291, choose from the following to complete the research requirement. All majors must complete a minimum of two credits. Students conducting research with faculty should select GEOL 497; Honors students doing research with faculty must complete a minimum of six credits in GEOL 499A/GEOL 499B/GEOL 499C. All students must give a formal presentation to fulfill this requirement.

- |  |  |
|--|--|
| GEOL 491. Geological Literature and Research <i>2.00</i> | GEOL 499A. Honors in Geology <i>1.00</i> |
| GEOL 494. Internship in Geology <i>1.00 - 3.00</i>       | GEOL 499B. Honors in Geology <i>2.00</i> |
| GEOL 497. Problems in Geology <i>1.00 - 3.00</i>         | GEOL 499C. Honors in Geology <i>3.00</i> |

#### Total: 37-41 Credit Hours

#### Cognate Science and Mathematics Area

The B.A. degree option requires that each student complete at least 16 hours of cognate science credit hours with at least one course from biology, physics and chemistry chosen from:

##### Biology: 4 Credit Hours

- BIO 140. Foundations of Biology I (3,3) [C3NS] *4.00*
- BIO 350. Paleobiology (3, 2) *4.00*

##### Chemistry: 4 Credit Hours

- CHEM 131. General Chemistry I [C3PP] *3.00*
- CHEM 131L. General Chemistry Laboratory [C3PP] *1.00*
- CHEM 132. General Chemistry II *3.00*
- CHEM 132L. General Chemistry Laboratory *1.00*

##### Physics: 3-4 Credit Hours

- PHYS 140. College Physics I [C3PP] *3.00*

- PHYS 140L. General Physics Laboratory [C3PP] *1.00*
- PHYS 150. College Physics II *3.00*
- PHYS 150L. General Physics Laboratory *1.00* or  
GEOL 440. Geophysics (3, 2) *4.00*

##### Math: 3-4 Credit Hours

- The B.A. option requires that each student complete at least six credit hours of mathematics, including one of the following:
- MATH 205. Introductory Calculus I [C3QR] *3.00*
  - MATH 232. Calculus with Functions II *3.00*
  - MATH 235. Calculus I [C3QR] *4.00*

#### Total: 20-22 Credit Hours

#### Recommended Minors for the Bachelor of Arts in Earth Science

The B.A. Earth science degree recommends (but does not require) that students complete a minor in a complementary program, suitable toward the career goals of the student. Students may also propose a minor that is not listed above to their adviser for approval.

#### Minor

Approved minors include:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Astronomy <i>12 Credit Hours</i><sup>1</sup></li> <li>• Biology <i>12-16 Credit Hours</i><sup>1</sup></li> <li>• Business Analytics <i>18-19 Credit Hours</i></li> <li>• Chemistry <i>20 Credit Hours</i><sup>1</sup></li> <li>• Economics <i>18 Credit Hours</i></li> <li>• Environmental Information Systems <i>24 Credit Hours</i></li> <li>• Environmental Management Minor <i>19 Credit Hours</i><sup>1</sup></li> <li>• Environmental Science <i>15 Credit Hours</i><sup>1</sup></li> <li>• Environmental Studies <i>18 Credit Hours</i><sup>1</sup></li> <li>• Humanitarian Affairs <i>18 Credit Hours</i></li> <li>• Geographic Science <i>19 Credit Hours</i></li> </ul> | <ul style="list-style-type: none"> <li>• Mathematics <i>14-18 Credit Hours</i><sup>1</sup></li> <li>• Nonprofit Studies <i>19-21 Credit Hours</i></li> <li>• Physics <i>14-22 Credit Hours</i><sup>1</sup></li> <li>• Political Science <i>19 Credit Hours</i></li> <li>• Public Policy and Administration <i>19 Credit Hours</i></li> <li>• Science, Technology and Society <i>18 Credit Hours</i></li> <li>• Secondary Education <i>22-24 Credit Hours</i></li> <li>• Sociology Minor <i>18 Credit Hours</i></li> <li>• Statistics <i>15-16 Credit Hours</i><sup>1</sup></li> <li>• Urban and Regional Studies <i>24 Credit Hours</i></li> <li>• Writing, Rhetoric and Technical Communication <i>18 Credit Hours</i></li> </ul> |
|--|--|

#### Footnote

<sup>1</sup> Credit hours for courses in the minor that are already required courses for the B.A. in Earth Science major have been subtracted from the total hours listed here.

#### Recommended Schedule for B.A. Degree in Earth Science

## First Year

Cluster One: Skills for the 21st Century *9-12 Credit Hours*

GEOL 110. Physical Geology [C3NS] *3.00*

GEOL 110L. Physical Geology Laboratory [C3NS] *1.00*

GEOL 167. History and Philosophy of the Geosciences *3.00*

GEOL 230. Evolution of Earth (3, 2) *4.00*

MATH 205. Introductory Calculus I [C3QR] *3.00*

CHEM 131. General Chemistry I [C3PP] *3.00*

CHEM 131L. General Chemistry Laboratory [C3PP] *1.00*

**Total: 27-30 Credit Hours**

## Second Year

GEOL 211. Introduction to Oceanography [C3NS] *3.00*

GEOL 291. Writing and Communicating in the Geosciences *1.00*

GEOL 320. Meteorology *3.00*

GEOL 367. Genesis of Solid Earth Materials (3, 2) *4.00*

GEOL 377. Earth Surface Processes (2, 2) *3.00*

Foreign language courses *1-8 Credit Hours* 1

General Education courses *12 Credit Hours*

Foreign language courses 1-8 Credit Hours

**Total: 27-34 Credit Hours**

### Footnote

<sup>1</sup> Foreign language at the intermediate level.

## Geology Minor

The requirement for a minor in geology is a minimum of 18 credit hours of geology approved by the student's geology adviser.

## Geology, Environmental and Engineering Geology Concentration, B.S.

There are two bachelor degrees offered in the Geology and Environmental Science, Department of, a B.S. in geology and a B.A. in Earth science. Both degree options have a research requirement that includes a formal presentation. The B.S. degree has two concentrations: a general geology concentration designed for students who want to take a wider range of geology elective courses and an environmental and engineering geology concentration designed for students who want to focus their geology electives toward applied environmental science.

The B.A. in Earth science prepares individuals to work in a wide range of professional public sector service careers where preparation in Earth science and communication of science to nonscientific audiences is a requirement or an asset. This includes the preparation of Earth science teachers.

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours* <sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours* <sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours* <sup>2</sup>
- Major requirements (listed below) *68-76 Credit Hours*
- General Electives *2-11 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The quantitative and scientific literacy requirements are met by courses required by the major.

## Major Requirements

### Core Requirements

GEOL 110L. Physical Geology Laboratory [C3NS] *1.00*

GEOL 230. Evolution of Earth (3, 2) *4.00*

GEOL 280. Mineralogy (3, 2) *4.00*

GEOL 291. Writing and Communicating in the Geosciences *1.00*

GEOL 300. Introduction to Petrology (3, 3) *4.00*

GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) *4.00*

GEOL 388. Advanced Structure, Stratigraphy, Tectonics (3,2) *4.00*

GEOL 399. Field Geology *6.00*

Choose one of the following: *3 Credit Hours*

GEOL 110. Physical Geology [C3NS] *3.00*

GEOL 102. Environment: Earth [C3NS] *3.00*

GEOL 115. Earth Systems and Climate Change [C3NS] *3.00*

GEOL 210. Applied Physical Geology [C3NS] *3.00*

### Research Requirements: 2-6 Credit Hours

In addition to GEOL 291, choose from the following to complete the research requirement. All majors must complete a minimum of two credits. Students conducting research with faculty should select GEOL 497; Honors students doing research with faculty must complete a minimum of six credits in GEOL 499A/GEOL 499B/GEOL 499C. All students must give a formal presentation to fulfill this requirement.

GEOL 491. Geological Literature and Research *2.00*

GEOL 494. Internship in Geology *1.00 - 3.00*

GEOL 497. Problems in Geology *1.00 - 3.00*

GEOL 499A. Honors in Geology *1.00* and

GEOL 499B. Honors in Geology *2.00* and

GEOL 499C. Honors in Geology *3.00*

**Total: 33-37 Credit Hours**

### Courses

The B.S. degree in geology is designed for students who plan to obtain professional employment in geology or enter graduate school upon graduation. It is recommended that incoming B.S. degree students complete the following courses prior to enrolling in required geology courses numbered 300 and higher.

CHEM 131. General Chemistry I [C3PP] *3.00*

CHEM 131L. General Chemistry Laboratory [C3PP] *1.00*

CHEM 132. General Chemistry II *3.00*

CHEM 132L. General Chemistry Laboratory *1.00*

MATH 235. Calculus I [C3QR] *4.00* or MATH 231. Calculus with Functions I [C3QR] *3.00* and

## Third Year

GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) *4.00*

Cognate science and mathematics *9-12 Credit Hours*

General Education courses *9 Credit Hours*

Choose one of the following: *3 Credit Hours*

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars *3.00*

GEOL 272. Planetary Geology (2, 2) *3.00*

**Total: 25-28 Credit Hours**

## Fourth Year

GEOL 477. Contemporary Issues in the Geosciences *3.00*

Cognate science *3-4 Credit Hours*

Geology electives *4-6 Credit Hours*

Electives *12-20 Credit Hours*

Choose one from the following: *2-6 Credit Hours*

GEOL 491. Geological Literature and Research *2.00*

GEOL 494. Internship in Geology *1.00 - 3.00*

GEOL 497. Problems in Geology *1.00 - 3.00*

GEOL 499A. Honors in Geology *1.00*

GEOL 499B. Honors in Geology *2.00*

GEOL 499C. Honors in Geology *3.00*

**Total: 24-39 Credit Hours**

MATH 232. Calculus with Functions II 3.00  
MATH 220. Elementary Statistics [C3QR] 3.00 or MATH 236. Calculus II 4.00  
Choose one of the following two sequences: 8 Credit Hours  
PHYS 140. College Physics I [C3PP] 3.00  
PHYS 140L. General Physics Laboratory [C3PP] 1.00  
PHYS 150. College Physics II 3.00

**Total: 23-26 Credit Hours**

### Additional Information

Students planning graduate study in some areas of the geosciences should consider courses in mathematics, physics or chemistry beyond those required for the B.S. major.

### Concentrations

The B.S. degree option requires that each student complete at least 12 credit hours chosen from one of the two concentrations.

#### Environmental and Engineering Geology

GEOL 340. Environmental Soil Science (2, 2) 3.00  
GEOL 355. Geochemistry of Natural Waters 3.00  
GEOL 377. Earth Surface Processes (2, 2) 3.00  
GEOL 390. Laboratory Techniques in Geology (2, 2) 3.00  
GEOL 398. Topics in Geology 1.00 - 4.00 (must be approved by adviser)

PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I [C3PP] 3.00  
PHYS 140L. General Physics Lab I [C3T1G2] 1.00  
PHYS 250. University Physics II 3.00  
PHYS 150L. General Physics Lab II 1.00

GEOL 410. Engineering Geology (2, 2) 3.00  
GEOL 440. Geophysics (3, 2) 4.00  
GEOL 442. Field Geophysics 3.00  
GEOL 460. Hydrogeology (2, 2) 3.00  
GEOL 489. Quantitative Methods in Geology 3.00

### Recommended Schedule for B.S. Degree in Geology

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132. General Chemistry II 3.00  
CHEM 132L. General Chemistry Laboratory 1.00  
GEOL 110. Physical Geology [C3NS] 3.00  
GEOL 110L. Physical Geology Laboratory [C3NS] 1.00  
GEOL 230. Evolution of Earth (3, 2) 4.00  
General Education Courses 12 Credit Hours  
Choose one of the following: 6-8 Credit Hours  
MATH 231. Calculus with Functions I [C3QR] 3.00  
MATH 232. Calculus with Functions II 3.00 or MATH 235.  
Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00

**Total: 34-36 Credit Hours**

#### Second Year

GEOL 280. Mineralogy (3, 2) 4.00  
GEOL 291. Writing and Communicating in the Geosciences 1.00  
GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) 4.00  
Geology elective 3 Credit Hours  
General Education courses 11 Credit Hours  
Choose one of the following: 8 Credit Hours  
PHYS 140. College Physics I [C3PP] 3.00  
PHYS 140L. General Physics Laboratory [C3PP] 1.00  
PHYS 150. College Physics II 3.00

### *Geology, General Geology Concentration, B.S.*

### Degree and Major Requirements

There are two bachelor degrees offered in the Geology and Environmental Science, Department of, a B.S. in geology and a B.A. in Earth science. Both degree options have a research requirement that includes a formal presentation. The B.S. degree has two concentrations: a general geology concentration designed for students who want to take a wider range of geology elective courses and an environmental and engineering geology concentration designed for students who want to focus their geology electives toward applied environmental science.

The B.A. in Earth science prepares individuals to work in a wide range of professional public sector service careers where preparation in Earth science and communication of science to nonscientific audiences is a requirement or an asset. This includes the preparation of Earth science teachers.

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours<sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours<sup>2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours<sup>2</sup>
- Major requirements (listed below) 68-76 Credit Hours
- General Electives 2-11 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The quantitative and scientific literacy requirements are met by courses required by the major.

### Major Requirements

#### Core Requirements

PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I [C3PP] 3.00  
PHYS 140L. General Physics Lab I [C3T1G2] 1.00  
PHYS 250. University Physics II 3.00  
PHYS 150L. General Physics Lab II 1.00

**Total: 31 Credit Hours**

#### Third Year

GEOL 300. Introduction to Petrology (3, 3) 4.00  
GEOL 388. Advanced Structure, Stratigraphy, Tectonics (3,2) 4.00  
GEOL 399. Field Geology 6.00  
Geology electives 8 Credit Hours  
General Education courses 9 Credit Hours  
General Electives 3 Credit Hours

**Total: 34 Credit Hours**

#### Fourth Year

Electives 9-20 Credit Hours  
Choose from the following: 2-6 Credit Hours  
GEOL 491. Geological Literature and Research 2.00  
GEOL 494. Internship in Geology 1.00 - 3.00  
GEOL 497. Problems in Geology 1.00 - 3.00  
GEOL 499A. Honors in Geology 1.00  
GEOL 499B. Honors in Geology 2.00  
GEOL 499C. Honors in Geology 3.00

**Total: 11-26 Credit Hours**

GEOL 110L. Physical Geology Laboratory [C3NS] 1.00



GEOL 230. Evolution of Earth (3, 2) 4.00  
 GEOL 280. Mineralogy (3, 2) 4.00  
 GEOL 291. Writing and Communicating in the Geosciences 1.00  
 GEOL 300. Introduction to Petrology (3, 3) 4.00  
 GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) 4.00  
 GEOL 388. Advanced Structure, Stratigraphy, Tectonics (3,2) 4.00  
 GEOL 399. Field Geology 6.00  
 Choose one of the following: 3 Credit Hours  
 GEOL 110. Physical Geology [C3NS] 3.00  
 GEOL 102. Environment: Earth [C3NS] 3.00  
 GEOL 115. Earth Systems and Climate Change [C3NS] 3.00  
 GEOL 210. Applied Physical Geology [C3NS] 3.00

**Research Requirements: 2-6 Credit Hours**

**Total: 33-37 Credit Hours**

**Courses**

The B.S. degree in geology is designed for students who plan to obtain professional employment in geology or enter graduate school upon graduation. It is recommended that incoming B.S. degree students complete the following courses prior to enrolling in required geology courses numbered 300 and higher.

CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 MATH 235. Calculus I [C3QR] 4.00 or MATH 231. Calculus with Functions I [C3QR] 3.00 and  
 MATH 232. Calculus with Functions II 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 or MATH 236. Calculus II 4.00

In addition to GEOL 291, choose from the following to complete the research requirement. All majors must complete a minimum of two credits. Students conducting research with faculty should select GEOL 497; Honors students doing research with faculty must complete a minimum of six credits in GEOL 499A/GEOL 499B/GEOL 499C. All students must give a formal presentation to fulfill this requirement.

GEOL 491. Geological Literature and Research 2.00  
 GEOL 494. Internship in Geology 1.00 - 3.00  
 GEOL 497. Problems in Geology 1.00 - 3.00  
 GEOL 499A. Honors in Geology 1.00  
 GEOL 499B. Honors in Geology 2.00  
 GEOL 499C. Honors in Geology 3.00

Choose one of the following two sequences: 8 Credit Hours  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00  
 PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Lab I [C3T1G2] 1.00  
 PHYS 250. University Physics II 3.00  
 PHYS 150L. General Physics Lab II 1.00

**Total: 23-26 Credit Hours**

**Additional Information**

Students planning graduate study in some areas of the geosciences should consider courses in mathematics, physics or chemistry beyond those required for the B.S. major.

**Concentrations**

The B.S. degree option requires that each student complete at least 12 credit hours chosen from one of the two concentrations.

**General Geology**

GEOL 302. Sedimentary Petrology 1.00  
 GEOL 380. Genetic Mineralogy (2, 2) 3.00  
 GEOL 340. Environmental Soil Science (2, 2) 3.00  
 GEOL 350. Paleobiology (3, 2) 4.00  
 GEOL 355. Geochemistry of Natural Waters 3.00  
 GEOL 377. Earth Surface Processes (2, 2) 3.00  
 GEOL 390. Laboratory Techniques in Geology (2, 2) 3.00  
 GEOL 398. Topics in Geology 1.00 - 4.00 (must be approved by adviser)

GEOL 400. Geology and Ecology of the Bahamas 3.00  
 GEOL 405. Vertebrate Paleontology 3.00  
 GEOL 406. Paleoclimatology and Paleocceanography 3.00  
 GEOL 410. Engineering Geology (2, 2) 3.00  
 GEOL 440. Geophysics (3, 2) 4.00  
 GEOL 442. Field Geophysics 3.00  
 GEOL 460. Hydrogeology (2, 2) 3.00  
 GEOL 489. Quantitative Methods in Geology 3.00

**Recommended Schedule for B.S. Degree in Geology**

**First Year**

CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 GEOL 110. Physical Geology [C3NS] 3.00  
 GEOL 110L. Physical Geology Laboratory [C3NS] 1.00  
 GEOL 230. Evolution of Earth (3, 2) 4.00  
 General Education Courses 12 Credit Hours  
 Choose one of the following: 6-8 Credit Hours  
 MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 232. Calculus with Functions II 3.00 or MATH 235. Calculus I [C3QR] 4.00  
 MATH 236. Calculus II 4.00

**Total: 34-36 Credit Hours**

**Second Year**

GEOL 280. Mineralogy (3, 2) 4.00  
 GEOL 291. Writing and Communicating in the Geosciences 1.00  
 GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2) 4.00  
 Geology elective 3 Credit Hours  
 General Education courses 11 Credit Hours  
 Choose one of the following: 8 Credit Hours  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00

PHYS 150L. General Physics Laboratory 1.00 or PHYS 240. University Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Lab I [C3T1G2] 1.00  
 PHYS 250. University Physics II 3.00  
 PHYS 150L. General Physics Lab II 1.00

**Total: 31 Credit Hours**

**Third Year**

GEOL 300. Introduction to Petrology (3, 3) 4.00  
 GEOL 388. Advanced Structure, Stratigraphy, Tectonics (3,2) 4.00  
 GEOL 399. Field Geology 6.00 (summer session)  
 Geology electives 8 Credit Hours  
 General Education courses 9 Credit Hours  
 General Electives 3 Credit Hours

**Total: 34 Credit Hours**

**Fourth Year**

Electives 9-20 Credit Hours  
 Choose from the following: 2-6 Credit Hours  
 GEOL 491. Geological Literature and Research 2.00  
 GEOL 494. Internship in Geology 1.00 - 3.00  
 GEOL 497. Problems in Geology 1.00 - 3.00  
 GEOL 499A. Honors in Geology 1.00 and  
 GEOL 499B. Honors in Geology 2.00 and  
 GEOL 499C. Honors in Geology 3.00

**Total: 11-26 Credit Hours**

## ***Geophysics Minor***

The minor in geophysics is designed to provide adequate training for professional work or graduate school in geophysics in the broad sense. No more than 10 credits from the geophysics minor may be used to double count with a major. The requirements for the geophysics minor are a minimum of 21 credits, including at least one semester each of geology, mathematics and physics, distributed as follows:

### **Required Courses**

Choose one of the following: 4 Credit Hours

GEOL 110. Physical Geology [C3NS] 3.00 and

GEOL 110L. Physical Geology Laboratory [C3NS] 1.00 or GEOL 210. Applied

Physical Geology [C3NS] 3.00 and GEOL 110L. Physical Geology

Laboratory [C3T1G3] 1.00 or PHYS 140. College Physics I [C3PP] 3.00  
and

PHYS 140L. General Physics Laboratory [C3PP] 1.00 or PHYS 240. University

Physics I [C3PP] 3.00 and

PHYS 140L. General Physics Lab I [C3T1G2] 1.00

Complete all of the following:

GEOL 440. Geophysics (3, 2) 4.00

GEOL 442. Field Geophysics 3.00

MATH 238. Linear Algebra with Differential Equations 4.00

MATH 248. Computers & Numerical Algorithms 4.00

Choose one of the following elective courses: 3-4 Credit Hours

Additional elective courses permitted upon approval from minor adviser.

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars 3.00

CHEM 331. Physical Chemistry I 3.00

GEOL 410. Engineering Geology (2, 2) 3.00

GEOL 460. Hydrogeology (2, 2) 3.00

MATH 237. Calculus III 4.00

PHYS 260. University Physics III 3.00

**Total: 22-23 Credit Hours**

### **Note for Geology Majors**

The geology major requires a sequence of math and physics courses (see major program for details). The following sequence of courses will satisfy the major requirements and is strongly recommended for students interested in geophysics. In particular, MATH 236 is a prerequisite for several courses included in the geophysics minor.

MATH 235. Calculus I [C3QR] 4.00

MATH 236. Calculus II 4.00

PHYS 240. University Physics I [C3PP] 3.00 (and Lab)

PHYS 250. University Physics II 3.00 (and Lab)

# Hart School of Hospitality Sport and Recreation Management

Mr. Neil Marrin, **Interim Director**

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**Email:** marrinnd@jmu.edu

**Location:** Godwin Hall, Room 355

**Website:** <http://www.jmu.edu/hartschool>

## Professor

R. Foucar-Szocki

## Assistant Professors

G. Hornsby, G. Juhan, J. Kim

## Lecturers

M. Baltazar, T. Lind, T. Pippert, J. Storey

## Mission

We are a community united in creating an environment of quality education that integrates philosophy, theory and practice while enhancing professional and personal growth of our students.

## Vision

The Hart School at JMU will be nationally renowned by students, peers and industry partners for innovative teaching, exceptional research and transformational impact on the greater community.

## Core Values

- Leadership
- Integrity
- Respect
- Student-Centered Learning
- Diversity
- Innovation

## *Hospitality Management, B.S.*

### Mission

The mission of the Hospitality Management Program is to develop a community of learners through quality education that integrates theory, practice and personal growth in the hospitality, sport and recreation industries.

The hospitality leaders of tomorrow must be educated and enlightened citizens who will lead productive and meaningful lives. The James Madison University Hospitality Management Program prides itself in developing creative hospitality leaders who make a difference.

The program mission is to develop hospitality leaders through sound theoretical course work, innovative learning activities, mentoring opportunities, exposure to premier hospitality organizations and interaction with dynamic industry professionals. Together with alumni, students, parents and friends of the program, JMU-HM will be recognized as the preferred provider for hospitality graduates.

### Goals

- To expose students to a rigorous academic and experiential learning program, including a 400-hour internship prior to graduation.
- To provide an intimate educational setting of small classes, team learning experiences and meaningful personal contacts with faculty and industry professionals.
- To promote the use and development of technology, critical thinking and communication skills in hospitality leadership.
- To ensure that all HM students have a meaningful choice of job opportunities upon graduation.
- To build a set of leadership skills while providing students exceptional financial acumen.
- To maintain a faculty of knowledgeable and respected industry professionals, dedicated to continuous improvement via internships, authorship, industry contacts and participation at national and international industry conferences.

### Career Opportunities

The hospitality field, also known as the mega-industry, includes many career opportunities. Recent statistics include:

- Hospitality management provides \$98.3 billion in tax revenues or federal, state and local governments.
- Total hospitality employment in the U.S. includes 15.4 million jobs.
- Pleasure travel volume was 950.4 million; personal trips with business travel accounted for over 251 million trips in the United States alone.
- The World Tourism Organization forecasts a growth in international tourist arrivals of between 3% and 4% in the next year. International visitors spend \$79.4 billion a year.
- The travel field is America's largest services exporter, with international travelers spending over \$110 billion in the United States.
- The US hotel and motel industry consists of about 40,000 companies that operate 48,000 properties, with combined annual revenue over \$120 billion.
- The restaurant industry's total economic effect is \$1.5 trillion.
- The restaurant industry remains one of the nation's largest private-sector employers with its 12.7 million employees, comprising 9% of the U.S. workforce.
- The restaurant industry is projected to add 1.3 million career and employment opportunities by 2020.
- Dining is the most popular domestic trip activity and is included in 31% of all domestic trips. On a typical day, 130 million Americans will visit a restaurant.
- The private club industry represented by The Club Managers Association of America had \$13 billion in revenue in 2008 employing 290,749 associates.

### Co-curricular Activities and Organizations

- Professional Convention Management Association (PCMA) is a student organization that provides both educational and social programs to the hospitality management major. This group plans and coordinates an annual trip to the PCMA Annual Convention.
- The National Society of Minorities in Hospitality (NSMH) is a student organization that explores the issues, challenges and opportunities for minorities in mega-industry. It participates in both regional and national conventions in association with industry leaders.
- The James Madison University Student Chapter of Club Managers Association of America (JMU CMAA) is instrumental in exposing students to the profession of club management and its many career opportunities.
- Eta Sigma Delta (ESD) is an honor society recognizing hospitality and tourism students for outstanding academic achievement, meritorious service and demonstrated professionalism.

- Hospitality Sales & Marketing Association International (HSMAI) is a global organization of sales, marketing, and revenue management professionals representing all segments of the hospitality industry.

The B.S. degree in Hospitality Management (HM) requires a minimum of 120 credit hours of undergraduate course work. All HM majors must complete the general business minor for hospitality management, HM core and HM required courses.

### Required Courses

- General Education 41-44 *Credit Hours*<sup>1</sup>
- Quantitative Requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- Hospitality Management Core Courses *9 Credit Hours*
- Major Requirements *36 Credit Hours*
- General Business Minor for Hospitality Management *18 Credit Hours*<sup>2</sup>
- University Electives *6-10 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> Successful completion of these courses with a 2.0 GPA will qualify the student for a general business minor; however, it is the responsibility of the student to complete the necessary paperwork in the College of Business to apply for the minor.

### Major Requirements

#### Hospitality Management Core

HM 201. Foundations of Hospitality, Sport and Recreation Management *3.00* or  
SRM 201. Foundations of Hospitality, Sport and Recreation Management *3.00*  
HM 202. Foundations of Leadership in Hospitality, Sport and Recreation  
Management *3.00* or SRM 202. Foundations of Leadership in Hospitality,  
Sport and Recreation Management *3.00*

HM 203. Foundations of Ethics and Law in Hospitality, Sport and Recreation  
Management *3.00* or SRM 203. Foundations of Ethics and Law in Hospitality,  
Sport and Recreation Management *3.00*

**Total: 9 Credit Hours**

#### Required Courses

HM 211. Overview of Hospitality and Tourism Management *3.00*  
HM 212. Hospitality Prowess *3.00*  
HM 310. Practical Work Experience *0.00*  
HM 311. Hotel Operations and Hospitality Technology *3.00*  
HM 312. Culinary Arts & Menu Management *3.00*  
HM 316. Country Club Management *3.00*  
HM 317. Introduction to Event Management *3.00*

HM 351. Cost Control and Budgeting *3.00*  
HM 402. Supervisory Hospitality Internship *3.00*  
HM 421. Hospitality Ethics *3.00*  
HM 422. Hospitality Human Resources Management *3.00*  
HM 441. Hospitality Financial Management *3.00*  
HM 442. Hospitality Seminar *3.00*

**Total: 36 Credit Hours**

### Minor

#### General Business Minor

Students in hospitality management must declare the business minor for hospitality management through the College of Business.

#### Courses

ACTG 244. Accounting for Non-Business Majors *3.00*<sup>1</sup>  
CIS 204. Computer Information Systems Fundamentals for  
Non-Business Majors *3.00*  
ECON 201. Introduction to Microeconomics *3.00*

FIN 345. Finance Fundamentals for Non-Business Majors *3.00*  
MGT 305. Management and Organizational Behavior *3.00*  
MKTG 380. Principles of Marketing *3.00*

**Total: 18 Credit Hours**

#### Footnote

<sup>1</sup> Successful completion of COB 242 will substitute for ACTG 244.

### Recommended Schedule

#### First Year

HM 201. Foundations of Hospitality, Sport and Recreation Management *3.00*  
HM 202. Foundations of Leadership in Hospitality, Sport and Recreation  
Management *3.00*

HM 203. Foundations of Ethics and Law in Hospitality, Sport and Recreation  
Management *3.00*  
Cluster One *9 Credit Hours*  
General Education *12 Credit Hours*

**Total: 30 Credit Hours**

#### Second Year

HM 211. Overview of Hospitality and Tourism Management *3.00*  
HM 212. Hospitality Prowess *3.00*  
ACTG 244. Accounting for Non-Business Majors *3.00*  
CIS 204. Computer Information Systems Fundamentals for  
Non-Business Majors *3.00*

ECON 201. Introduction to Microeconomics *3.00*  
Quantitative Requirement *3 Credit Hours*  
General Education *12 Credit Hours*

**Total: 30 Credit Hours**

#### Third Year

HM 310. Practical Work Experience *0.00*  
HM 311. Hotel Operations and Hospitality Technology *3.00*  
HM 312. Culinary Arts & Menu Management *3.00*  
HM 316. Country Club Management *3.00*  
HM 317. Introduction to Event Management *3.00*

HM 351. Cost Control and Budgeting *3.00*  
FIN 345. Finance Fundamentals for Non-Business Majors *3.00*  
MGT 305. Management and Organizational Behavior *3.00*  
MKTG 380. Principles of Marketing *3.00*  
General Education and university electives *6 Credit Hours*

**Total: 30 Credit Hours**

### Summer

HM 402. Supervisory Hospitality Internship 3.00

**Total: 3 Credit Hours**

### Fourth Year

HM 421. Hospitality Ethics 3.00

HM 422. Hospitality Human Resources Management 3.00

HM 441. Hospitality Financial Management 3.00

**Total: 27 Credit Hours**

HM 442. Hospitality Seminar 3.00

University electives 15 Credit Hours

## *Sport and Recreation Management, B.S.*

### Mission

The mission of the sport and recreation program is to develop a community of learners through quality education that integrates theory, practice, and personal growth in the hospitality, sport and recreation industries.

We are dedicated to the development of future leaders in sport and management professions through a course of study that maximizes the potential of individuals and society. Sport and recreation management is committed to providing:

- An outstanding undergraduate program based on the criteria of relevant professional associations, which will enable graduates to be successful in their professional endeavors.
- A program that builds upon the strong liberal studies background provided through General Education.
- The opportunities that challenge students to think critically, to use technology and to appreciate the global community.
- The research and development projects that push back the boundaries of knowledge and promote effective practice in sport and recreation management.

### Career Opportunities

Graduates with this degree will be employed in professional sport organizations, semi-professional sport organizations, collegiate athletics, sport marketing agencies, sport broadcasting venues, facility management in both sport and recreation, community recreation agencies, commercial recreation agencies, theme parks, military recreation as well as hotels, resorts and other hospitality and entertainment venues.

Careers in sport and recreation management are plentiful. The listing below offers examples of possible career paths and is not meant to be comprehensive.

- Fitness/Health Club Manager
- Sportscaster
- Aerobics Instructor
- Sports Agent
- Athletic Coach
- Athletic Director
- Sports Event Coordinator
- Media Relations Specialist
- Sports Information Specialist
- YMCA Youth Leader
- Recreation Professional
- Sports Marketing Specialist
- Community Center Director
- Corporate Fitness Leader
- Director of Stadium Operations
- Director of Ticket Operations
- Professional Sports Scout
- Promotion Director
- Youth Programs Director
- Campus Recreation Director
- Athletic Contract Manager
- Sports Camp Director

### Co-Curricular Activities

In order to enhance the educational, experiential, networking and professional opportunities for our students, sport and recreation management (SRM) offers and encourages involvement in a wide variety of co-curricular activities and SRM-related conferences and organizations. Co-curricular activities also include required practicum and internship experiences for which academic credit is given. Below is a list of SRMs most prominent activities:

### Conferences and Events

- Sports Events Marketing Experience (SEME)
- Sports Industry Networking and Career Conference (SINC)
- National Intramural Recreational Sports Association (NIRSA) Annual
- Conference and Recreational Sports Expo
- National Recreation and Parks Association (NRPA) National Conference
- Association of Outdoor Recreation Education Annual Conference

### Professional Organizations

- National Intramural Recreational Sports Association (NIRSA)
- National Recreation and Parks Association (NRPA)
- North American Society for Sport Management (NASSM)
- Association of Outdoor Recreation and Education
- Society of Health and Physical Educators (SHAPE; formerly American Alliance for Health, Physical Education, Recreation and Dance)

### JMU Clubs and Organizations

- Phi Epsilon Kappa
- SRM Major's Club (SLAM)
- Sports Clubs

### Practicums and Internships

SRM requires its students to complete a practicum and an internship. Both count as academic credit hours. These are opportunities for the student to gain valuable experience by working in his/her field of choice in a sport or recreation-related agency. The opportunities are almost endless.

While enrolled in SRM 482. Internship in Sport and Recreation Management, students may only take one additional course (three or four credit hours). The additional course must be approved in advance by the site supervisor and the director of SRM.

### Degree Requirements

- General Education 41-44 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours

- Sport and Recreation Management core courses *6 Credit Hours*
- Major requirements *39 Credit Hours*
- General Business Minor for Sport and Recreation Management *18 Credit Hours*<sup>2</sup>
- University Electives *6-10 Credit Hours*

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> Successful completion of these courses with a 2.0 GPA will qualify the student for a general business minor; however, it is the responsibility of the student to complete the necessary paperwork in the College of Business to apply for the minor.

**Required Courses**

SRM 201. Foundations of Hospitality, Sport and Recreation Management *3.00* or  
HM 201. Foundations of Hospitality, Sport and Recreation Management *3.00*

SRM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management *3.00* or HM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management *3.00*

**Total: 6 Credit Hours**

**Sport and Recreation Management Major Courses**

SRM 241. Introduction to Sport and Recreation Management *3.00*  
SRM 242. Sociology and Psychology of Sport and Recreation *3.00*  
SRM 282. Practicum in Sport and Recreation *3.00*  
SRM 333. Management in Sport and Recreation *3.00*  
SRM 334. Introduction to Sport Media *3.00*  
SRM 337. Programming and Assessment in Sport and Recreation Management *3.00*

SRM 434. Ethical and Legal Issues in Sport and Recreation Management *3.00*  
SRM 435. Sport Marketing and Sales *3.00*  
SRM 436. Facilities and Event Management *3.00*  
SRM 438. Human Resources in Sport and Recreation Management *3.00*  
SRM 440. Sport and Recreation Management Seminar *3.00*  
SRM 482. Internship in Sport and Recreation Management *6.00 - 12.00*

**Total: 39 Credit Hours**

**Minor Requirements**

**General Business Minor for Sport and Recreation Management**

No more than 30 credit hours may be taken in the College of Business. Students in sport and recreation management must declare the business minor through the College of Business.

**Courses**

CIS 204. Computer Information Systems Fundamentals for Non-Business Majors *3.00*  
ACTG 244. Accounting for Non-Business Majors *3.00*<sup>1</sup>  
ECON 201. Introduction to Microeconomics *3.00*

FIN 345. Finance Fundamentals for Non-Business Majors *3.00*  
MGT 305. Management and Organizational Behavior *3.00*  
MKTG 380. Principles of Marketing *3.00*

**Total: 18 Credit Hours**

**Footnote**

<sup>1</sup> Successful completion of COB 242 will substitute for ACTG 244.

**Recommended Schedule for Majors**

**First Year**

General Education *24 Credit Hours*  
SRM 201. Foundations of Hospitality, Sport and Recreation Management *3.00* or  
HM 201. Foundations of Hospitality, Sport and Recreation Management *3.00*

SRM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management *3.00* or HM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management *3.00*

**Total: 30 Credit Hours**

**Second Year**

General Education *9 Credit Hours*  
SRM 241. Introduction to Sport and Recreation Management *3.00*  
SRM 242. Sociology and Psychology of Sport and Recreation *3.00*  
SRM 282. Practicum in Sport and Recreation *3.00*

CIS 204. CIS Fundamentals for Non-Business Majors *3.00*  
ECON 201. Introduction to Microeconomics *3.00*  
ACTG 244. Accounting for Non-Business Majors *3.00*  
Quantitative Requirement *3 Credit Hours*

**Total: 30 Credit Hours**

**Third Year**

General Education and University Electives *12 Credit Hours*  
SRM 333. Management in Sport and Recreation *3.00*  
SRM 334. Introduction to Sport Media *3.00*  
SRM 337. Programming and Assessment in Sport and Recreation Management *3.00*

FIN 345. Finance Fundamentals for Non-Business Majors *3.00*  
MKTG 380. Principles of Marketing *3.00*  
MGT 305. Management and Organizational Behavior *3.00*

**Total: 30 Credit Hours**

**Fourth Year**

University Electives *9 Credit Hours*  
SRM 434. Ethical and Legal Issues in Sport and Recreation Management *3.00*  
SRM 435. Sport Marketing and Sales *3.00*  
SRM 436. Facilities and Event Management *3.00*

SRM 438. Human Resources in Sport and Recreation Management *3.00*  
SRM 440. Sport and Recreation Management Seminar *3.00*  
SRM 482. Internship in Sport and Recreation Management *6.00 - 12.00*

**Total: 30 Credit Hours**

# Department of Health Professions

Dr. Kirk Armstrong, **Academic Unit Head**

**Phone:** (540) 568-7658

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**Location:** Health and Behavioral Studies, Room 3095

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## Professors

H. Amato, P. Maxwell

## Associate Professors

J. Akers, K. Armstrong, R. Dorne, J. Frye, S. Maiewski, C. Peterson, A. Temple, D. Torisky, G. Weniger, J. Wenos

## Assistant Professors

A. Dengo-Flores, K. Liskey, A. Massey, A. Russell Yun, W. Simmons, A. Skelly, J. Walsh, X. You

## Instructors

K. Harrison, J. Ginnity, E. Richardson, B. Theimer

## Lecturer

M. Daniels

## Mission

As the Department of Health Professions, we engage students, faculty and the community through education, service, and scholarship to produce highly qualified healthcare professionals and leaders.

## Vision

To be nationally recognized for innovative practices in education, leadership, scholarship, and service to produce leaders in the dynamic healthcare industry.

## Career Opportunities

- Athletic Trainer (Graduate Program)
- Registered Dietitian/Nutritionist
- Health Administrator
- Health Fitness Specialist
- Occupational Therapist (Graduate Program)
- Physician Assistant (Graduate Program)

## Co-curricular Organizations

- American College of Sports Medicine
- Madison Athletic Training Student Association
- Health Administration Student Association
- JMU Dietetic Association
- JMU Physician Assistant Student Society
- JMU Student Occupational Therapy Association
- Pre-Occupational Therapy Association
- Pre-Physical Therapy Society
- Pre-Physician Assistant Club

## Special Admission Requirements

Admission to JMU does not guarantee admission to all academic majors and minors. Special applications are required for admission to the clinical portions of the athletic training program, the dietetics program and the health services administration program.

## Degree Offerings

The Department of Health Professions offers the following degrees:

- Bachelor of Science in Dietetics
- Bachelor of Science in Health Services Administration
- Master of Science in Athletic Training
- Master of Occupational Therapy
- Master of Physician Assistant Studies

## Deadline for Change or Declaration of Majors

Deadlines for change or declaration of major forms are:

Semester	Deadline
Summer	February 15
Fall	February 15
Spring	September 15 of the previous year

Forms received in the health professions office after the deadline will be processed the following semester. Students changing their major to health professions after February 15 of the sophomore year should expect an additional semester(s) to complete the program. The number of additional semesters required to complete the program will depend on the timing of the change to health professions and the number of summer courses completed.

## Degree and Major Requirements

### *Dietetics, B.S.*

The Bachelor of Science in dietetics is the first step toward registration as a dietitian nutritionist. The Registered Dietitian Nutritionist (RD/RDN) credential is a national credential that requires completion of a Didactic Program in Nutrition and Dietetics (DPD), a Supervised Practice program, usually a Dietetic Internship (DI), and successful completion of the national registration examination. The DPD at James Madison University is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics, 120 S. Riverside Plaza, Suite 2190, Chicago, IL 60606-6995, (312) 899-4876. The program in dietetics gives the student a wide view of dietetics careers including clinical dietetics, administrative dietetics, community dietetics, food service, education and research.

### Special Admission Requirements

Any student admitted to JMU can declare dietetics as his/her major and will be permitted to enroll in NUTR 280. Nutrition for Wellness and NUTR 295. Foundations of Nutrition Practice. However, to make progress in the major beyond the first few courses students need to apply and be admitted to the professional program.

Students wishing to be admitted to the dietetics program at JMU must apply in the spring semester during which admission requirements will be met by February 15, usually the sophomore year.

Students applying for admission must have a cumulative GPA of at least 3.0 in the following courses, with no grade lower than a "C."

BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 131L-132L. General Chemistry Laboratories 1.00 each semester  
 HTH 210. Medical Terminology 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00

NUTR 280. Nutrition for Wellness 3.00  
 NUTR 295. Foundations of Nutrition Practice 2.00  
 POSC 225. U.S. Government [C4AE] 4.00  
 PSYC 101. General Psychology [C5SD] 3.00 or  
 PSYC 160. Life Span Human Development [C5SD] 3.00  
 SCOM 121. Fundamental Human Communication: Presentations [C1HC] 3.00

or SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] 3.00 or SCOM 123. Fundamental Human Communication: Group Presentations [C1HC] 3.00  
 WRTC 103. Critical Reading and Writing [C1W] 3.00

### Retention and Receiving Didactic Program in Dietetics Verification

To remain in the major, students must maintain a GPA of at least 3.0 in the major, earn grades of "C" (2.0) or higher in all remaining required courses. Transfer credit will not be accepted for the following courses: NUTR 363, NUTR 446, NUTR 482, NUTR 484 and NUTR 490. All successful graduates will receive four copies of a signed verification statement from the James Madison University DPD as soon as a final transcript verifying all grades and degree confirmation is available.

### Required Courses/Recommended Schedule for Majors

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00 3  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00 3  
 CHEM 132. General Chemistry II 3.00  
 CHEM 131L-132L. General Chemistry Laboratories 1.00 each semester  
 NUTR 295. Foundations of Nutrition Practice 2.00  
 Quantitative requirement (B.S. degree requirement) 3 Credit Hours  
 General Education courses (Any course from the Cluster 1 Critical Thinking and Communication areas) 6 Credit Hours  
 WRTC 103. Critical Reading and Writing [C1W] 3.00  
 Cluster 1 - Critical Thinking (any course in Cluster 1 Critical Thinking area)  
 Cluster 1 - Communication (any course in Cluster 1 Communication area)  
 Quantitative requirement (B.S. degree requirement) 3 Credit Hours  
 General Education courses 9 Credit Hours

**Total: 23 Credit Hours**

#### Footnote

<sup>3</sup> These courses may count for both General Education and the major depending on General Education course choice.

#### Second Year

BIO 270. Human Physiology (3, 2) [C3NS] 4.00 3  
 HTH 210. Medical Terminology 3.00  
 PSYC 101. General Psychology [C5SD] 3.00 3 or PSYC 160. Life Span Human Development [C5SD] 3.00 3  
 POSC 225. U.S. Government [C4AE] 4.00 3  
 MATH 220. Elementary Statistics [C3QR] 3.00 3  
 NUTR 280. Nutrition for Wellness 3.00  
 General Education courses 6 Credit Hours

**Total: 26 Credit Hours**

#### Footnote

<sup>3</sup> These courses may count for both General Education and the major depending on General Education course choice.

#### Third Year

CHEM 241. Organic Chemistry I 3.00 2  
 CHEM 241L. Concepts of Organic Chemistry Laboratory 1.00 2  
 CHEM 260. Concepts of Biochemistry 3.00 1  
 CHEM 260L. Concepts of Biochemistry Laboratory 1.00 1  
 HTH 354. U.S. and Global Health Care Systems 3.00  
 NUTR 340. Science of Food Preparation 3.00 2  
 NUTR 360. Management in Dietetics 3.00  
 NUTR 362. Food Services Systems 3.00 1  
 NUTR 380. Global Nutrition 3.00  
 NUTR 384. Clinical Nutrition I 3.00 1  
 NUTR 385. Nutrition Throughout the Life Cycle 3.00 2  
 NUTR 446. Experimental Foods 3.00

**Total: 32 Credit Hours**

#### Footnotes

<sup>1</sup> Offered only in spring semester. <sup>2</sup> Offered only in fall semester.

#### Fourth Year

BIO 280. Allied Health Microbiology (3, 2) 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00  
 IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00  
 NUTR 363. Quantity Food Production 4.00  
 NUTR 482. Nutrition and Metabolism 3.00 2  
 NUTR 484. Clinical Nutrition II 3.00 1  
 NUTR 485. Community Nutrition 3.00 2  
 NUTR 486. Counseling Skills for Dietetics 3.00 1  
 NUTR 490. Field Experience in Dietetics 3.00 4  
 NUTR 495. Senior Seminar in Dietetics 3.00 2

**Total: 31 Credit Hours**

#### Footnotes

<sup>1</sup> Offered only in spring semester. <sup>2</sup> Offered only in fall semester. <sup>4</sup> Field experience practicum should be completed the summer between junior and senior years.

## Bachelor of Science in Health Services Administration

The program in health services administration prepares students for entry-level administrative positions, and staff positions requiring administrative skills, in various health organizations including hospitals, hospital systems, managed care organizations, retirement and long-term care facilities, ambulatory care organizations, physician practices and public health facilities. In addition, the program provides the foundation for graduate study in health administration and related fields. The health services administration program is approved as a Full Certified undergraduate program by the Association of University Programs in Health Administration (AUPHA).

Any student admitted to JMU can declare health services administration as his/her major and enroll in prerequisite courses. However, to progress in the major beyond the prerequisite courses, students must apply and be admitted to the program. To be eligible to apply, students must have completed or be enrolled in the following pre-requisite courses at the time of application and receive a grade of "C-" or better:

- CIS 204. Computer Information Systems Fundamentals for Non-Business Majors
- ECON 201. Introduction to Microeconomics
- HTH 354. U.S. and Global Health Care Systems

Students wishing to be admitted to the health services administration program at JMU may apply in the spring of their sophomore year or upon completion of the prerequisite courses. Applications are due September 15 for spring semester admission or February 15 for fall semester admission. Specific application requirements may be found on the health services administration program website (<http://healthprof.jmu.edu/hsa/>)

Upon completion of all JMU and program requirements, the student is awarded the B.S. in Health Services Administration.

No more than 30 hours may be taken in the College of Business.

### Degree Requirements

#### Required Courses

- General Education *40 Credit Hours* <sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*



- Scientific Literacy requirement (in addition to General Education) *3 Credit Hours*
- Major requirements (listed after schedule) *74 Credit Hours*

**Footnote**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

**Total: 120 Credit Hours**

**Required Courses/Recommended Schedule for Majors**

**First Year**

General Education courses *31 Credit Hours*

**Total: 31 Credit Hours**

**Second Year**

CIS 204. Computer Information Systems Fundamentals for Non-Business Majors *3.00*

ECON 201. Introduction to Microeconomics *3.00*

HTH 354. U.S. and Global Health Care Systems *3.00*

**Total: 28 Credit Hours**

MATH 220. Elementary Statistics [C3QR] *3.00*

General Education courses *9 Credit Hours*

Electives *7 Credit Hours*

**Third Year**

ACTG 244. Accounting for Non-Business Majors *3.00*

HSA 290. Gerontology for Health Services Administration *3.00*

FIN 345. Finance Fundamentals for Non-Business Majors *3.00*

HTH 320. Statistical Methods for Health Science Research *3.00*  
(B.S. degree requirement)

HSA 358. Health Administration *3.00*<sup>2</sup>

**Total: 31 Credit Hours**

HSA 365. Values in Health Care *3.00*

HSA 385. Health Services Administration Career Seminar *1.00*

MGT 305. Management and Organizational Behavior *3.00*

MKTG 380. Principles of Marketing *3.00*

Program electives *6 Credit Hours*

**Footnotes**

<sup>2</sup> Offered only in fall semester.    <sup>3</sup> Offered only in spring semester.

**Fourth Year**

HTH 450. Epidemiology *3.00*

HTH 458. Health Program Planning and Evaluation *3.00*

HSA 363. Health Economics *3.00*<sup>2</sup>

HSA 454. Internship in Health Organizations *3.00*

HSA 466. Health Politics and Policy *3.00* (B.S. degree requirement)

HSA 462. Managed Care *3.00*<sup>3</sup>

**Total: 30 Credit Hours**

HSA 463. Quality Management in Health Care *3.00*<sup>3</sup>

HSA 464. Funding in Health Care *3.00*<sup>3</sup>

*Choose two of the following: 6 Credit Hours*

HSA 452. Hospital Organization and Administration *3.00*<sup>3</sup>

HSA 455. Long Term Care Organization and Administration *3.00*<sup>3</sup>

HSA 456. Ambulatory Care Services: Organization and Administration *3.00*<sup>2</sup>

**Footnotes**

<sup>2</sup> Offered only in fall semester.    <sup>3</sup> Offered only in spring semester.

# Department of Health Sciences

Dr. Andrew A. Peachey, **Acting Department Head**

Phone: (540) 568-6510

Email: [peacheaa@jmu.edu](mailto:peacheaa@jmu.edu)

Location: Health and Behavioral Studies, Room 3091

Website: <http://www.healthsci.jmu.edu>

## Professors

T. Enyeart Smith, R. Koslow, K. Lewis, M. Wessel

## Associate Professors

S. Baller, A. Burnett, K. Ott Walter, A. Peachey, D. Sutton

## Assistant Professors

S. Blackstone, E. Collazo-Vargas, A. Coleman, S. Grossman, D. Henry, A. Johnson, P. Memiah, L. Merrell, T. Thomas.

## Instructors

L. Blosser

## Lecturers

T. Howley, L. Lemons, R. Prodoehl, M. Stickney

## Mission Statement

Through education, scholarship and service we enhance the health and well-being of individuals and populations.

## Goals

The goals of the Department of Health Sciences are to:

- Educate future health professionals through engaged learning.
- Provide professional service to the department, college, university and global community.
- General Education program at JMU.
- Conduct, disseminate and publish research/scholarship in health sciences.
- Contribute to the health and well-being of the JMU community.
- Support the

## Co-curricular Organizations

- Eta Sigma Gamma (Health Sciences Honor Society)
- Pre-Occupational Therapy Association
- Pre-Physical Therapy Society
- Pre-Physician Assistant Club

## Special Admission Requirements

Admission to JMU does not guarantee admission to all academic majors and minors.

## Deadline for Change or Declaration of Majors

Deadlines for change or declaration of major forms are:

Semester	Deadline
Summer	February 15
Fall	February 15
Spring	September 15 of the previous year

Forms received in the health sciences office after the deadline will be processed the following semester. Students changing their major to health sciences after February 15 of the sophomore year should expect an additional semester(s) to complete the program. The number of additional semesters required to complete the program will depend on the timing of the change to health sciences and the number of summer courses completed.

## Assessment

Graduating majors must participate in assessment activities. Assessment information helps the faculty modify the curriculum to meet student needs.

## Degree Offered

The Department of Health Sciences offers the Bachelor of Science in Health Sciences.

## Credit by Examination

The Department of Health Sciences offers credit by examination for a limited number of the courses taught in the department. Students who want permission to take an examination must apply to the department head during the regular registration period. Students will receive details regarding approval and examination dates after they apply. Examinations will be given only in courses offered during the semester.

## Health Sciences, B.S.

The B.S. degree with a major in health sciences consists of health science course requirements in addition to General Education requirements and B.S. requirements.

The B.S. in Health Sciences degree is designed for students interested in understanding the causes of disease, strategies for promoting wellness, and the scientific basis and methodologies for analysis of health concerns. The major combines a broad foundation of health-related course work with a choice of preparatory courses suitable for entry into graduate programs in medicine, dentistry, optometry, occupational therapy, physical therapy, pharmacy, public health physician assistant and veterinary medicine.

All students pursuing the B.S. in Health Science must complete the following core courses:

## Major Requirements

CHEM 120. Concepts of Chemistry [C3PP] 3.00 or CHEM 131. General Chemistry I [C3PP] 3.00 and CHEM 131L. General Chemistry Laboratory [C3PP] 1.00 or CHEM 132. General Chemistry II 3.00 and CHEM 132L. General Chemistry Laboratory 1.00

MATH 220. Elementary Statistics [C3QR] 3.00

HTH 100. Personal Wellness [C5W] 3.00

HTH 150. Introduction to Health Sciences 2.00

HTH 210. Medical Terminology 3.00

HTH 231. Population Health Determinants 3.00

HTH 245. Foundations of Infectious Disease 3.00

HTH 255. Chronic Disease and Disabilities 3.00

HTH 320. Statistical Methods for Health Science Research 3.00

HTH 351. Health Behavior Change 3.00

HTH 354. U.S. and Global Health Care Systems 3.00

HTH 408. Health Research Methods 3.00

HTH 423. Ethics and Critical Thinking in Health 3.00

HTH 450. Epidemiology 3.00

Select 8 Credits:

BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 280. Allied Health Microbiology (3, 2) 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00  
 Select 16 Credits:  
 BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
 BIO 150. Foundations of Biology II (3,3) 4.00  
 BIO 240. Genetics (3,3) 4.00  
 BIO 280. Allied Health Microbiology (3, 2) 4.00<sup>1</sup>  
 BIO 324. Human Genetics (3, 0) 3.00  
 BIO 370. Animal Physiology (3, 3) 4.00  
 CHEM 241. Organic Chemistry I 3.00 and  
 CHEM 241L. Concepts of Organic Chemistry Laboratory 1.00

**Total: 65-70 Credit Hours**

#### Footnotes

<sup>1</sup> Will not count for the 16 credits in this category unless also taking BIO 270 and BIO 290.

<sup>2</sup> Pre-Occupational Therapy, Pre-Physical Therapy or Pre-Physician Assistant students only.

### Recommended Schedule

#### First Year

HTH 100. Personal Wellness [C5W] 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00  
 HTH 150. Introduction to Health Sciences 2.00  
 2-3 courses from Select 16 4-8 *Credit Hours*  
 General Education courses 15-18 *Credit Hours*

**Total: 30-33 Credit Hours**

#### Second Year

CHEM 120. Concepts of Chemistry [C3PP] 3.00 or CHEM 131. General  
 Chemistry I [C3PP] 3.00 and CHEM 131L. General Chemistry Laboratory  
 [C3PP] 1.00 or CHEM 132. General Chemistry II 3.00 and  
 CHEM 132L. General Chemistry Laboratory 1.00  
 HTH 210. Medical Terminology 3.00  
 HTH 231. Population Health Determinants 3.00  
 HTH 245. Foundations of Infectious Disease 3.00  
 HTH 255. Chronic Disease and Disabilities 3.00  
 General Education courses and electives 8-16 *Credit Hours*  
 Choose one of the following:  
 BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 280. Allied Health Microbiology (3, 2) 4.00

CHEM 242. Organic Chemistry II 3.00 and  
 CHEM 242L. Organic Chemistry Laboratory 2.00  
 CHEM 260. Concepts of Biochemistry 3.00  
 HTH 441. Biomechanics for the Healthcare Professional 3.00  
 NUTR 280. Nutrition for Wellness 3.00  
 PHYS 140. College Physics I [C3PP] 3.00 and  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00 and  
 PHYS 150L. General Physics Laboratory 1.00  
 PSYC 101. General Psychology [C5SD] 3.00  
 PSYC 160. Life Span Human Development [C5SD] 3.00  
 PSYC 250. Introduction to Abnormal Psychology 3.00<sup>2</sup>

BIO 290. Human Anatomy (3, 3) 4.00

**Total: 30 Credit Hours**

#### Third Year

HTH 320. Statistical Methods for Health Science Research 3.00  
 HTH 351. Health Behavior Change 3.00  
 HTH 354. U.S. and Global Health Care Systems 3.00  
 General Education, select 16 courses and electives 11 *Credit Hours*  
 Choose one of the following:  
 BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 280. Allied Health Microbiology (3, 2) 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00

**Total: 27 Credit Hours**

#### Fourth Year

HTH 423. Ethics and Critical Thinking in Health 3.00  
 HTH 450. Epidemiology 3.00  
 General Education, pre-professional courses and electives 21 *Credit Hours*

**Total: 30 Credit Hours**

# Department of History

Dr. Maura Hametz, **Department Head**

Phone: (540) 568-6132

Email: [history@jmu.edu](mailto:history@jmu.edu) Location: Jackson Hall, Room 201

Website: <http://jmu.edu/history>

## Professors

J. Arndt, K. Borg, J. Butt, P. Dillard, M. Gubser, S. Guerrier, S. M. Hanifi, K. Hardwick, R. Hyser, G. Lanier, M. Mulrooney, D. Owusu-Ansah, S. Reich, M. Seth

## Associate Professors

R. Brannon, S. Chappell, J. Davidson, C. Davis, T. Fitzgerald, M. Gayne, H. Gelfand, Y. Hu, L. King, K. McCleary, R. Meixsel, A. Sandman, W. Van Norman, E. Westkaemper, A. Witmer

## Assistant Professors

E. Friss, M. Galmarini-Kabala, P. Herrington

## Mission

The Department of History supports the academic mission of James Madison University by providing the highest quality educational experiences within the liberal arts tradition that meet students' needs and prepare students for meaningful careers and active citizenship. The department focuses on the student as individual learner and global citizen. Our dedicated faculty members are classroom innovators and scholars who work responsibly and supportively with students to expand their knowledge and skills, and to create a foundation for their lifelong learning.

## Inside the Classroom

Students of history will become well-rounded and engaged citizens by:

- Acquiring knowledge of the human condition through the study of political, cultural, and social experiences of people around the world
- Learning the historical contexts of major political, intellectual, social, economic, religious and environmental events and transformations
- Understanding the major cultural developments in fine and popular arts in societies around the world in their historical contexts
- Discerning how people from a variety of societies hold differing values, ethics, and legal concepts and comprehending how these ideas relate to each other and to Western ideas and values

Students of history will gain the following skills

- Reading, writing, and speaking effectively and critically
- Making informed judgments based on existing evidence
- Locating printed and online information to research a topic exhaustively
- Critically evaluating textual evidence by identifying its thesis, sources, conclusions, perspective, bias, and reliability

## Beyond the Classroom

While at JMU, students of history will bring the insights and skills they learn in the classroom to their relationship and experiences with their broader communities.

Possibilities for such interactions include:

- Leading efforts to promote open dialogue, civic engagement, and public service.
- Fostering interdisciplinary relationships by engaging with the larger scholarly community at the university.
- Participating in partnerships and events that expand and challenge their own worldview.
- Studying abroad to deepen their understanding of cultural differences and non-US historical perspectives and experiences.
- Becoming involved in professional work through internships.

## Career Opportunities

Students graduating with a major or minor in history leave JMU with skills that are sought after by a wide range of employers. History graduates are adaptive learners and able project managers. As a result, they are particularly marketable in a world where professions change rapidly. Some of the career paths that history majors follow include:

- Advertising
- Archives and Libraries
- Business
- Communication
- Digital humanities
- Education
- Government
- Information Management
- Journalism
- Law
- Non-Profit and Non-Governmental Organizations
- Project Management
- Public History and Museums
- Public Policy
- Research
- Teaching
- Writing and Editing

Undergraduate work in history is also a successful foundation for advanced degrees in the humanities, law, the social sciences, medicine, and other disciplines.

## Co-curricular Activities and Organizations

- Phi Alpha Theta (National Honor Society for History)
- The Madison Historians

## Credit by Examination

The Department of History offers credit by examination for HIST 101, HIST 102 and HIST 225. Students who want permission to take an examination must apply in writing to the department head during the regular registration period. The examinations are administered during the first month of each semester at a time and place set by the department. Additional information on credit by examination may be found at the Department of History website.

## *History, B.A.*

History courses introduce students to the nature of history and survey the globe in a historical context. The 100- and 200-level courses are world or regional surveys, covering extensive periods of time, while the 300- and 400-level courses are focused on one theme, time period or geography. The upper-level courses require extensive analysis of sources and texts, and they include a research assignment that showcases the students' ability to develop and present their own historical interpretations.

The major requires three core courses: HIST 101, HIST 102 and HIST 395. Majors must take eight additional courses: Two on the 200 level and six on the 300 and 400 levels--with at least three of the upper division courses taken at the 400 level. In addition, majors must take one upper division course in each of the following fields: U.S., Europe and World history. For students writing a senior honors thesis, only three hours of HIST 499. Honors may be counted among the three 400-level courses required for the major.

## History Degree and Major Requirements

The requirements for a major in history consist of introductory, mid- and upper-level courses. All courses introduce students to the nature of history and survey the globe in a historical context. In addition to involving reading, writing and critical thinking, these courses develop students' elementary computer skills in identifying and interpreting research sources and presenting research results. The 100- and 200-level courses are world or regional surveys, covering extensive periods of time, while the 300- and 400-level courses focus on specific nations, time periods or themes. The upper-level courses also require more extensive analysis of sources, texts and interpretations. Courses at the 400 level are capstones where students are expected to show an advanced ability to meet all department objectives. Majors in history are strongly encouraged to continue study in foreign languages beyond the minimum university requirement and, when appropriate, to integrate their foreign language studies into their history classes.

This major requires three core courses. Two of these courses are introductory: HIST 101. World History to 1500 [C2HQC] and HIST 102. World History Since 1500 [C2HQC]. The third required course is HIST 395. History Seminar. This seminar on research methods teaches students the most sophisticated computer applications for research and writing.

In addition to the core requirements, majors must take eight elective courses: two on the 200 level and six on the 300 and 400 levels. At least three of the six upper division courses must be taken at the 400 level. For students writing a senior honors thesis, only three hours of HIST 499. Honors, may be counted among the three 400-level courses required for the major.

Majors must also complete one course at the upper division level in each of the following fields: U.S. history, European history and World history.

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *29-43 Credit Hours*
- Major requirements (listed below) *33 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

## Major Requirements

### Core Requirements

HIST 101. World History to 1500 [C2HQC] *3.00*

HIST 102. World History Since 1500 [C2HQC] *3.00*

Any two courses at the 200-level, including HIST 225 *6-7 Credit Hours*<sup>1</sup>

HIST 395. History Seminar *3.00*

Electives: Six 300- or 400-level courses *18 Credit Hours*

(At least one course in each of World, U.S. and European history and at least three courses at the 400 level)

**Total: 33 Credit Hours**

### Footnotes

<sup>1</sup> HUM 252 may be able to fill this requirement. Check with the history adviser.

<sup>2</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Recommended Schedule for Majors

### First Year

HIST 101. World History to 1500 [C2HQC] *3.00* (Cluster Two)

HIST 102. World History Since 1500 [C2HQC] *3.00* (Cluster Two)

Foreign language courses *6-8 Credit Hours*

General Education courses *9 Credit Hours*

General Education Cluster One: Skills for the 21st Century *9 Credit Hours*

**Total: 30 Credit Hours**

### Second Year

Any two courses at the 200 level *6-7 Credit Hours*

HIST 395. History Seminar *3.00*

Foreign language courses (if needed) or electives *9-10 Credit Hours*

General Education courses (Cluster Three, Cluster Five) *12 Credit Hours*

**Total: 31 Credit Hours**

## *History, Public History Concentration, B.A.*

### History Degree and Major Requirements

The requirements for a major in history consist of introductory, mid- and upper-level courses. All courses introduce students to the nature of history and survey the globe in a historical context. In addition to involving reading, writing and critical thinking, these courses develop students' elementary computer skills in identifying and interpreting research sources and presenting research results. The 100- and 200-level courses are world or regional surveys, covering extensive periods of time, while the 300- and 400-level courses focus on specific nations, time periods or themes. The upper-level courses also require more extensive analysis of sources, texts and interpretations. Courses at the 400 level are capstones where students are expected to show an advanced ability to meet all department objectives. Majors in history are strongly encouraged to continue study in foreign languages beyond the minimum university requirement and, when appropriate, to integrate their foreign language studies into their history classes.

This major requires three core courses. Two of these courses are introductory: HIST 101. World History to 1500 [C2HQC] and HIST 102. World History Since 1500 [C2HQC]. The third required course is HIST 395. History Seminar. This seminar on research methods teaches students the most sophisticated computer applications for research and writing.

In addition to the core requirements, majors must take eight elective courses: two on the 200 level and six on the 300 and 400 levels. At least three of the six upper division courses must be taken at the 400 level. For students writing a senior honors thesis, only three hours of HIST 499. Honors, may be counted among the three 400-level courses required for the major.

Majors must also complete one course at the upper division level in each of the following fields: U.S. history, European history and World history.

### Third Year

Philosophy course *3 Credit Hours*

History electives (mix 300 and 400 levels) *9 Credit Hours*

Electives *9 Credit Hours*

General Education courses (Cluster Two, Cluster Four) *9 Credit Hours*

**Total: 30 Credit Hours**

### Fourth Year

History electives (mix 300 and 400 levels) *9 Credit Hours*

Electives *18 Credit Hours*

General Education courses (Cluster Four) *3 Credit Hours*

**Total: 30 Credit Hours**

## Degree Requirements

### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *29-43 Credit Hours*
- Major requirements (listed below) *33 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

## Major Requirements

### Core Requirements

HIST 101. World History to 1500 [C2HQC] *3.00*

HIST 102. World History Since 1500 [C2HQC] *3.00*

Any two courses at the 200-level, including HIST 225 *6-7 Credit Hours*<sup>1</sup>

HIST 395. History Seminar *3.00*<sup>2</sup>

Electives: Six 300- or 400-level courses *18 Credit Hours*

(At least one course in each of World, U.S. and European history and at least three courses at the 400 level)

**Total: 33 Credit Hours**

### Footnotes

<sup>1</sup> HUM 252 may be able to fill this requirement. Check with the history adviser.

<sup>2</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## Recommended Schedule for Majors

### First Year

HIST 101. World History to 1500 [C2HQC] *3.00* (Cluster Two)

HIST 102. World History Since 1500 [C2HQC] *3.00* (Cluster Two)

Foreign language courses *6-8 Credit Hours*

General Education courses *9 Credit Hours*

General Education Cluster One: Skills for the 21st Century *9 Credit Hours*

**Total: 30 Credit Hours**

### Second Year

Any two courses at the 200 level *6-7 Credit Hours*

HIST 395. History Seminar *3.00*

Foreign language courses (if needed) or electives *9-10 Credit Hours*

General Education courses (Cluster Three, Cluster Five) *12 Credit Hours*

**Total: 31 Credit Hours**

## Public History Concentration Requirements

Historians today practice their discipline in a variety of careers as well as in more traditional academic settings. Those historians who work in museums, archives, government agencies, libraries, historic preservation organizations, businesses, contract history firms, cultural resource management firms and historic sites are known as public historians because they use their skills as historians to serve a public audience. The concentration in Public History trains students in the broad range of skills and issues associated with public history while providing them with a solid general background in history.

Students pursuing the public history concentration augment their foundation of traditional history courses by taking introductory and specialized public history courses and completing a semester-long internship. History majors opting to pursue the public history concentration will complete seven elective courses, six of which must be 300/400 level history courses. The public history concentration consists of five courses (15 credit hours).

Students are required to complete two public history core courses and three elective courses. Two of the three elective courses should be chosen from the list of primary electives; the remaining elective course may be chosen from either the primary or secondary list of elective courses.

### Core Requirements

HIST 101. World History to 1500 [C2HQC] *3.00*

HIST 102. World History Since 1500 [C2HQC] *3.00*

Any two 200-level History courses *6-7 Credit Hours*

HIST 395. History Seminar *3.00*<sup>1</sup>

Seven electives<sup>2</sup>

300/400-level HIST courses *9 Credit Hours*

### Required Courses

HIST 340. Internship in History *3.00*

HIST 396. Introduction to Public History *3.00*

### Primary Electives: 6-9 Credit Hours

HIST 331. Historical Archaeology *3.00* or ANTH 331. Historical Archaeology *3.00*  
(A)

HIST 394. Introduction to Museum Work *3.00* or ARTH 394. Introduction to  
Museum Work *3.00*

HIST 407. Digital History *3.00*

HIST 438. Workshop in Public and Local History *3.00*

### Third Year

Philosophy course *3 Credit Hours*

History electives (mix 300 and 400 levels) *9 Credit Hours*

Electives *9 Credit Hours*

General Education courses (Cluster Two, Cluster Four) *9 Credit Hours*

**Total: 30 Credit Hours**

### Fourth Year

History electives (mix 300 and 400 levels) *9 Credit Hours*

Electives *18 Credit Hours*

General Education courses (Cluster Four) *3 Credit Hours*

**Total: 30 Credit Hours**

### Secondary Electives: 0-3 Credit Hours

HIST 326. The Automobile in 20th Century America 3.00  
HIST 327. Technology in America 3.00  
HIST 338. U.S. Urban History 3.00 or SOCI 338. U.S. Urban History 3.00  
HIST 360. Research Apprenticeship in History 3.00  
HIST 391. Travel Studies Seminar 3.00 (Summer in Ghana Program)  
HIST 391. Travel Studies Seminar: Paris and Normandy: Civilization, Culture, and Memory: North of England Programme 3.00

HIST 402. Workshop in Colonial American Life 3.00  
HIST 403. Workshop in Civil War Virginia 3.00  
HIST 406. Monticello 3.00 or ARTH 406. Monticello 3.00  
HIST 408. The Museum: Histories and Controversies 3.00 or ARTH 408. The Museum: History and Controversies 3.00  
ANTH 494. Field Techniques in Archaeology 4.00 - 8.00 (A,F)

**Total: 36 Credit Hours**

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> Six (18 credit hours) of the seven electives must be 300/400-level history courses. At least three courses (9 credit hours) must be 400-level history courses. For honors majors, only three hours of HIST 499. Honors, may be counted among the three 400-level courses required for the major.

### *History, Teacher Education Concentration, B.A.*

Students choosing to complete the history B.A. with a concentration in teacher education complete the following courses instead of the 18 history electives. Students interested in teaching licensure must also complete the ISS minor.

### Required Courses: 15 Credit Hours

HIST 457. Comparative Empires 3.00  
Four upper-level HIST electives (two must be at the 400-level; one must be European) 12.00 Credit Hours

### Choose one of the following courses: 3 Credit Hours

HIST 303. Early America 3.00  
HIST 350. Virginia 3.00

**Total: 18 Credit Hours**

### *Minors*

#### History Minor Requirements

The minor in history enhances any program of study and pairs well with many majors. It is available with any degree. The minor requires 21 credit hours of history, including HIST 101 and HIST 102. At least six of the remaining 15 hours must be at the 300- or 400-level, with at least one of these courses in world history.

#### Cross Disciplinary Minors

Students majoring or minoring in History should consider adding a Cross Disciplinary minor. The programs below are supported by History faculty and include courses that can be double-counted in the History major or minor. For more information, refer to Cross Disciplinary Minors.

- African, African American and Diaspora Studies Minor
- American Studies Minor
- Asian Studies Minor
- Classical Studies Minor
- Environmental Humanities Minor
- Historical Archaeology Minor
- Latin American, Latinx and Caribbean Studies Minor
- Medieval and Renaissance Studies Minor
- Middle Eastern Communities and Migrations Minor
- Russian Studies Minor
- Science, Technology and Society Minor
- Women's, Gender and Sexuality Studies Minor

### *History Teaching Licensure*

#### Teaching Licensure

Students interested in becoming teachers must meet specific curriculum requirements in their major as part of the undergraduate academic degree. History majors desiring secondary teaching licensure must complete HIST 225.

In addition to the general education and academic major requirements, history majors desiring secondary teacher licensure must minor in Interdisciplinary Social Sciences. They must also be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with their education adviser, their ISS adviser, and their major adviser to support their progression through the programs. For a full description of the requirements see the teaching history section of the history department website.

# Independent Scholars Program

Dr. Scott Paulson, **Academic Unit Head**

Dr. Matthew Chamberlin, **Director**

Dr. Phil Frana, **Associate Director**

Dr. Fletcher Linder, **Professor**

**Phone:** (540) 568-5218

**Email:** chambema@jmu.edu

**Location:** Maury Hall, Room 118

## Mission

The mission of the independent scholars major is to provide students with a learning environment in which they develop and pursue self-designed curricular pathways and research goals, identifying unique domains of inquiry and interweaving multiple modes of thinking. Students are empowered to cultivate their own academic and professional interests in ways that foster the ability to comprehend and contribute uniquely and innovatively to a wide array of topics, questions and problems.

## Objectives

IS majors will:

- develop topic-based interests and inquiry strategies to pursue those interests.
- enhance creativity, self-directedness and perseverance required for inquiry.
- learn research, technical and communication skills relevant to their inquiry.
- situate their inquiry in relation to contemporary notions of disciplinary thinking.
- enhance aptitude and confidence in working independently and collectively.
- apply knowledge and skills in experiential-learning settings.

## Admission to the Major

Acceptance into IS is competitive and open to all JMU students with a GPA of 3.25 or higher, or by permission.

Interested students will meet with one of the IS coordinators before the end of the first semester of their first year. Based on the advice of IS coordinators, students may then enroll in the IS exploration and major application course (IND 200), which is taught each fall. Students whose interests better align with existing JMU majors will be directed to those majors. Acceptance decisions for IS will be made by the IND 200 instructor, IS coordinators and a faculty advisory committee at the end of each IND 200 course. Successful applicants will:

- have a strong academic record that demonstrates exceptional motivation, curiosity, writing ability and independent research potential.
- have performed well overall in the IND 200 course, which includes writing a convincing inquiry proposal and feasible curriculum.

Students not accepted into IS at the end of IND 200 will be carefully advised into other majors and can use the three IND credits as electives.

## *Independent Scholars, B.A.*

### Degree and Major Requirements

Individualized curricula using existing courses across participating JMU units will be constructed with faculty oversight to help students pursue their own inquiry goals. Each student's curriculum will include:

- a cross disciplinary exploration course (IND 200)
- at least 36 credit hours of course work beyond General Education requirements
- at least four credits of skill-enhancing workshops (IND 300)
- a six-credit hour senior project (IND 499A)
- the plans for relevant field experiences, internships and/or study abroad programs.

For students in the honors program, the IS senior project will fulfill the senior honors project requirement.

### Required courses

- General Education 41 Credit Hours <sup>1</sup>
- Philosophy course 3 Credit Hours <sup>2</sup>
- Foreign Language 1-14 Credit Hours
- Major requirements 49 Credit Hours
- Electives 13-27 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

## *Independent Scholars, B.S.*

### Degree and Major Requirements

Individualized curricula using existing courses across participating JMU units will be constructed with faculty oversight to help students pursue their own inquiry goals. Each student's curriculum will include:

- a cross disciplinary exploration course (IND 200)
- at least 36 credit hours of course work beyond General Education requirements
- at least four credits of skill-enhancing workshops (IND 300)
- a six-credit hour senior project (IND 499A)
- the plans for relevant field experiences, internships and/or study abroad programs.

For students in the honors program, the IS senior project will fulfill the senior honors project requirement.

### Required courses

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- Major requirements 49 Credit Hours
- Electives 23-24 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> In addition to course work taken to fulfill General Education requirement.



# School of Integrated Science

Dr. Linda Thomas, **Director**

**Phone:** (540) 568-2740

**Email:** [thoma7lm@jmu.edu](mailto:thoma7lm@jmu.edu)

**Location:** ISAT Building, Room 321

**Website:** <https://www.jmu.edu/sis/>

## Professors

K. Altai, C. Bachmann, M. Bentley, T. Benzing, R. Brent, T. Chen, J. Coffman, S. Frysinger, N. Hendrickson, M. Kimsey, C. Klevickis, R. Kolvoord, H. Kraenzle, D. McGraw, R. McKown, J. Miles, M. Papadakis, E. Pappas, R. Raab, E. Salib, J. Spindel, A. Teate, W. Teel, L. Temple, L. Thomas

## Associate Professors

M. Benton, A. Biesecker, Z. Bortolot, A. Goodall, C. J. Hartman, S. El-Tawab, S. Marrin, C. Nash, N. Radziwill, E. Reid, S. Stockwell, J. Tang, T. Walton, H. Way

## Assistant Professors

D. Bonsal, S. Conley, J. Ferenbaugh, R. MacDonald, K. Moore, G. Murton, A. Salman, R. Simmons, J. Stoltzfus, Q. Tao, X. Wei, C. Yang, E. York, K., Yurco, H. Zhang

## Instructors

P. Henriksen, P. Rittenhouse

## Cross Disciplinary Major and Minor Programs

ISAT participates in several cross disciplinary programs. These include a major in biotechnology and minors in

- Environmental Information Systems Minor
- Environmental Management Minor
- Environmental Science Minor
- Environmental Studies Minor
- Materials Science Minor
- Science, Technology and Society Minor
- Telecommunications Minor

## Geographic Science

**Program Coordinator:** Dr. Mace Bentley

**Phone:** (540) 568-6260

**Email:** [bentleml@jmu.edu](mailto:bentleml@jmu.edu)

**Website:** <http://www.gs.jmu.edu>

## Mission

The Geographic Science Program empowers, inspires and motivates students to become competent critical thinkers who will prepare for lifelong learning, respond to intellectual challenges with interest, excitement and competence, and see themselves as global citizens actively involved in the world around them. The Geographic Science Program prepares students who are confident in their abilities as geographers. Graduates have the skills to make a professional contribution to the field, and to compete in graduate programs and the job market. They are highly qualified for careers in research and development and are equipped for long-term success as professionals in the field of geography.

Through the study of geography, students will:

- Understand and properly use the terminology and concepts that are central to the discipline of geography, and explain how these concepts evolved over time.
- Effectively use appropriate geospatial technologies to address questions about human interactions within the built or natural environments.
- Be productive participants in research efforts aimed at measuring, describing, analyzing, and explaining the underlying processes giving rise to geographic phenomena.
- Work effectively in multidisciplinary teams.
- Evaluate human-environment interactions from a holistic point of view that addresses geographic, as well as political, social, economic and ethical factors affecting those interactions.
- Demonstrate civic responsibility and appreciation for cultural and physical diversity from local to global scales.

## Career Opportunities

The geography major is divided into concentration areas. Each of these offers a unique set of career opportunities.

## Co-curricular Activities and Organizations

- Geography Club
- Gamma Theta Upsilon (International Geographical Honor Society)

## *Geographic Science, Applied Geographic Information Science Concentration, B.A.*

### Applied Geographic Information Science (AGIS) Concentration

JMU Geographic Science graduates with an AGIS concentration are prepared to gain professional employment with government and industry or go on to graduate programs. Public agencies where they find employment include local and regional planning agencies, mapping organizations such as the U.S. Geological Survey, intelligence agencies such as the National Geospatial Intelligence Agency, and also in the environmental science field with the U.S. Forest Service, the National Park Service, the Environmental Protection Agency and other agencies.

JMU AGIS graduates find opportunities in industry with companies such as ESRI, Digital Global, Lockheed, BAE Systems, Astrium, SAIC, Sanborn and many others.

## Degree and Major Requirements

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*
- Major requirements *46 Credit Hours*
- Electives *16-30 Credit Hours*

### Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures placement test.

## Major Requirements

### Core Courses

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00 or MATH 220. Elementary Statistics [C3QR] 3.00  
GEOG 210. Physical Geography (2, 2) 4.00  
GEOG 215. Introduction to Geographic Information Science and Cartography 3.00  
GEOG 216. Earth Observation and GPS 3.00  
GEOG 280. Human Geography: The Cultural Landscape 3.00

GEOG 290. Human-Environment Interactions 3.00 or GEOG 308. Environment, Nature and Society 3.00  
Advanced Sequence GEOG 400-level (selected in consultation with the adviser) 6 Credit Hours 1, 2  
Concentration courses 21 Credit Hours

## Total: 46 Credit Hours

### Footnotes

<sup>1</sup> Honors students take advanced sequence GEOG 499 A,B,C. <sup>2</sup> Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

### Additional Information

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

### Concentration Requirements

#### Required Courses

In addition to the geography core requirements, students in the AGIS concentration must complete the following course work.

GEOG 365. Cartography and Geospatial Visualization 3.00  
GEOG 366. Intermediate Geographic Information Science 3.00  
GEOG 385. Principles of Remote Sensing 3.00  
Choose nine credit hours from the following electives:  
Courses from the ISAT program, the Computer Science, Department of and the College of Business may be used as electives, as approved by the GS program operations coordinator.  
GEOG 406. Forest Inventory: A Geospatial Approach 3.00  
GEOG 465. Topics in GIS 3.00  
GEOG 466. GIS and Geographic Databases 3.00  
GEOG 467. GIS Project Management 3.00  
GEOG 468. Internet Geographic Information Systems 3.00  
GEOG 469. Applications of Geographic Information Systems 3.00  
GEOG 485. Processing Remotely Sensed Data 3.00  
GEOG 490. Senior Research or Field Practicum 3.00  
GEOG 491. International Studies 1.00 - 3.00  
GEOG 495. Internship in Geography 3.00 - 6.00  
GEOG 497. Independent Study 3.00  
Cognate Course: 3 Credit Hours  
(three credit hours selected from the following)  
GEOG 200. Geography: The Global Dimension [C4GE] 3.00  
GEOG 300. Population Geography 3.00  
GEOG 301. Introduction to Natural Disasters 3.00 or HUMN 301. Introduction to Natural Disasters Response 3.00  
GEOG 310. Environmental Issues 1.00 - 4.00  
GEOG 315. Field Studies in Geography 3.00  
GEOG 320. Human Dimensions of Global Change 3.00  
GEOG 322. Agricultural Systems 3.00  
GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet 3.00  
GEOG 325. Environmental Ethics 3.00  
GEOG 327. Climatology 3.00  
GEOG 329. Global Climate Change 3.00  
GEOG 331. Geography of Virginia 3.00  
GEOG 332. Geography of Europe 3.00  
GEOG 334. Geography of East and Southeast Asia 3.00  
GEOG 335. Geography of Africa 3.00  
GEOG 336. Environmental Hazards: A Focus on Southeast Asia 3.00  
GEOG 337. Geography of Latin America 3.00  
GEOG 338. Geography of the Philippine Islands: Problems and Possibilities 3.00  
GEOG 339. Geography of the Caribbean 3.00  
GEOG 340. Biogeography 3.00  
GEOG 341. Wilderness Techniques 3.00  
GEOG 342. Management and Protection of Natural Resources 3.00  
GEOG 343. Wildlife Management 3.00  
GEOG 345. Geography of Poverty 3.00  
GEOG 350. Topics in Geography 1.00 - 3.00  
GEOG 355. Global Positioning Systems 3.00  
GEOG 360. GIS for Humanitarian Assistance 3.00 or HUMN 360. GIS for Humanitarian Assistance 3.00  
GEOG 375. Political Geography 3.00  
GEOG 376. Urban Geography 3.00  
GEOG 380. Cultural Geography 3.00  
GEOG 402. Forest Ecology 4.00 or BIO 402. Forest Ecology 4.00  
GEOG 410. Geography and Film 3.00  
GEOG 427. Water Resources of the World 3.00  
GEOG 429. Sustainability: An Ecological Perspective 3.00 or ISAT 429. Sustainability: An Ecological Perspective 3.00  
GEOG 430. Geography of Crop Plants 3.00  
GEOG 440. Global Biodiversity 3.00  
GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development 3.00  
GEOG 476. Sustainable Cities Seminar 3.00  
ISAT 425. Environmental Hydrology 3.00  
ISAT 473. Local Agriculture and Farm Internships 4.00  
ISAT 474. Political Ecology 3.00

## Total: 21 Credit Hours

### *Geographic Science, Applied Geographic Information Science Concentration, B.S.*

#### Applied Geographic Information Science (AGIS) Concentration

JMU Geographic Science graduates with an AGIS concentration are prepared to gain professional employment with government and industry or go on to graduate programs. Public agencies where they find employment include local and regional planning agencies, mapping organizations such as the U.S. Geological Survey, intelligence agencies such as the National Geospatial Intelligence Agency, and also in the environmental science field with the U.S. Forest Service, the National Park Service, the Environmental Protection Agency and other agencies.

JMU AGIS graduates find opportunities in industry with companies such as ESRI, Digital Global, Lockheed, BAE Systems, Astrium, SAIC, Sanborn and many others.

#### Degree and Major Requirements

##### Degree Requirements

- General Education 41-44 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours
- Major requirements 46 Credit Hours
- Electives 23-27 Credit Hours

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four.

## Major Requirements

### Core Courses

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00 or MATH 220. Elementary Statistics [C3QR] 3.00  
GEOG 210. Physical Geography (2, 2) 4.00  
GEOG 215. Introduction to Geographic Information Science and Cartography 3.00  
GEOG 216. Earth Observation and GPS 3.00  
GEOG 280. Human Geography: The Cultural Landscape 3.00

GEOG 290. Human-Environment Interactions 3.00 or GEOG 308. Environment, Nature and Society 3.00  
Advanced Sequence GEOG 400-level (Selected in consultation with the adviser) 6 Credit Hours 1, 2  
Concentration courses 21 Credit Hours

## Total: 46 Credit Hours

### Footnotes

<sup>1</sup> Honors students take sequence GEOG 499 A,B,C. 2 Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

## Additional Information

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

## Concentration Requirements

### Required Courses

In addition to the geography core requirements, students in the AGIS concentration must complete the following course work.

GEOG 365. Cartography and Geospatial Visualization 3.00  
GEOG 366. Intermediate Geographic Information Science 3.00  
GEOG 385. Principles of Remote Sensing 3.00  
Choose nine credit hours from the following electives:  
Courses from the ISAT program, the Computer Science, Department of and the College of Business may be used as electives, as approved by the GS program operations coordinator.  
GEOG 406. Forest Inventory: A Geospatial Approach 3.00  
GEOG 465. Topics in GIS 3.00  
GEOG 466. GIS and Geographic Databases 3.00  
GEOG 467. GIS Project Management 3.00  
GEOG 468. Internet Geographic Information Systems 3.00  
GEOG 469. Applications of Geographic Information Systems 3.00  
GEOG 485. Processing Remotely Sensed Data 3.00  
GEOG 490. Senior Research or Field Practicum 3.00  
GEOG 491. International Studies 1.00 - 3.00  
GEOG 495. Internship in Geography 3.00 - 6.00  
GEOG 497. Independent Study 3.00  
Cognate Course: 3 Credit Hours  
(three credit hours selected from the following)  
GEOG 200. Geography: The Global Dimension [C4GE] 3.00  
GEOG 300. Population Geography 3.00  
GEOG 301. Introduction to Natural Disasters 3.00 or  
HUMN 301. Introduction to Natural Disasters Response 3.00  
GEOG 310. Environmental Issues 1.00 - 4.00  
GEOG 315. Field Studies in Geography 3.00  
GEOG 320. Human Dimensions of Global Change 3.00  
GEOG 322. Agricultural Systems 3.00  
GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet 3.00  
GEOG 325. Environmental Ethics 3.00  
GEOG 327. Climatology 3.00  
GEOG 329. Global Climate Change 3.00  
GEOG 331. Geography of Virginia 3.00

GEOG 332. Geography of Europe 3.00  
GEOG 334. Geography of East and Southeast Asia 3.00  
GEOG 335. Geography of Africa 3.00  
GEOG 336. Environmental Hazards: A Focus on Southeast Asia 3.00  
GEOG 337. Geography of Latin America 3.00  
GEOG 338. Geography of the Philippine Islands: Problems and Possibilities 3.00  
GEOG 339. Geography of the Caribbean 3.00  
GEOG 340. Biogeography 3.00  
GEOG 341. Wilderness Techniques 3.00  
GEOG 342. Management and Protection of Natural Resources 3.00  
GEOG 343. Wildlife Management 3.00  
GEOG 345. Geography of Poverty 3.00  
GEOG 350. Topics in Geography 1.00 - 3.00  
GEOG 355. Global Positioning Systems 3.00  
GEOG 360. GIS for Humanitarian Assistance 3.00 or HUMN 360. GIS for Humanitarian Assistance 3.00  
GEOG 375. Political Geography 3.00  
GEOG 376. Urban Geography 3.00  
GEOG 380. Cultural Geography 3.00  
GEOG 402. Forest Ecology 4.00 or BIO 402. Forest Ecology 4.00  
GEOG 410. Geography and Film 3.00  
GEOG 427. Water Resources of the World 3.00  
GEOG 429. Sustainability: An Ecological Perspective 3.00 or ISAT 429. Sustainability: An Ecological Perspective 3.00  
GEOG 430. Geography of Crop Plants 3.00  
GEOG 440. Global Biodiversity 3.00  
GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development 3.00  
GEOG 476. Sustainable Cities Seminar 3.00  
ISAT 425. Environmental Hydrology 3.00  
ISAT 473. Local Agriculture and Farm Internships 4.00  
ISAT 474. Political Ecology 3.00

## Total: 21 Credit Hours

## ***Geographic Science, Custom Concentration, B.A.***

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*
- Major requirements *46 Credit Hours*
- Electives *16-30 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures placement test.

### **Major Requirements**

#### **Core Courses**

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] *3.00* or MATH 220. Elementary Statistics [C3QR] *3.00*  
GEOG 210. Physical Geography (2, 2) *4.00*  
GEOG 215. Introduction to Geographic Information Science and Cartography *3.00*  
GEOG 216. Earth Observation and GPS *3.00*  
GEOG 280. Human Geography: The Cultural Landscape *3.00*

GEOG 290. Human-Environment Interactions *3.00* or GEOG 308. Environment, Nature and Society *3.00*  
Advanced Sequence GEOG 400-level (selected in consultation with the adviser) *6 Credit Hours* 1, 2  
Concentration courses *21 Credit Hours*

**Total: 46 Credit Hours**

#### **Footnotes**

<sup>1</sup> Honors students take sequence GEOG 499 A, B, C. <sup>2</sup> Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

### **Additional Information**

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

### **Concentration Requirements**

#### **Required Courses**

##### **Methods Course**

In addition to the geography core requirements, students in the customized concentration must complete one of the following methods courses:

GEOG 315. Field Studies in Geography *3.00*  
GEOG 341. Wilderness Techniques *3.00*  
GEOG 355. Global Positioning Systems *3.00*  
GEOG 365. Cartography and Geospatial Visualization *3.00*  
GEOG 366. Intermediate Geographic Information Science *3.00*

GEOG 385. Principles of Remote Sensing *3.00*

##### **Declared Pathway**

Students will choose from a set of courses, approved by a program adviser, on the basis of how they fit together thematically and support the educational objectives of the GS program. Students must take a minimum of 18 credit hours at the 300 level or above (in addition to the methods course). At least 6 of these credit hours must be at the 400 level or above.

**Total: 21 Credit Hours**

## ***Geographic Science, Environmental Conservation, Sustainability and Development Concentration, B.A.***

### **Environmental Conservation, Sustainability and Development Concentration**

Geographic Science graduates trained in resource analysis, environmental conservation and sustainable development find jobs with local, state and federal governments, non-profit organizations, and for-profit agencies.

Organizations hire geographers to work in environmental and land use planning, resource management (including hydrology, forestry, wildlife and soil conservation, and recreation management), area or regional specialties, international business, community development, and development of human and natural resources in foreign countries. Many geographic science graduates move on to graduate degrees (M.A., M.S. and Ph.D.) and become educators in higher education (community colleges and universities) or obtain higher-level positions in both the private and public sector.

Private environmental organizations and consulting firms, as well as government agencies, hire students completing the environmental studies concentration at JMU. Principal employers include the Environmental Protection Agency, the U.S. Forest Service, the National Park Service, U.S. Geological Survey, and non-profit organizations including the Nature Conservancy and Peace Corps.

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*
- Major requirements *46 Credit Hours*
- Electives *16-30 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures placement test.

## Major Requirements

### Core Courses

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00 or MATH 220. Elementary Statistics [C3QR] 3.00  
GEOG 210. Physical Geography (2, 2) 4.00  
GEOG 215. Introduction to Geographic Information Science and Cartography 3.00  
GEOG 216. Earth Observation and GPS 3.00  
GEOG 280. Human Geography: The Cultural Landscape 3.00

GEOG 290. Human-Environment Interactions 3.00 or GEOG 308. Environment, Nature and Society 3.00  
Advanced Sequence GEOG 400-level (selected in consultation with the adviser) 6  
Credit Hours 1, 2  
Concentration courses 21 Credit Hours

**Total: 46 Credit Hours**

### Footnotes

<sup>1</sup> Honors students take sequence GEOG 499 A, B, C. <sup>2</sup> Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

### Additional Information

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

### Concentration Requirements

The environmental conservation, sustainability and development (ECSD) concentration focuses on the geographical contexts within which people and places interact. Required and elective course work allows students to explore spatial and temporal patterning between human communities and the natural environment at multiple scales. The curriculum addresses global issues such as global climate change and globalization; environment and human interactions including political, economic, physical and ethical factors; human and ecological aspects of sustainable development; natural resource management including energy, forests, wildlife and biodiversity; cultural ecology; regional geography; and population issues. In addition to the geography core requirements, students in the environmental conservation, sustainability and development concentration must complete the following course work.

### Required Courses

ECSD Electives 15 Credit Hours  
Cognate course 3 Credit Hours  
**Senior seminar course, selected from the following: 3 Credit Hours**  
GEOG 410. Geography and Film 3.00  
GEOG 427. Water Resources of the World 3.00  
GEOG 429. Sustainability: An Ecological Perspective 3.00

GEOG 440. Global Biodiversity 3.00  
GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development 3.00  
GEOG 476. Sustainable Cities Seminar 3.00  
GEOG 491. International Studies 1.00 - 3.00

**Total: 21 Credit Hours**

### ECSD Electives

Students select four courses from the list below. These 300-level courses are identified on the concentration form, which will be reviewed and approved by the student's academic adviser.

In consultation with the academic adviser, a student may select one non-geographic science course as an elective.

GEOG 200. Geography: The Global Dimension [C4GE] 3.00  
GEOG 300. Population Geography 3.00  
GEOG 301. Introduction to Natural Disasters 3.00 or HUMN 301. Introduction to Natural Disasters Response 3.00  
GEOG 310. Environmental Issues 1.00 - 4.00  
GEOG 315. Field Studies in Geography 3.00  
GEOG 320. Human Dimensions of Global Change 3.00  
GEOG 322. Agricultural Systems 3.00  
GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet 3.00  
GEOG 325. Environmental Ethics 3.00  
GEOG 327. Climatology 3.00  
GEOG 329. Global Climate Change 3.00  
GEOG 331. Geography of Virginia 3.00  
GEOG 332. Geography of Europe 3.00  
GEOG 334. Geography of East and Southeast Asia 3.00  
GEOG 335. Geography of Africa 3.00  
GEOG 336. Environmental Hazards: A Focus on Southeast Asia 3.00

GEOG 337. Geography of Latin America 3.00  
GEOG 338. Geography of the Philippine Islands: Problems and Possibilities 3.00  
GEOG 339. Geography of the Caribbean 3.00  
GEOG 340. Biogeography 3.00  
GEOG 341. Wilderness Techniques 3.00  
GEOG 342. Management and Protection of Natural Resources 3.00  
GEOG 343. Wildlife Management 3.00  
GEOG 345. Geography of Poverty 3.00  
GEOG 348. Indigenous Geographies 3.00  
GEOG 350. Topics in Geography 1.00 - 3.00  
GEOG 355. Global Positioning Systems 3.00  
GEOG 360. GIS for Humanitarian Assistance 3.00 or HUMN 360. GIS for Humanitarian Assistance 3.00  
GEOG 375. Political Geography 3.00  
GEOG 376. Urban Geography 3.00  
GEOG 380. Cultural Geography 3.00  
GEOG 402. Forest Ecology 4.00 or BIO 402. Forest Ecology 4.00

GEOG 406. Forest Inventory: A Geospatial Approach 3.00  
GEOG 410. Geography and Film 3.00  
GEOG 427. Water Resources of the World 3.00  
GEOG 429. Sustainability: An Ecological Perspective 3.00 or ISAT 429. Sustainability: An Ecological Perspective 3.00  
GEOG 430. Geography of Crop Plants 3.00  
GEOG 440. Global Biodiversity 3.00  
GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development 3.00  
GEOG 476. Sustainable Cities Seminar 3.00  
GEOG 490. Senior Research or Field Practicum 3.00  
GEOG 491. International Studies 1.00 - 3.00  
GEOG 495. Internship in Geography 3.00 - 6.00  
GEOG 497. Independent Study 3.00  
ISAT 425. Environmental Hydrology 3.00  
ISAT 473. Local Agriculture and Farm Internships 4.00  
ISAT 474. Political Ecology 3.00

### Cognate Course: 3 Credit Hours

Three credit hours selected from the following:  
GEOG 365. Cartography and Geospatial Visualization 3.00

GEOG 366. Intermediate Geographic Information Science 3.00  
GEOG 385. Principles of Remote Sensing 3.00

## Geographic Science, Custom Concentration, B.S.

### Degree and Major Requirements

#### Degree Requirements

- General Education 41-44 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours

- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- Major requirements *46 Credit Hours*
- Electives *23-27 Credit Hours*

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four.

**Major Requirements**

**Core Courses**

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] *3.00* or MATH 220. Elementary Statistics [C3QR] *3.00*  
 GEOG 210. Physical Geography (2, 2) *4.00*  
 GEOG 215. Introduction to Geographic Information Science and Cartography *3.00*  
 GEOG 216. Earth Observation and GPS *3.00*  
 GEOG 280. Human Geography: The Cultural Landscape *3.00*

GEOG 290. Human-Environment Interactions *3.00* or GEOG 308. Environment, Nature and Society *3.00*  
 Advanced Sequence GEOG 400-level (Selected in consultation with the adviser) *6 Credit Hours 1, 2*  
 Concentration courses *21 Credit Hours*

**Total: 46 Credit Hours**

**Footnotes**

<sup>1</sup> Honors students take sequence GEOG 499 A, B, C. <sup>2</sup> Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

**Additional Information**

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

**Concentration Requirements**

**Required Courses**

**Methods Course**

In addition to the geography core requirements, students in the customized concentration must complete one of the following methods courses:

GEOG 315. Field Studies in Geography *3.00*  
 GEOG 341. Wilderness Techniques *3.00*  
 GEOG 355. Global Positioning Systems *3.00*  
 GEOG 365. Cartography and Geospatial Visualization *3.00*  
 GEOG 366. Intermediate Geographic Information Science *3.00*

GEOG 385. Principles of Remote Sensing *3.00*

**Declared Pathway**

Students will choose from a set of courses, approved by a program adviser, on the basis of how they fit together thematically and support the educational objectives of the GS program. Students must take a minimum of 18 credit hours at the 300 level or above (in addition to the methods course). At least 6 of these credit hours must be at the 400 level or above.

**Total: 21 Credit Hours**

***Geographic Science, Environmental Conservation, Sustainability and Development Concentration, B.S.***

Geographic Science graduates trained in resource analysis, environmental conservation and sustainable development find jobs with local, state and federal governments, non-profit organizations, and for-profit agencies.

Organizations hire geographers to work in environmental and land use planning, resource management (including hydrology, forestry, wildlife and soil conservation, and recreation management), area or regional specialties, international business, community development, and development of human and natural resources in foreign countries. Many geographic science graduates move on to graduate degrees (M.A., M.S. and Ph.D.) and become educators in higher education (community colleges and universities) or obtain higher-level positions in both the private and public sector.

Private environmental organizations and consulting firms, as well as government agencies, hire students completing the environmental studies concentration at JMU. Principal employers include the Environmental Protection Agency, the U.S. Forest Service, the National Park Service, U.S. Geological Survey, and non-profit organizations including the Nature Conservancy and Peace Corps.

**Degree and Major Requirements**

**Degree Requirements**

- General Education *41-44 Credit Hours* <sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- Major requirements *46 Credit Hours*
- Electives *23-27 Credit Hours*

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. ISAT 251 for the math requirement in Cluster Three is strongly recommended, as is GEOG 200 in Cluster Four.

**Major Requirements**

**Core Courses**

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] *3.00* or MATH 220. Elementary Statistics [C3QR] *3.00*  
 GEOG 210. Physical Geography (2, 2) *4.00*  
 GEOG 215. Introduction to Geographic Information Science and Cartography *3.00*  
 GEOG 216. Earth Observation and GPS *3.00*  
 GEOG 280. Human Geography: The Cultural Landscape *3.00*

GEOG 290. Human-Environment Interactions *3.00* or GEOG 308. Environment, Nature and Society *3.00*  
 Advanced Sequence GEOG 400-level (Selected in consultation with the adviser) *6 Credit Hours 1, 2*  
 Concentration courses *21 Credit Hours*

## Total: 46 Credit Hours

### Footnotes

<sup>1</sup> Honors students take sequence GEOG 499 A, B, C. <sup>2</sup> Students may opt for a capstone experience that entails three or six hours of independent research (GEOG 490), with the approval of and in close consultation with a project adviser.

### Additional Information

In addition to the geography core courses, students must choose a concentration, listed in the "Concentrations" section. All courses for the major must be taken on a graded basis. Students must earn a "C" or better in each of the core courses as they are prerequisites to most concentration courses.

### Concentration Requirements

The environmental conservation, sustainability and development (ECSD) concentration focuses on the geographical contexts within which people and places interact. Required and elective course work allows students to explore spatial and temporal patterning between human communities and the natural environment at multiple scales. The curriculum addresses global issues such as global climate change and globalization; environment and human interactions including political, economic, physical and ethical factors; human and ecological aspects of sustainable development; natural resource management including energy, forests, wildlife and biodiversity; cultural ecology; regional geography; and population issues. In addition to the geography core requirements, students in the environmental conservation, sustainability and development concentration must complete the following course work.

### Required Courses

ECSD Electives *15 Credit Hours*

Cognate course *3 Credit Hours*

**Senior seminar course, selected from the following: 3 Credit Hours**

GEOG 410. Geography and Film *3.00*

GEOG 427. Water Resources of the World *3.00*

GEOG 429. Sustainability: An Ecological Perspective *3.00*

GEOG 440. Global Biodiversity *3.00*

GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development *3.00*

GEOG 476. Sustainable Cities Seminar *3.00*

GEOG 491. International Studies *1.00 - 3.00*

## Total: 21 Credit Hours

### ECSD Electives

Students select four courses from the list below. These 300-level courses are identified on the concentration form, which will be reviewed and approved by the student's academic adviser. In consultation with the academic adviser, a student may select one non-geographic science course as an elective.

GEOG 200. Geography: The Global Dimension [C4GE] *3.00*

GEOG 300. Population Geography *3.00*

GEOG 301. Introduction to Natural Disasters *3.00* or HUMN 301. Introduction to Natural Disasters Response *3.00*

GEOG 310. Environmental Issues *1.00 - 4.00*

GEOG 315. Field Studies in Geography *3.00*

GEOG 320. Human Dimensions of Global Change *3.00*

GEOG 322. Agricultural Systems *3.00*

GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet *3.00*

GEOG 325. Environmental Ethics *3.00*

GEOG 327. Climatology *3.00*

GEOG 329. Global Climate Change *3.00*

GEOG 331. Geography of Virginia *3.00*

GEOG 332. Geography of Europe *3.00*

GEOG 334. Geography of East and Southeast Asia *3.00*

GEOG 335. Geography of Africa *3.00*

GEOG 336. Environmental Hazards: A Focus on Southeast Asia *3.00*

GEOG 337. Geography of Latin America *3.00*

GEOG 338. Geography of the Philippine Islands: Problems and Possibilities *3.00*

GEOG 339. Geography of the Caribbean *3.00*

GEOG 340. Biogeography *3.00*

GEOG 341. Wilderness Techniques *3.00*

GEOG 342. Management and Protection of Natural Resources *3.00*

GEOG 343. Wildlife Management *3.00*

GEOG 345. Geography of Poverty *3.00*

GEOG 348. Indigenous Geographies *3.00*

GEOG 350. Topics in Geography *1.00 - 3.00*

GEOG 355. Global Positioning Systems *3.00*

GEOG 360. GIS for Humanitarian Assistance *3.00* or HUMN 360. GIS for Humanitarian Assistance *3.00*

GEOG 375. Political Geography *3.00*

GEOG 376. Urban Geography *3.00*

GEOG 380. Cultural Geography *3.00*

GEOG 402. Forest Ecology *4.00* or BIO 402. Forest Ecology *4.00*

GEOG 406. Forest Inventory: A Geospatial Approach *3.00*

GEOG 410. Geography and Film *3.00*

GEOG 427. Water Resources of the World *3.00*

GEOG 429. Sustainability: An Ecological Perspective *3.00* or ISAT 429. Sustainability: An Ecological Perspective *3.00*

GEOG 430. Geography of Crop Plants *3.00*

GEOG 440. Global Biodiversity *3.00*

GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development *3.00*

GEOG 476. Sustainable Cities Seminar *3.00*

GEOG 490. Senior Research or Field Practicum *3.00*

GEOG 491. International Studies *1.00 - 3.00*

GEOG 495. Internship in Geography *3.00 - 6.00*

GEOG 497. Independent Study *3.00*

ISAT 425. Environmental Hydrology *3.00*

ISAT 473. Local Agriculture and Farm Internships *4.00*

ISAT 474. Political Ecology *3.00*

### Cognate Course: 3 Credit Hours

**Three credit hours selected from the following:**

GEOG 365. Cartography and Geospatial Visualization *3.00*

GEOG 366. Intermediate Geographic Information Science *3.00*

GEOG 385. Principles of Remote Sensing *3.00*

## Intelligence Analysis, B.S.

### Degree and Major Requirements

#### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- IA foundations and methods courses *48 Credit Hours*
- IA elective courses *6 Credit Hours*
- Subject Matter Specialty *18-21 Credit Hours*
- General Elective Courses *3-6 Credit Hours*

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill.

### Required Courses

**General Education Courses: 41 Credit Hours**

Cluster One (PHIL 120 recommended) *9 Credit Hours*

Cluster Two (REL 101 recommended) *9 Credit Hours*

Cluster Three (ISAT 251 or MATH 220 required) *10 Credit Hours*

Cluster Four (POSC 200 or POSC 225 recommended) 7 Credit Hours

Cluster Five (PSYC 101 recommended) 6 Credit Hours

### IA Foundation and Core Courses: 48 Credit Hours

IA Foundations Courses: 24 Credits

IA 150. Introduction to Intelligence Analysis 3.00

IA 200. Introduction to National Security Intelligence 3.00

IA 210. Introduction to Global Competitive Intelligence 3.00

IA 250. Research Design and Writing for Intelligence Analysis 3.00

IA 300. Seminar on Issues in Intelligence Analysis 3.00

IA 405. Ethics, Law and Intelligence Analysis 3.00

IA 440. Intelligence Analysis Capstone Project Preparation 3.00

IA 450. Capstone Project in Intelligence Analysis 3.00

Technology Methods Courses: 12 Credits

IA 240. Technology Applications in a Networked World 3.00

IA 241. Introduction to Programming and Data Science 3.00

IA 340. Data Mining, Modeling and Knowledge Discovery 3.00

IA 342. Visualization Methods, Technologies and Tools for Intelligence Analysis 3.00

Reasoning Methods Courses: 12 Credits

IA 261. Hypothesis Testing 3.00

IA 312. Causal Analysis 3.00

IA 313. Counterfactual Reasoning 3.00

IA 314. Strategy Assessment (Rational Decision Theory) 3.00

IA Elective Courses: 6 Credits

Students must take two of the following IA elective courses:

IA 341. System Dynamics Modeling, Simulation and Analysis 3.00

IA 360. Terrorism and Counterterrorism 3.00

IA 363. Apocalypticism, Religious Terrorism and Peace 3.00

IA 365. Cyber Intelligence 3.00

IA 370. Advanced Competitive Intelligence 3.00

IA 400. Cognitive Science and Intelligence Analysis 3.00

IA 459. Awareness and Understanding of Chemical, Biological and Radiological Weapons of Mass Destruction 3.00

IA 460. All Hazards Response And Management Systems 3.00

IA 480. Selected Topics in Intelligence Analysis 3.00 (IA 480 may be taken twice)

GEOG 375. Political Geography 3.00

One course approved by an IA program adviser

Subject Matter Specialty: 18-21 Credits

Students must complete a minor or a second major in another field (at least 18 credits). With the approval of an IA adviser, students may, in special cases, design their own custom concentration of six courses that fit together thematically and support the educational objectives of the IA program.

## Integrated Science and Technology

**Director:** Dr. Amanda Biesecker

**Phone:** (540) 568-2730

**Email:** [biesecag@jmu.edu](mailto:biesecag@jmu.edu)

**Coordinator for Students:** Mr. Paul W. Henriksen

**Phone:** (540) 568-2755

**Email:** [henrikpw@jmu.edu](mailto:henrikpw@jmu.edu)

**Location:** ISAT Building, Room 121

**Website:** <http://www.isat.jmu.edu>

### Mission Statement

The Integrated Science and Technology Bachelors Program prepares graduates to excel in a complex, technological world by empowering them to become critical thinkers and lifelong learners able to provide multi-disciplinary solutions to scientific and technological challenges with sensitivity to social, ethical and global considerations.

The foundational concept of the ISAT Program, which distinguishes it from other science- and technology-based programs, is its integration of multiple disciplines within a student's four-year course of study. The unique integrative character of the program is carried by the curriculum content, pedagogy, and departmental culture.

### Goals

We measure our success by achieving the following 11 goals. ISAT graduates will be able to do the following:

- Apply and integrate mathematics, physical science, biological science, and technology.
- Apply sound experimental methodology.
- Understand the professional requirements for the acquisition and use of information and data.
- Work effectively in multidisciplinary teams.
- Solve technological problems and understand their societal implications.
- Understand and apply the principles of professional ethics.
- Communicate effectively on social, scientific and technical matters.
- Analyze science and technology within broader global, political, economic and social contexts.
- Become autonomous, self-directed learners who recognize the need for lifelong learning.
- Use the computer as an effective problem-solving tool.
- Examine a problem and assemble the tools and knowledge needed to solve it.

### Career Opportunities

The ISAT major prepares graduates for a wide variety of careers because of the breadth of science, technology, economic, and societal studies coupled with the integrative, problem-solving focus of the program. The program prepares students for a professional career and the majority of students enter the workforce upon graduation. However, a significant number choose to continue their education through a variety of graduate programs.

ISAT graduates have successfully built careers over a wide range of professions. Examples include technical and operational consulting, biotech lab research, network reliability and security improvement, energy and environmental policy development, information management, renewable energy development, manufacturing process development, and environmental management.

Some graduates start their own businesses, some work in small start-ups involved with new technology applications while others work in Fortune 500 companies. Graduates have also chosen to start their careers in other directions including government agencies, Peace Corps and other forms of public service, education, and politics.

Students who choose graduate studies have a wide range of options. ISAT graduates have successfully completed graduate studies in areas such as engineering, business, microbiology, environment, computer science, law, and medicine. The flexibility of the ISAT program allows students to select appropriate elective courses as they prepare for the graduate program of their choice.

### Co-curricular Activities and Organizations

- ISAT Honor Society
- Environmental Management, JMU Student Chapter of Air and Waste Management Association
- Association for Facilities Engineering, JMU Student Chapter
- Virginia Biotechnology Association, JMU Student Chapter
- Society of Automotive Engineers International, JMU Student Chapter
- IEEE Computer Society, JMU Student Chapter
- Armed Force Communications and Electronics Association (AFCEA), JMU Student Chapter
- American Wind Energy Association, JMU Student Chapter
- Collaboration for Environment, Health and Safety (CEHS)

### Program Accreditation

The ISAT Bachelor's degree program is accredited by the Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

## *Integrated Science and Technology, B.S.*

### Degree Requirements



While completing the ISAT courses, the student will also pursue the university's general education curriculum that is required of all students and is a cornerstone of the education received by every student. The required ISAT courses are listed below. A total of 120 credit hours are required for graduation. In addition, a grade equal to or higher than "C-" is required for ISAT 151, ISAT 152, ISAT 212 and ISAT 251.

## Required Courses

Issues in Science and Technology I-IV *17 Credit Hours (ISAT 112, 113, 211, 212, 215)*  
 Social Context of Technology and Science *6 Credit Hours (ISAT 171 and 271)*  
 Analytical Methods I-IV *14 Credit Hours (ISAT 151, 152, 251 and 252)*  
 Holistic Problem Solving *10 Credit Hours (ISAT 190, 290, 390 and 391)*  
 Strategic Sectors *(13-14 credit hours):*  
 Choose two of the following six sets of classes:  
 Energy (ISAT 301, 310 and 311);

Environment (ISAT 320 and 321);  
 Production Systems (ISAT 303, 330 and 331);  
 Information and Knowledge Management (ISAT 340 and 341);  
 Applied Biotechnology (ISAT 305, 350 and 351); and  
 Telecommunications, Networking and Security (ISAT 306, 360 and 361)  
 Concentration Courses *12 Credit Hours*  
 Senior Thesis/Project *6 Credit Hours (ISAT 490, 491, 492, 493)*  
 General Education courses and electives *41-42 Credit Hours*<sup>1</sup>

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

The Bachelor of Science degree in integrated science and technology produces a graduate broadly acquainted with basic science, technology and social science. All students pursue a common program through their sophomore year that provides a foundation of science and an introduction to its technology applications. Studies are integrated and include mathematics, statistics, physics, chemistry, biology, knowledge-based systems, internet networking and security, environmental science, modern production, energy, and the role of science and technology in society. During their junior and senior years, all students pursue deeper study of strategically significant areas that include applied biotechnology, energy, environmental studies, production systems, information and knowledge management, and telecommunications, networking and security. Each student selects a concentration in any of these areas and pursues additional study in the concentration culminating in a senior project. Students rely heavily upon the computer as a problem-solving tool throughout the curriculum, work in teams extensively and engage in laboratory experiences in the requisite sciences.

## Analytical Methods

This sequence of four courses (ISAT 151, 152, 251 and 252) provides students with basic methods and tools for understanding and analyzing problems in science and technology. Subjects are taught in an integrated manner with applications as the unifying factor. Topics include calculus, elements of the physical sciences, statistics, project management, the computer, knowledge-based systems, and instrumentation and measurement.

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] *4.00*

ISAT 152. Topics in Applied Physics in Isat *4.00*

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] *3.00*

ISAT 252. Programming and Problem Solving *3.00*

### First Year Student and Sophomore Courses

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] *4.00*

ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS] *4.00*

ISAT 211. Issues in Modern Production Systems *3.00*

ISAT 212. Energy Issues in Science and Technology *3.00*

ISAT 215. Telecommunications, Networking and Security *3.00*

## Issues in Science and Technology

This sequence of five courses (ISAT 112, 113, 211, 212 and 215) engages students in the practice of science, both to motivate and to provide understanding of science and technology in the context of important current social issues. Current areas from which issues are selected are living systems, the environment, modern production, internet networking and security, and energy.

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] *4.00*

ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS] *4.00*

ISAT 211. Issues in Modern Production Systems *3.00*

ISAT 212. Energy Issues in Science and Technology *3.00*

ISAT 215. Telecommunications, Networking and Security *3.00*

## Social Context of Technology and Science

This two-course sequence (ISAT 171 and 271) introduces the student to the broader issues encountered in science and technology problem-solving, particularly social, ethical, economic and legal issues.

## Strategic Sectors in Science and Technology

Students complete 13-14 credit hours of instruction in strategic sectors during their junior year. The strategic sectors, developed from national critical technologies lists, represent areas of current strategic importance in the world economy. The current areas for the sectors are

Applied biotechnology

Energy

Production systems

Environment

Information and knowledge management

Telecommunications, networking and security

These are the same topic areas as for the concentrations in ISAT. Sector level classes are 300 level and concentration classes are 400 level.

## Concentration Requirements

Students are provided the opportunity to focus their program of study by taking four additional courses in a particular area of concentration. The current areas for a concentration are

Applied Biotechnology

Energy

Production Systems

Environment

Information and Knowledge Management

Telecommunications, Networking and Security

Students also have the option to tailor their area of concentration with the help of their adviser and the approval of the ISAT program director.

## Senior Capstone Project

Students take the last senior project class and the rest of their four concentration classes.

ISAT 490. Capstone Experience I *1.00*

ISAT 491. Senior Capstone Project I *1.00*

ISAT 492. Senior Capstone Project II *2.00*

ISAT 493. Senior Capstone Project III *2.00*

## Holistic Problem Solving

This four-course sequence introduces the students to holistic problem solving and has them study a complex problem in an area of technology.

ISAT 190. Introduction to Holistic Problem Solving in the ISAT Major *1.00*

ISAT 290. Introduction to Systems Thinking for Complex Problems *3.00*

ISAT 390. Holistic Problem Solving Workshop I *3.00*

ISAT 391. Holistic Problem Solving Workshop 2 *3.00*

## Recommended Schedule for Majors

### First Year

### Fall Semester

ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS] *4.00*

ISAT 151. Topics in Applied Calculus in ISAT [C3QR] *4.00*

ISAT 190. Introduction to the Bachelor of Science in Integrated Science and Technology Program *3.00*

**Total: 9 Credit Hours****Spring Semester**

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

ISAT 131. Technology, Science, and Society 3.00

ISAT 152. Topics in Applied Physics in ISAT 4.00

Total: 11 Credit Hours

**Second Year****Fall Semester**

ISAT 212. Energy Issues in Science and Technology 3.00

ISAT 215. Telecommunications, Networking and Security 3.00

ISAT 231. Political Economy of Technology and Science 3.00

ISAT 251. Topics in Applied Statistics in ISAT [C3QR] 3.00

**Total: 12 Credit Hours****Spring Semester**

ISAT 211. Issues in Modern Production Systems 3.00

ISAT 252. Programming and Problem Solving 3.00

ISAT 290. Introduction to Systems Thinking for Complex Problems 3.00

Total: 9 Credit Hours

**Third Year****Fall Semester**

ISAT Strategic Sector I 3 Credit Hours

ISAT Strategic Sector I Lab 1 Credit Hour

ISAT Strategic Sector II 3 Credit Hours

ISAT 390. Holistic Problem Solving Workshop I 3.00

ISAT 490. Capstone Experience I 1.00

**Total: 10-12 Credit Hours****Spring Semester**

ISAT Strategic Sector I 3 Credit Hours

ISAT Strategic Sector II 3 Credit Hours

ISAT Strategic Sector II Lab 1 Credit Hour

ISAT 391. Holistic Problem Solving Workshop 2 3.00

ISAT 491. Senior Capstone Project I 1.00

**Total: 10-12 Credit Hours****Fourth Year****Fall Semester**

Students take a third senior project class and average two concentration classes.

ISAT 492. Senior Capstone Project II 2.00

ISAT Concentration I 3 Credit Hours

ISAT Concentration II 3 Credit Hours

Total: 8 Credit Hours

**Spring Semester**

Students take the last senior project class and rest of their concentration classes.

ISAT 493. Senior Capstone Project III 2.00

ISAT Concentration III 3 Credit Hours

ISAT Concentration IV 3 Credit Hours

Total: 8 Credit Hours

**Integrated Science and Technology Major with Pre-health Preparation**

Students majoring in ISAT desiring to prepare for higher education in health careers (dentistry, optometry, medicine, pharmacy, physical therapy, veterinary) may waive some required ISAT courses if they take equivalent courses required by the pre-health programs.

These equivalencies are not generally granted outside of a pre-health preparation program. Students who begin a preparation but do not finish it may be able to have some of the courses waived. Contact Paul Henriksen, Coordinator for Students, for more information.

**Required Courses for Pre-Health**

BIO 140, BIO 240

CHEM 131, CHEM 132

PHYS (140, 150) or (240, 250)

MATH 205, 235 or 231 and 232

MATH 220

**ISAT Courses Waived**

ISAT 113

ISAT 112

ISAT 152, ISAT 212

ISAT 151

ISAT 251

**Minors****Geographic Science Minor**

The minor in geographic science consists of the following courses for a total of not less than 19 credit hours.

**Required Courses**

GEOG 210. Physical Geography (2, 2) 4.00

GEOG 215. Intro to Geographic Information Science and Cartography 3.00

GEOG 280. Human Geography: The Cultural Landscape 3.00

Three additional geographic science courses 9-12 Credit Hours

**Total: 19-22 Credit Hours****Integrated Science and Technology Minor**

The minor in ISAT mirrors the major by having a breadth component and a depth component. The breadth component is satisfied through nine credit hours in Issues in Science and Technology and Instrumentation and Measurement. The depth component is satisfied through focused study in a strategic sector. Students should note that many courses have ISAT prerequisites that are outside the minor (although equivalents to ISAT prerequisite courses will be accepted). In planning a sequence of courses for the minor, students are encouraged to meet with an ISAT adviser to ensure that all needed prerequisites will be taken in due course. In addition, before a student pursuing an ISAT minor can take any ISAT course, a grade equal to or higher than "C-" is required for all ISAT foundation courses that are prerequisites for another required ISAT foundation course.

The minimum requirements for the minor in ISAT are as follows:

**Choose three courses from the following: 9-11 Credit Hours**

ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP] 4.00

ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS] 4.00

ISAT 211. Issues in Modern Production Systems 3.00

ISAT 212. Energy Issues in Science and Technology 3.00

ISAT 253. Instrumentation and Measurement in ISAT 3.00

**Choose one of the following sequences: 6-7 Credit Hours**

Energy (7 credits)

ISAT 301. Instrumentation and Measurement in Energy (0, 2) 1.00

ISAT 310. Energy Fundamentals I 3.00

ISAT 311. Role of Energy in Modern Society 3.00

Environment (7 credits)

ISAT 320. Fundamentals of Environmental Science &amp; Technology I 4.00

ISAT 321. Fundamentals of Environmental Science &amp; Technology II 3.00

Production Systems (7 credits)

ISAT 330. Sustainable Manufacturing Systems 3.00

ISAT 331. Cyber-Physical Industry 3.00

Information and Knowledge Management (6 credits)

One additional Integrated Science and Technology course at the 300 or 400 level: 3 Credit Hours

ISAT 340. Software Development 3.00

ISAT 341. Machine Learning and Data Science 3.00

Applied Biotechnology (7 credits)

ISAT 305. Instrumentation and Measurement in Biotechnology (0, 2) 1.00

ISAT 350. Biotechnology for the New Millennium I 3.00

ISAT 351. Biotechnology for the New Millennium II 3.00

Telecommunications, Networking, and Security (7 credits)

ISAT 360. Introduction to Networking &amp; Security 3.00

ISAT 361. Fundamentals of Data Communications and Networking II 3.00

ISAT 306. Instrumentation and Measurements in Data Communications and Networking 1.00

**Total: 18-21 Credit Hours**

# Department of Interdisciplinary Liberal Studies

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G. F. Linder

## Associate Professors

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## Assistant Professors

J. Mangan, M. Schmitt-Harsh, J. Walker

Interdisciplinary Liberal Studies (IDLS) is the undergraduate major for students pursuing teaching licensure in inclusive early childhood education (early childhood education, preK-3 and early childhood special education, birth to five), elementary education (PreK-6), middle grades education (6-8) and special education (K-12). The IDLS major meets Virginia teacher competencies by providing breadth and integration across the content areas of English and language arts, history, social sciences, mathematics, natural sciences, and technology.

IDLS requirements vary by education program, as outlined in this section. Students declaring the IDLS major must also declare one of the teacher education programs listed. Detailed information on teacher education programs is in the College of Education section of this catalog.

In the unusual circumstance that a student exits the education licensure pre-professional program late in his/her college career, the IDLS director may permit the student to complete the IDLS degree with the addition of an appropriate minor.

## *Interdisciplinary Liberal Studies for Inclusive Early Childhood Education, Elementary Education and Special Education Licensure, B.S.*

### Degree Requirements

#### Required Courses

- IDLS and General Education core *53 Credit Hours*
- Remaining General Education *6 Credit Hours*
- IDLS upper-level concentration *21 Credit Hours*
- Education program *35-47 Credit Hours*
- Elective *0-5 Credit Hours*

**Total: 120 Credit Hours**

#### Core Requirements

##### Language Arts and Communication

Writing: 3 Credit Hours

WRTC 103. Critical Reading and Writing [C1W] *3.00*

Oral Communication: 3 Credit Hours

(choose one)

SCOM 121. Fundamental Human Communication: Presentations [C1HC] *3.00*

SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] *3.00*

SCOM 123. Fundamental Human Communication: Group Presentations [C1HC] *3.00*

##### Literature: 3 Credit Hours

(choose one)

ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L] *3.00*

ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L] *3.00*

ENG 239. Studies in World Literature [C2L] *3.00*

ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L] *3.00*

ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L] *3.00*

ENG 260. Survey of African-American Literature [C2L] *3.00*

##### History/Social Sciences

Global History: 6 Credit Hours

(both required)

HIST 101. World History to 1500 [C2HQC] *3.00*

HIST 102. World History Since 1500 [C2HQC] *3.00*

U.S. History: 4 Credit Hours

HIST 225. U.S. History [C4AE] *4.00*

Government: 4 Credit Hours

POSC 225. U.S. Government [C4AE] *4.00*

##### Economics: 3 Credit Hours

(choose one)

ECON 200. Introduction to Macroeconomics [C4GE] *3.00*

ECON 201. Introduction to Microeconomics *3.00*

##### Geography: 3 Credit Hours

(choose one)

GEOG 200. Geography: The Global Dimension [C4GE] *3.00*

GEOG 280. Human Geography: The Cultural Landscape *3.00*

ANTH 195. Cultural Anthropology [C4GE] *3.00 (C, R)*

Psychology: 3 Credit Hours

PSYC 160. Life Span Human Development [C5SD] *3.00*

##### Health: 3 Credit Hours

(choose one)

KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] *3.00*

HTH 100. Personal Wellness [C5W] *3.00*

##### Mathematics

Fundamentals of Math: 9 Credit Hours

(all required)

MATH 107. Fundamentals of Mathematics I [C3QR] *3.00*

MATH 108. Fundamentals of Mathematics II *3.00*

MATH 207. Fundamentals of Mathematics III *3.00*

##### Natural Sciences: 9 Credit Hours

ISCI 171. Earth and Planetary Science for Teachers [C3NS] *3.00*

ISCI 172. Physical Science for Teachers [C3PP] *3.00*

ISCI 173. Life and Environmental Science for Teachers [C3L] *3.00*

Upper Level concentration requirement: 21 Credit Hours

#### IDLS Concentration

In addition to the IDLS core, students will complete an IDLS concentration to provide depth and integration beyond core requirements. The four concentration options are noted below, with each option requiring seven upper-level courses.

- Option 1: Math and Science and Technology. Take four courses in math and three in science and technology, or take three in math and four in science and technology.
- Option 2: Humanities and Social Sciences. Choose a humanities and social science track (1-7) and take six courses in that track, plus the IDLS 400 capstone.
- Option 3: Math and Humanities and Social Sciences. Choose a humanities and social science track (1-7). Take three courses in the humanities and social sciences track and four in math, or take four in the humanities and social sciences track and three in math. The humanities and social sciences courses can include IDLS 400, but it is not required.
- Option 4: Science and Technology and Humanities and Social Sciences. Choose a humanities and social science track (1-7). Take three courses in the humanities and social sciences track and four in science and technology, or take four in the humanities and social sciences track and three in science and technology. The humanities and social sciences courses can include IDLS 400, but it is not required.

The current list of concentration courses is available on the IDLS website.

### **IDLS Advisement**

IDLS majors are assigned two advisers, one to guide them through teacher education program requirements and another to guide them through IDLS major requirements. Students should check with both advisers regularly to ensure timely graduation. These advisers are assigned when students officially declare their education program and IDLS major. To declare, students must acquire education and IDLS academic unit head signatures on a "Change or Declaration of Major" form.

### **Teacher Licensure**

To be eligible for teacher licensure in inclusive early childhood, elementary, middle school and special education, students graduating with the Bachelor of Science degree in IDLS must complete the appropriate teacher education program at the undergraduate and graduate (Master of Arts in Teaching) levels.

### ***Interdisciplinary Liberal Studies for Middle Education Licensure, B.S.***

#### **Required Courses**

- IDLS and General Education core *46 Credit Hours*
- IDLS upper-level concentration *36-42 Credit Hours*
- Education program *32 Credit Hours*
- Elective *0-6 Credit Hours*

**Total: 120 Credit Hours**

#### **Core Requirements for IDLS Middle Education**

The IDLS middle education curriculum consists of 46 hours of core requirements and 36-42 hours in the content concentrations, depending upon which concentrations are selected. Students will select two concentrations from four: science, mathematics, social studies and language arts. Mathematics and science concentrations are 18 hours. Language arts and social studies concentrations are 21 hours. Any combination of concentrations will satisfy the teacher licensure endorsement requirements for middle grades licensure in Virginia. The middle grades curriculum of IDLS is open only to middle grades licensure students.

Students follow the General Education planning guide for their catalog year, and complete these specific IDLS core requirements:

- Cluster 2: Must select HIST 102 from Group One
- Cluster 3: Must select Track 2 (the ISCI 17X series); must complete the series with ISCI 173; must take MATH 108 in addition to MATH 107
- Cluster 4: Must select ECON 200
- Cluster 5: Must select PSYC 160

#### **Middle Education Concentration Options**

Middle education students will complete the required courses for any two of the four concentration areas: science, mathematics, language arts and social studies. IDLS middle education concentrations provide depth and integration beyond core requirements. The current list of concentration courses is available on the IDLS website.

### **IDLS Advisement**

IDLS majors are assigned two advisers, one to guide them through teacher education program requirements and another to guide them through IDLS major requirements. Students should check with both advisers regularly to ensure timely graduation. These advisers are assigned when students officially declare their education program and IDLS major. To declare, students must acquire education and IDLS academic unit head signatures on a "Change or Declaration of Major" form.

### **Teacher Licensure**

To be eligible for teacher licensure in inclusive early childhood, elementary, middle school and special education, students graduating with the Bachelor of Science degree in IDLS must complete the appropriate teacher education program at the undergraduate and graduate (Master of Arts in Teaching) levels.

# International Affairs

## *International Affairs, Comparative Study Concentration, B.A.*

### Major and Degree Requirements

International affairs is a 50-credit hour major, with a 32-credit common core and 18 credits of concentration study. For further information and a complete list of the distribution requirements and eligible courses, contact the coordinator.

### Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*<sup>3</sup>
- University electives *12-26 Credit Hours*
- Major requirements (listed below) *50 Credit Hours*

#### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. The international affairs major requires an additional year of language study. That is, students must have three years of a foreign language appropriate to their course of study in the major. Students majoring in international affairs who use proficiency in a native language to meet the INTA language requirement must make the following substitutions for the two 300-level foreign language courses: AMST 200 and one of the following courses: HIST 225, ENG 247 or ENG 248. Such students who have a diploma from a U.S. high school may take six credits of any foreign language, at any level, instead of the above two courses. These courses must focus on grammar, oral and written communication; they cannot be literature, cinema or civilization courses. <sup>3</sup> If students have taken a PHIL course to meet their General Education requirements, they must take an additional course to meet the B.A. degree philosophy requirement. PHIL 120 and PHIL 150 cannot be used to fulfill the B.A. philosophy requirement.

### Major Requirements

Students may choose one of four concentrations: comparative study; foreign policy and global governance; global human development; or international security and conflict. The international affairs major requires that all students complete a common core. Students should be aware that it is not always possible to offer courses on their regular rotation and that new courses may be added and existing ones deleted. Therefore, key requirements should not be left until just before graduation. Any course substitutions must be approved by the international affairs coordinator in consultation with other faculty members.

### Core Courses

- |  |   |
|--|---|
| ECON 201. Introduction to Microeconomics <i>3.00</i>                       | POSC 230. International Relations <i>3.00</i>                   |
| ECON 270. International Economics <i>3.00</i> <sup>1</sup>                 | POSC 240. Comparative Politics <i>3.00</i>                      |
| ECON 200. Introduction to Macroeconomics [C4GE] <i>3.00</i>                | FL 300. Grammar and Communication <i>3.00</i> <sup>4</sup>      |
| INTA 295. CrossNational Research Skills <i>4.00</i> <sup>2</sup>           | FL 320. Oral and Written Communication <i>3.00</i> <sup>4</sup> |
| INTA 489. Senior Seminar in International Affairs <i>4.00</i> <sup>3</sup> |   |

### Choose one of the following: 3 Credit Hours

- |  |  |
|--|--|
| HIST 330. U.S. Diplomatic History <i>3.00</i> <sup>4</sup> | POSC 370. U.S. Foreign Policy <i>3.00</i> <sup>4</sup> |
|--|--|

#### Total: 32 Credit Hours

#### Footnotes

<sup>1</sup> Students should complete these core economics requirements before enrolling in upper-level economics courses. Students double-majoring in economics and international affairs may substitute ECON 370 for ECON 270 to meet their core requirement. <sup>2</sup> Students should note that MATH 220 is a prerequisite for INTA 295. If taken in the summer from an INTA faculty member, POSC 295 will count as INTA 295. <sup>3</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisites: Completion of all courses in the core requirement of the major and senior standing. <sup>4</sup> Students must be proficient at the third-year level of a foreign language. In most languages this will require the completion of courses numbered 300 and 320. Some languages may not use this course numbering. In this instance, students must take two 300-level courses that focus on grammar, oral and written communication. The second 300-level course may not be a literature, cinema or civilization course. Some languages cannot be completed through the 300 level at JMU. Students studying these languages may have to complete course work during the summer or abroad at a specialized language program. Students should consult with the Foreign Languages, Literatures and Cultures, Department of on this point. Each student's foreign language must be appropriate for their track. French is acceptable for the Africa and Middle East tracks.

### Comparative Study Concentration

The following international/cross-area courses and area courses are required in addition to the core courses listed under Major Requirements. Students in the comparative study concentration must complete the requirements for all three areas. Students may use three credits of INTA 301W for international/cross-area or area credit. INTA 301W will always count as a political science course. The precise manner in which INTA 301W will count toward the major will be determined in consultation between students wishing to take INTA 301W and the international affairs coordinator.

### International and Cross-Area Courses

Each course must come from a different field of study. The potential fields are listed below.

### Complete two courses: 6 Credit Hours

No course taken for this requirement may be used to fulfill a requirement elsewhere in the major.

#### Cross-Cultural

- |   |  |
|---|--|
| ANTH 195. Cultural Anthropology [C4GE] <i>3.00</i> (C, R) | SOCI 348. Introduction to Developing Societies <i>3.00</i> or SOWK 348. Introduction to Developing Societies <i>3.00</i> |
| SCOM 248. Intercultural Communication <i>3.00</i>         |  |
| SOCI 336. Race and Ethnicity <i>3.00</i>                  |  |

#### Economics

Students double-majoring in economics and international affairs may count ECON 372. International Finance and Payments as an international and cross-area course, in the economics box.

- |  |  |
|--|--|
| ECON 312. Comparative Economic Systems <i>3.00</i> | ECON 365. Economic Development <i>3.00</i> |
|--|--|

#### Geography

- |   |   |
|---|---|
| GEOG 280. Human Geography: The Cultural Landscape <i>3.00</i> | GEOG 344. Globalization and Development <i>3.00</i> |
| GEOG 300. Population Geography <i>3.00</i>                    | GEOG 345. Geography of Poverty <i>3.00</i>          |
| GEOG 325. Environmental Ethics <i>3.00</i>                    | GEOG 375. Political Geography <i>3.00</i>           |

GEOG 380. Cultural Geography 3.00

## History

HIST 330. U.S. Diplomatic History 3.00

HIST 469. A History of International Development in the Twentieth Century 3.00

## Humanities

HUM 252. Global Cultures [C2HQC] 3.00 (When topic is Gandhi, Nonviolence and Global Transformation)

## Political Science

POSC 340. Politics of Development 3.00

POSC 347. Comparative Public Policy 3.00

POSC 348. The Politics of Cultural Pluralism 3.00

POSC 361. Topics in International Relations 3.00<sup>1</sup>

POSC 370. U.S. Foreign Policy 3.00

POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

POSC 392. Peace Studies 3.00 or JUST 392. Peace Studies 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 397. The Politics of International Economic Relations 3.00

POSC 398. Simulations 3.00<sup>1</sup>

POSC 430. International Security and Conflict Management 3.00

POSC 458. International Political Analysis 3.00

## Footnotes

<sup>1</sup> When course topic is appropriate for the chosen concentration. Students should consult with the INTA coordinator about the suitability of a particular course.

## Area Requirements

Students may choose from five tracks to fulfill the area requirement: Africa, Asia, Europe, Latin America or the Middle East. Students must complete four courses for their specific area. These courses must come from at least three fields of study. The potential fields are listed below. At least one of these courses must be a history course. Students with advanced language skills may also enroll in a 400-level literature course to meet the culture requirement. The following lists the potential courses for each of these areas.

### Africa Track

These courses must come from at least three fields of study. The potential fields are listed below.

#### Complete four courses: 12 Credit Hours

No course taken for this requirement may be used to fulfill a requirement elsewhere in the major.

#### Africana Studies

AAAD 400. Advanced Topics in African, African American and Diaspora Studies 3.00<sup>1</sup>

#### Culture

ANTH 280. Peoples and Cultures of Sub-Saharan Africa 3.00 (C)

ANTH 391. Study Abroad 1.00 - 6.00 (May be A, B, C, F) (in Kenya only; East Africa Field School)

ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C)<sup>1</sup>

ARTH 210. African Art & Culture in the Humanities 3.00

ARTH 312. African Art: Sub-Saharan 3.00

ARTH 419. Topics in African Art 3.00

ARTH 424. Arts of Ancient Egypt 3.00

ENG 377. Introduction to African Literature 3.00

ENG 432. Advanced Studies in African Literature 3.00

REL 300. Selected Topics in Religion 3.00<sup>1</sup>

REL 305. Islamic Religious Tradition 3.00

REL 330. Religions of Africa and the African Diaspora 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00

#### Economics

ECON 365. Economic Development 3.00

#### Geography

GEOG 335. Geography of Africa 3.00<sup>2</sup>

#### History

HIST 263. Africa 3.00

HIST 341. Selected Themes in World History 3.00<sup>1</sup>

HIST 361\*\*. Class and Ethnicity in Africa 3.00

HIST 436\*\*. Afro-Latin America 3.00

ANTH 436. Afro-Latin America 3.00 (C)

HIST 470. Modern Africa 3.00

HIST 489. Selected Topics in World History 3.00<sup>1</sup>

#### Political Science

POSC 353. African Politics 3.00

POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

## Footnotes

<sup>1</sup> May be taken only when the subject matter is appropriate for this geographic concentration. Students should consult with the INTA coordinator about the suitability of a particular course. <sup>2</sup> This course is found in the university catalog but is taught very infrequently. As such student should not count on this course being available in a timely fashion.

### Asia Track

These courses must come from at least three fields of study. The potential fields are listed below.

#### Complete four courses: 12 Credit Hours

No course taken for this requirement maybe used to fulfill a requirement elsewhere in the major.

#### Culture

ANTH 295. People and Cultures of East Asia 3.00 (C)

ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C)<sup>1</sup>

ARTH 430. Far Eastern Art 3.00

ENG 378. Studies in South Asian Literature 3.00

REL 300. Selected Topics in Religion 3.00<sup>1</sup>

REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00

REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00

#### Geography

GEOG 334. Geography of East and Southeast Asia 3.00<sup>2</sup>

#### History

HIST 274. Modern East Asia 3.00

HIST 341. Selected Themes in World History 3.00<sup>1</sup>

HIST 371\*\*. India 3.00

HIST 372\*\*. Afghanistan in Regional and Global Systems 3.00

HIST 375\*\*. History of Modern Southeast Asia 3.00

HIST 377\*\*. History of Korea 3.00

HIST 378\*\*. China in the Modern World 3.00  
HIST 379\*\*. Family and Gender in East Asia 3.00

HIST 473. Early Modern Islamic Empires 3.00  
HIST 489. Selected Topics in World History 3.00<sup>1</sup>

## Political Science

POSC 355. East Asian Politics 3.00  
POSC 356. Politics of China 3.00

POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

### Footnotes

<sup>1</sup> May be taken only when the subject matter is appropriate for this geographic concentration. Students should consult with the INTA coordinator about the suitability of a particular course. <sup>2</sup> This course is found in the university catalog but is taught very infrequently. As such, students should not count on this course being available for scheduling in a timely fashion.

## Europe Track

These courses must come from at least three fields of study. The potential fields are listed below.

### Complete four courses: 12 Credit Hours

No course taken for this requirement may be used to fulfill a requirement elsewhere in the major. All students in this track must complete POSC 344. Politics of the European Union.

## Political Science

POSC 344. Politics of the European Union 3.00  
POSC 345. Politics of Western Europe 3.00

POSC 346. Politics of Central and Eastern Europe 3.00  
POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

## Culture

ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA] 3.00  
ARTH 313. Masterpieces of Italian Renaissance Art 3.00 (*Semester in Florence only*) (Semester in Florence only)  
ARTH 314. Masterpieces of Spanish Art [C2VPA] 3.00 (*Semester in Salamanca*) (Semester in Salamanca only)  
ARTH 316. Masterpieces of British Art 3.00 (*Semester in London*) (Semester in London only)  
ENG 340. Modern British and Irish Literature 3.00  
ENG 341. Contemporary British and Irish Literature 3.00  
ENG 375. Irish and Anglo-Irish Literature 3.00  
ENG 376. Introduction to Scottish Literature 3.00  
ENG 403. Advanced Studies in British Literature After 1700 3.00  
ENG 436. Studies in German Literature 3.00  
ENG 437. Studies in Italian Literature 3.00  
ENG 438. Studies in Russian Literature 3.00  
ENG 439. Advanced Studies in Major Authors of Literature in Spanish in Translation 3.00 or SPAN 439. Major Authors of Literature in Spanish in Translation 3.00  
FL 446. \*\* Special Topics in Foreign Literature 3.00<sup>1</sup>  
FL 447. Special Topics in Civilization and Culture 3.00<sup>1</sup>

FR 308. Contemporary French Civilization 3.00  
FR 375. Business and Society in France 3.00  
FR 465. French Cinema 1930-1980 3.00  
FR 466. Contemporary French Cinema 3.00  
GER 308. Contemporary German Civilization 3.00  
GER 425. Modern German Literature 3.00  
GER 465. German Cinema 3.00  
HIST 373. History of the Ottoman Empire, 1453-1922 3.00  
HIST 476. History of Disability in Postwar Europe, 1945-1991 3.00  
ITAL 308. Contemporary Italian Civilization 3.00  
ITAL 375. Business and Society in Italy 3.00  
ITAL 425. Modern Italian Literature 3.00  
ITAL 465. Italian Cinema 3.00  
RUS 308. Introduction to Russian Civilization 3.00  
SPAN 307. Spanish Civilization 3.00  
SPAN 405. Spanish Novels of the 19th and 20th Centuries 3.00  
SPAN 406. Spanish Drama of the 19th and 20th Centuries 3.00  
SPAN 461. Post War Literature in Spain 3.00

## Economics

### Geography

GEOG 332. Geography of Europe 3.00<sup>2</sup>

### History

HIST 202. Europe Since 1815 3.00  
HIST 301\*. European Military History 3.00  
ITAL 308. Contemporary Italian Civilization 3.00  
HIST 309\*. French History Since 1648 3.00  
HIST 321\*. European Women's History 3.00  
HIST 341. Selected Themes in World History 3.00  
HIST 381\*. Daily Life in Victorian England 3.00  
HIST 382\*. Europe in the 20th Century 3.00  
HIST 384\*. England and the Empire-Commonwealth 3.00

HIST 386\*. Russia and the Soviet Union from 1881 to 1991 3.00  
HIST 388\*. Germany Since 1871 3.00  
HIST 474. Stalinism in Theory, Practice, and Memory 3.00  
HIST 475. Modern Russia 3.00  
HIST 478. Eastern Europe 3.00  
HIST 482. French History Seminar 3.00  
HIST 486. Europe Since 1914 3.00  
HIST 487. World War II 3.00  
HIST 489. Selected Topics in World History 3.00

### Footnotes

<sup>1</sup> May be taken only when the subject matter is appropriate for this geographic concentration. Students should consult with the INTA coordinator about the suitability of a particular course. <sup>2</sup> This course is in the university catalog but is taught very infrequently. As such, students should not count on this course being available for scheduling in a timely fashion.

## Latin America Track

These courses must come from at least three fields of study. The potential fields are listed below.

### Complete four courses: 12 Credit Hours

No course taken for this requirement maybe used to fulfill a requirement elsewhere in the major.

## Culture

ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C).  
ANTH 395. Special Topics in Anthropology 3.00 (*May be A,B, or C*)<sup>1</sup>  
ENG 434. Advanced Studies in Latin American Literature in Translation 3.00 or  
SPAN 434. Advanced Studies in Latin American Literature in Translation 3.00  
SPAN 308. Latin American Civilization 3.00  
SPAN 385. Latin American Drama and Short Stories 3.00

SPAN 395. Latin American Poetry of the 20th Century 3.00  
SPAN 415. The Spanish-American Novel 3.00  
SPAN 446. Special Topics in Spanish Literature 3.00<sup>1</sup>  
SPAN 447. Special Topics in Spanish Civilization and Culture 3.00<sup>1</sup>  
SPAN 485. Business and Society in Latin America 3.00

### Geography

GEOG 337. Geography of Latin America 3.00<sup>2</sup>

## History

HUM 252. Global Cultures [C2HQC] 3.00 (When topic is Latin American Cultures)  
HIST 302\*\*. Latin American Urban History 3.00  
HIST 341. Selected Themes in World History 3.00<sup>1</sup>  
HIST 436\*\*. Afro-Latin America 3.00 or ANTH 436. Afro-Latin America 3.00 (C)  
HIST 437\*\*. Latin America and Latin Americans through Film: Focus on the Twentieth Century 3.00

HIST 444\*\*. Revolution and Social Change in Latin America 3.00  
HIST 445\*\*. A Cultural History of Latin America, the Caribbean, and the United States 3.00  
HIST 447\*\*. South America 3.00  
HIST 448\*\*. Gender in Latin America and the Iberian World 3.00  
HIST 489. Selected Topics in World History 3.00<sup>1</sup>

## Political Science

POSC 350. Latin American Politics 3.00

POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

### Footnotes

<sup>1</sup> May be taken only when the subject matter is appropriate for this geographic concentration. Students should consult with the INTA coordinator about the suitability of a particular course. <sup>2</sup> This course is in the university catalog but is taught very infrequently. As such, students should not count on this course being available for scheduling in a timely fashion.

## Middle East Track

These courses must come from at least three fields of study. The potential fields are listed below.

### Complete four courses: 12 Credit Hours

No course taken for this requirement maybe used to fulfill a requirement elsewhere in the major.

### Culture

ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C)<sup>1</sup>  
ARTH 332. Islamic Art and Architecture 3.00  
ARTH 424. Arts of Ancient Egypt 3.00  
ARAB 446. Special Topics in Arabic Literature 3.00<sup>1</sup>  
ARAB 447. Special Topics in Arabic Civilization and Culture 3.00<sup>1</sup>  
ENG 433. Advanced Studies in Arabic Literature 3.00.  
REL 300. Selected Topics in Religion 3.00<sup>1</sup>

REL 305. Islamic Religious Tradition 3.00  
REL 320. Judaism 3.00  
REL 350. Islamic Law and Society 3.00  
SOCI 342. Social Movements in the Middle East 3.00  
SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00

### Economics

ECON 365. Economic Development 3.00

### History

HIST 269. Premodern Middle East 3.00  
HIST 270. Modern Middle East 3.00  
HIST 341. Selected Themes in World History 3.00<sup>1</sup>  
HIST 373. History of the Ottoman Empire, 1453-1922 3.00

HIST 473. Early Modern Islamic Empires 3.00  
HIST 485. Colonialism in the Middle East and South Asia 3.00  
HIST 489. Selected Topics in World History 3.00<sup>1</sup>

### Political Science

POSC 340. Politics of Development 3.00  
POSC 354. Politics of the Middle East 3.00

POSC 371. Topics in Comparative Politics 3.00<sup>1</sup>

### Footnotes

<sup>1</sup> May be taken only when the subject matter is appropriate for this geographic concentration. Students should consult with the INTA coordinator about the suitability of a particular course.

## Internships

A maximum of three credits in the major may be earned through an internship. Students must consult with the international affairs coordinator PRIOR to doing an internship to check on its applicability to the major.

## Study Abroad and Washington Semester

Many of the courses available to students through JMU's Office of International Programs and the Washington Semester program can be used to fulfill requirements in the INTA major. Students planning to go abroad should keep this in mind in working out their schedules and must consult the INTA coordinator for course approvals and substitutions. If you have questions about the Washington Semester, review the program website (<http://www.jmu.edu/polisci/washington.shtml>) and contact the program director, Dr. David Jones.

## *International Affairs, Foreign Policy and Global Governance Concentration, B.A.*

### Major and Degree Requirements

International affairs is a 50-credit hour major, with a 32-credit common core and 18 credits of concentration study. For further information and a complete list of the distribution requirements and eligible courses, contact the coordinator.

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours<sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours<sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours<sup>3</sup>
- University electives 12-26 Credit Hours
- Major requirements (listed below) 50 Credit Hours

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. The international affairs major requires an additional year of language study. That is, students must have three years of a foreign language appropriate to their course of study in the major. Students majoring in international affairs who use proficiency in a native language to meet the INTA language requirement must make the following substitutions for the two 300-level foreign language courses: AMST 200 and one of the following courses: HIST 225, ENG 247 or ENG 248. Such students who have a diploma from a U.S. high school may take six credits of any foreign language, at any level, instead of the above two courses. These courses must focus on grammar, oral and written communication; they cannot be literature, cinema or civilization courses. <sup>3</sup> If students have taken a PHIL course to meet their General Education requirements, they must take an additional course to meet the B.A. degree philosophy requirement. PHIL 120 and PHIL 150 cannot be used to fulfill the B.A. philosophy requirement.



## Major Requirements

Students may choose one of four concentrations: comparative study; foreign policy and global governance; global human development; or international security and conflict. The international affairs major requires that all students complete a common core. Students should be aware that it is not always possible to offer courses on their regular rotation and that new courses may be added and existing ones deleted. Therefore, key requirements should not be left until just before graduation. Any course substitutions must be approved by the international affairs coordinator in consultation with other faculty members.

## Core Courses

ECON 201. Introduction to Microeconomics *3.00*

ECON 270. International Economics *3.00*<sup>1</sup>

ECON 200. Introduction to Macroeconomics [C4GE] *3.00*

INTA 295. CrossNational Research Skills *4.00*<sup>2</sup>

INTA 489. Senior Seminar in International Affairs *4.00*<sup>3</sup>

POSC 230. International Relations *3.00*

POSC 240. Comparative Politics *3.00*

FL 300. Grammar and Communication *3.00*<sup>4</sup>

FL 320. Oral and Written Communication *3.00*<sup>4</sup>

## Choose one of the following: 3 Credit Hours

HIST 330. U.S. Diplomatic History *3.00*<sup>4</sup>

POSC 370. U.S. Foreign Policy *3.00*<sup>4</sup>

## Total: 32 Credit Hours

### Footnotes

<sup>1</sup> Students should complete these core economics requirements before enrolling in upper-level economics courses. Students double-majoring in economics and international affairs may substitute ECON 370 for ECON 270 to meet their core requirement.<sup>2</sup> Students should note that MATH 220 is a prerequisite for INTA 295. If taken in the summer from an INTA faculty member, POSC 295 will count as INTA 295.<sup>3</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisites: Completion of all courses in the core requirement of the major and senior standing.<sup>4</sup> Students must be proficient at the third-year level of a foreign language. In most languages this will require the completion of courses numbered 300 and 320. Some languages may not use this course numbering. In this instance, students must take two 300-level courses that focus on grammar, oral and written communication. The second 300-level course may not be a literature, cinema or civilization course. Some languages cannot be completed through the 300 level at JMU. Students studying these languages may have to complete course work during the summer or abroad at a specialized language program. Students should consult with the Foreign Languages, Literatures and Cultures, Department of on this point. Each student's foreign language must be appropriate for their track. French is acceptable for the Africa and Middle East tracks.

## I. Political Dynamics of Foreign Policy and Global Governance: 3 Credit Hours

Choose one of the following:

POSC 395. International Law *3.00*

POSC 396. International Organizations *3.00*

POSC 458. International Political Analysis *3.00*

## II. Historical Patterns: 3 Credit Hours

Choose one course from the following:

### Africa

HIST 263. Africa *3.00*

HIST 361\*\*. Class and Ethnicity in Africa *3.00*

HIST 470. Modern Africa *3.00*

### Asia

HIST 274. Modern East Asia *3.00*

HIST 371\*\*. India *3.00*

HIST 375\*\*. History of Modern Southeast Asia *3.00*

HIST 377\*\*. History of Korea *3.00*

HIST 378\*\*. China in the Modern World *3.00*

### Europe

HIST 202. Europe Since 1815 *3.00*

HIST 301\*. European Military History *3.00*

HIST 309\*. French History Since 1648 *3.00*

HIST 321\*. European Women's History *3.00*

HIST 384\*. England and the Empire-Commonwealth *3.00*

HIST 386\*. Russia and the Soviet Union from 1881 to 1991 *3.00*

HIST 475. Modern Russia *3.00*

HIST 478. Eastern Europe *3.00*

HIST 486. Europe Since 1914 *3.00*

### Latin America

HUM 252. Global Cultures [C2HQC] *3.00* (When topic is Latin American Cultures)

ANTH 436. Afro-Latin America *3.00* (C) or HIST 436\*\*. Afro-Latin America *3.00*

HIST 444\*\*. Revolution and Social Change in Latin America *3.00*

HIST 445\*\*. A Cultural History of Latin America, the Caribbean, and the United States *3.00*

HIST 447\*\*. South America *3.00*

HIST 448\*\*. Gender in Latin America and the Iberian World *3.00*

### The Middle East

HIST 270. Modern Middle East *3.00*

HIST 373. History of the Ottoman Empire, 1453-1922 *3.00*

HIST 473. Early Modern Islamic Empires *3.00*

HIST 485. Colonialism in the Middle East and South Asia *3.00*

## III. Regional and Cross Regional Sociopolitical Dynamics: 3 Credit Hours

Choose one course from the following:

ANTH 195. Cultural Anthropology [C4GE] *3.00* (C, R)

ECON 312. Comparative Economic Systems *3.00*

GEOG 280. Human Geography: The Cultural Landscape *3.00*

GEOG 380. Cultural Geography *3.00*

POSC 200. Global Politics [C4GE] *3.00*

POSC 340. Politics of Development *3.00*

POSC 344. Politics of the European Union *3.00*

POSC 345. Politics of Western Europe *3.00*

POSC 346. Politics of Central and Eastern Europe *3.00*

POSC 350. Latin American Politics *3.00*

POSC 354. Politics of the Middle East *3.00*

POSC 355. East Asian Politics *3.00*

POSC 356. Politics of China *3.00*

POSC 371. Topics in Comparative Politics *3.00*

SOCI 348. Introduction to Developing Societies *3.00* or SOWK 348. Introduction to Developing Societies *3.00*

## IV. Depth Component: 9 Credit Hours

Choose three courses from the following, from at least two disciplines. At least one course must be in a discipline other than history or political science.

### Economics

ECON 365. Economic Development *3.00*

ECON 370. International Trade and Trade Policies *3.00*

ECON 372. International Finance and Payments *3.00* or FIN 372. International Finance and Payments *3.00*

### Communication

SCOM 248. Intercultural Communication 3.00

## Culture

### Geography

GEOG 300. Population Geography 3.00

GEOG 325. Environmental Ethics 3.00

GEOG 344. Globalization and Development 3.00

GEOG 345. Geography of Poverty 3.00

GEOG 375. Political Geography 3.00

### History

HIST 330. U.S. Diplomatic History 3.00

HIST 469. A History of International Development in the Twentieth Century 3.00

### Justice Studies

JUST 331. Human Rights in Theory and Practice 3.00 or POSC 331. Human Rights in Theory and Practice 3.00

JUST 353. Justice and Development 3.00

JUST 357. Environmental Justice 3.00

JUST 372. Ethics and International Politics 3.00 or POSC 372. Ethics and International Politics 3.00

JUST 373. Rebuilding Post Conflict Societies 3.00

JUST 375. Genocide in the 20th Century 3.00

JUST 377. Global Futures 3.00

JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00

### Political Science

POSC 347. Comparative Public Policy 3.00

POSC 361. Topics in International Relations 3.00 (if applicable)

POSC 371. Topics in Comparative Politics 3.00 (if applicable)

POSC 383. Women and Politics in Comparative Perspective 3.00 or WGSS 383. Women and Politics in Comparative Perspective 3.00

POSC 393. Human Security 3.00

POSC 394. International Conflict 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 397. The Politics of International Economic Relations 3.00

POSC 398. Simulations 3.00

POSC 430. International Security and Conflict Management 3.00

POSC 440. Post-Conflict Societies 3.00

POSC 458. International Political Analysis 3.00

### Religion

HUM 252. Global Cultures [C2HQC] 3.00 (When topic is Gandhi, Nonviolence and Global Transformation)

### Internships

A maximum of three credits in the major may be earned through an internship. Students must consult with the international affairs coordinator PRIOR to doing an internship to check on its applicability to the major.

### Study Abroad and Washington Semester

Many of the courses available to students through JMU's Office of International Programs and the Washington Semester program can be used to fulfill requirements in the INTA major. Students planning to go abroad should keep this in mind in working out their schedules and must consult the INTA coordinator for course approvals and substitutions. If you have questions about the Washington Semester, review the program website (<http://www.jmu.edu/polisci/washington.shtml>) and contact the program director, Dr. David Jones.

## *International Affairs, Global Human Development Concentration, B.A.*

### Major and Degree Requirements

International affairs is a 50-credit hour major, with a 32-credit common core and 18 credits of concentration study. For further information and a complete list of the distribution requirements and eligible courses, contact the coordinator.

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours <sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours <sup>3</sup>
- University electives 12-26 Credit Hours
- Major requirements (listed below) 50 Credit Hours

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. The international affairs major requires an additional year of language study. That is, students must have three years of a foreign language appropriate to their course of study in the major. Students majoring in international affairs who use proficiency in a native language to meet the INTA language requirement must make the following substitutions for the two 300-level foreign language courses: AMST 200 and one of the following courses: HIST 225, ENG 247 or ENG 248. Such students who have a diploma from a U.S. high school may take six credits of any foreign language, at any level, instead of the above two courses. These courses must focus on grammar, oral and written communication; they cannot be literature, cinema or civilization courses. <sup>3</sup> If students have taken a PHIL course to meet their General Education requirements, they must take an additional course to meet the B.A. degree philosophy requirement. PHIL 120 and PHIL 150 cannot be used to fulfill the B.A. philosophy requirement.

### Major Requirements

Students may choose one of four concentrations: comparative study; foreign policy and global governance; global human development; or international security and conflict. The international affairs major requires that all students complete a common core. Students should be aware that it is not always possible to offer courses on their regular rotation and that new courses may be added and existing ones deleted. Therefore, key requirements should not be left until just before graduation. Any course substitutions must be approved by the international affairs coordinator in consultation with other faculty members.

### Core Courses

ECON 201. Introduction to Microeconomics 3.00

ECON 270. International Economics 3.00 <sup>1</sup>

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

INTA 295. CrossNational Research Skills 4.00 <sup>2</sup>

INTA 489. Senior Seminar in International Affairs 4.00 <sup>3</sup>

POSC 230. International Relations 3.00

POSC 240. Comparative Politics 3.00  
FL 300. Grammar and Communication 3.00 4

FL 320. Oral and Written Communication 3.00 4

### Choose one of the following: 3 Credit Hours

HIST 330. U.S. Diplomatic History 3.00 4

POSC 370. U.S. Foreign Policy 3.00 4

### Total: 32 Credit Hours

#### Footnotes

<sup>1</sup> Students should complete these core economics requirements before enrolling in upper-level economics courses. Students double-majoring in economics and international affairs may substitute ECON 370 for ECON 270 to meet their core requirement. <sup>2</sup> Students should note that MATH 220 is a prerequisite for INTA 295. If taken in the summer from an INTA faculty member, POSC 295 will count as INTA 295. <sup>3</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisites: Completion of all courses in the core requirement of the major and senior standing. <sup>4</sup> Students must be proficient at the third-year level of a foreign language. In most languages this will require the completion of courses numbered 300 and 320. Some languages may not use this course numbering. In this instance, students must take two 300-level courses that focus on grammar, oral and written communication. The second 300-level course may not be a literature, cinema or civilization course. Some languages cannot be completed through the 300 level at JMU. Students studying these languages may have to complete course work during the summer or abroad at a specialized language program. Students should consult with the Foreign Languages, Literatures and Cultures, Department of on this point. Each student's foreign language must be appropriate for their track. French is acceptable for the Africa and Middle East tracks.

### I. Political Dynamics of Global Human Development: 3 Credit Hours

Choose one course from the following:

POSC 340. Politics of Development 3.00  
POSC 393. Human Security 3.00

POSC 397. The Politics of International Economic Relations 3.00

### II. Historical Patterns: 3 Credit Hours

Choose one course from the following:

#### Africa

HIST 263. Africa 3.00  
HIST 361\*\*. Class and Ethnicity in Africa 3.00  
HIST 470. Modern Africa 3.00

#### Asia

HIST 274. Modern East Asia 3.00  
HIST 371\*\*. India 3.00  
HIST 375\*\*. History of Modern Southeast Asia 3.00  
HIST 377\*\*. History of Korea 3.00  
HIST 378\*\*. China in the Modern World 3.00

#### Europe

HIST 202. Europe Since 1815 3.00  
HIST 301\*. European Military History 3.00  
HIST 309\*. French History Since 1648 3.00  
HIST 321\*. European Women's History 3.00  
HIST 384\*. England and the Empire-Commonwealth 3.00  
HIST 386\*. Russia and the Soviet Union from 1881 to 1991 3.00  
HIST 475. Modern Russia 3.00

HIST 478. Eastern Europe 3.00

HIST 486. Europe Since 1914 3.00

#### Latin America

HUM 252. Global Cultures [C2HQ] 3.00 (When topic is Latin American Cultures)  
ANTH 436. Afro-Latin America 3.00 (C) or HIST 436\*\*. Afro-Latin America 3.00  
HIST 444\*\*. Revolution and Social Change in Latin America 3.00  
HIST 445\*\*. A Cultural History of Latin America, the Caribbean, and the United States 3.00  
HIST 447\*\*. South America 3.00  
HIST 448\*\*. Gender in Latin America and the Iberian World 3.00

#### The Middle East

HIST 270. Modern Middle East 3.00  
HIST 373. History of the Ottoman Empire, 1453-1922 3.00  
HIST 473. Early Modern Islamic Empires 3.00  
HIST 485. Colonialism in the Middle East and South Asia 3.00

### III. Regional and Cross Regional Sociopolitical Dynamics: 3 Credit Hours

Choose one course from the following:

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
ECON 312. Comparative Economic Systems 3.00  
GEOG 280. Human Geography: The Cultural Landscape 3.00  
GEOG 380. Cultural Geography 3.00  
POSC 200. Global Politics [C4GE] 3.00  
POSC 340. Politics of Development 3.00  
POSC 344. Politics of the European Union 3.00  
POSC 345. Politics of Western Europe 3.00  
POSC 346. Politics of Central and Eastern Europe 3.00

POSC 350. Latin American Politics 3.00

POSC 354. Politics of the Middle East 3.00

POSC 355. East Asian Politics 3.00

POSC 356. Politics of China 3.00

POSC 371. Topics in Comparative Politics 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00

### IV. Depth Component: 9 Credit Hours

Choose three courses from the following, from at least two disciplines. At least one course must be in a discipline other than history or political science.

#### Economics

ECON 365. Economic Development 3.00  
ECON 370. International Trade and Trade Policies 3.00  
ECON 372. International Finance and Payments 3.00 or FIN 372. International Finance and Payments 3.00

#### Communication

SCOM 248. Intercultural Communication 3.00

#### Culture

#### Geography

GEOG 300. Population Geography 3.00  
GEOG 325. Environmental Ethics 3.00  
GEOG 344. Globalization and Development 3.00  
GEOG 345. Geography of Poverty 3.00

#### History

HIST 469. A History of International Development in the Twentieth Century 3.00

#### Justice Studies

JUST 331. Human Rights in Theory and Practice 3.00 or POSC 331. Human Rights in Theory and Practice 3.00  
JUST 353. Justice and Development 3.00

JUST 357. Environmental Justice 3.00

JUST 372. Ethics and International Politics 3.00 or POSC 372. Ethics and International Politics 3.00

JUST 373. Rebuilding Post Conflict Societies 3.00

JUST 377. Global Futures 3.00

JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00

#### Political Science

POSC 347. Comparative Public Policy 3.00

POSC 361. Topics in International Relations 3.00 (if applicable)

POSC 371. Topics in Comparative Politics 3.00 (if applicable)

POSC 383. Women and Politics in Comparative Perspective 3.00

POSC 393. Human Security 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 397. The Politics of International Economic Relations 3.00

POSC 440. Post-Conflict Societies 3.00

#### Religion

HUM 252. Global Cultures [C2HQ] 3.00 (When topic is Gandhi, Nonviolence and Global Transformation)

### Internships

A maximum of three credits in the major may be earned through an internship. Students must consult with the international affairs coordinator PRIOR to doing an internship to check on its applicability to the major.

### Study Abroad and Washington Semester

Many of the courses available to students through JMU's Office of International Programs and the Washington Semester program can be used to fulfill requirements in the INTA major. Students planning to go abroad should keep this in mind in working out their schedules and must consult the INTA coordinator for course approvals and substitutions. If you have questions about the Washington Semester, review the program website (<http://www.jmu.edu/polisci/washington.shtml>) and contact the program director, Dr. David Jones.

## *International Affairs, International Conflict and Security Concentration, B.A.*

### Major and Degree Requirements

International affairs is a 50-credit hour major, with a 32-credit common core and 18 credits of concentration study. For further information and a complete list of the distribution requirements and eligible courses, contact the coordinator.

### Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*<sup>3</sup>
- University electives *12-26 Credit Hours*
- Major requirements (listed below) *50 Credit Hours*

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232), or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. The international affairs major requires an additional year of language study. That is, students must have three years of a foreign language appropriate to their course of study in the major. Students majoring in international affairs who use proficiency in a native language to meet the INTA language requirement must make the following substitutions for the two 300-level foreign language courses: AMST 200 and one of the following courses: HIST 225, ENG 247 or ENG 248. Such students who have a diploma from a U.S. high school may take six credits of any foreign language, at any level, instead of the above two courses. These courses must focus on grammar, oral and written communication; they cannot be literature, cinema or civilization courses. <sup>3</sup> If students have taken a PHIL course to meet their General Education requirements, they must take an additional course to meet the B.A. degree philosophy requirement. PHIL 120 and PHIL 150 cannot be used to fulfill the B.A. philosophy requirement.

### Major Requirements

Students may choose one of four concentrations: comparative study; foreign policy and global governance; global human development; or international security and conflict. The international affairs major requires that all students complete a common core. Students should be aware that it is not always possible to offer courses on their regular rotation and that new courses may be added and existing ones deleted. Therefore, key requirements should not be left until just before graduation. Any course substitutions must be approved by the international affairs coordinator in consultation with other faculty members.

### Core Courses

ECON 201. Introduction to Microeconomics <i>3.00</i>	POSC 230. International Relations <i>3.00</i>
ECON 270. International Economics <i>3.00</i> <sup>1</sup>	POSC 240. Comparative Politics <i>3.00</i>
ECON 200. Introduction to Macroeconomics [C4GE] <i>3.00</i>	FL 300. Grammar and Communication <i>3.00</i> 4
INTA 295. CrossNational Research Skills <i>4.00</i> <sup>2</sup>	FL 320. Oral and Written Communication <i>3.00</i> 4
INTA 489. Senior Seminar in International Affairs <i>4.00</i> <sup>3</sup>	

### Choose one of the following: 3 Credit Hours

HIST 330. U.S. Diplomatic History <i>3.00</i> <sup>4</sup>	POSC 370. U.S. Foreign Policy <i>3.00</i> <sup>4</sup>
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### Total: 32 Credit Hours

#### Footnotes

<sup>1</sup> Students should complete these core economics requirements before enrolling in upper-level economics courses. Students double-majoring in economics and international affairs may substitute ECON 370 for ECON 270 to meet their core requirement. <sup>2</sup> Students should note that MATH 220 is a prerequisite for INTA 295. If taken in the summer from an INTA faculty member, POSC 295 will count as INTA 295. <sup>3</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisites: Completion of all courses in the core requirement of the major and senior standing. <sup>4</sup> Students must be proficient at the third-year level of a foreign language. In most languages this will require the completion of courses numbered 300 and 320. Some languages may not use this course numbering. In this instance, students must take two 300-level courses that focus on grammar, oral and written communication. The second 300-level course may not be a literature, cinema or civilization course. Some languages cannot be completed through the 300 level at JMU. Students studying these languages may have to complete course work during the summer or abroad at a specialized language program. Students should consult with the Foreign Languages, Literatures and Cultures, Department of on this point. Each student's foreign language must be appropriate for their track. French is acceptable for the Africa and Middle East tracks.

## I. Political Dynamics of International Conflict and Security: 3 Credit Hours

### Choose one course from the following:

POSC 394. International Conflict <i>3.00</i>	POSC 372. Ethics and International Politics <i>3.00</i> or JUST 372. Ethics and International Politics <i>3.00</i>
POSC 430. International Security and Conflict Management <i>3.00</i>	

## II. Historical Patterns: 3 Credit Hours

Choose one course from the following:

### Africa

HIST 263. Africa <i>3.00</i>	HIST 321*. European Women's History <i>3.00</i>
HIST 361**. Class and Ethnicity in Africa <i>3.00</i>	HIST 384*. England and the Empire-Commonwealth <i>3.00</i>
HIST 470. Modern Africa <i>3.00</i>	HIST 386*. Russia and the Soviet Union from 1881 to 1991 <i>3.00</i>

### Asia

HIST 274. Modern East Asia <i>3.00</i>	HIST 475. Modern Russia <i>3.00</i>
HIST 371**. India <i>3.00</i>	HIST 478. Eastern Europe <i>3.00</i>
HIST 375**. History of Modern Southeast Asia <i>3.00</i>	HIST 486. Europe Since 1914 <i>3.00</i>
HIST 377**. History of Korea <i>3.00</i>	<b>Latin America</b>
HIST 378**. China in the Modern World <i>3.00</i>	HUM 252. Global Cultures [C2HQC] <i>3.00</i> (When topic is Latin American Cultures)

### Europe

HIST 202. Europe Since 1815 <i>3.00</i>	ANTH 436. Afro-Latin America <i>3.00</i> (C) or HIST 436**. Afro-Latin America <i>3.00</i>
HIST 301*. European Military History <i>3.00</i>	HIST 444**. Revolution and Social Change in Latin America <i>3.00</i>
HIST 309*. French History Since 1648 <i>3.00</i>	HIST 445**. A Cultural History of Latin America, the Caribbean, and the United States <i>3.00</i>
	HIST 447**. South America <i>3.00</i>

HIST 448\*\*. Gender in Latin America and the Iberian World 3.00

**The Middle East**

HIST 270. Modern Middle East 3.00

HIST 373. History of the Ottoman Empire, 1453-1922 3.00

HIST 473. Early Modern Islamic Empires 3.00

HIST 485. Colonialism in the Middle East and South Asia 3.00

**III. Regional and Cross Regional Sociopolitical Dynamics: 3 Credit Hours**

Choose one course from the following:

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ECON 312. Comparative Economic Systems 3.00

GEOG 280. Human Geography: The Cultural Landscape 3.00

GEOG 380. Cultural Geography 3.00

POSC 200. Global Politics [C4GE] 3.00

POSC 340. Politics of Development 3.00

POSC 344. Politics of the European Union 3.00

POSC 345. Politics of Western Europe 3.00

POSC 346. Politics of Central and Eastern Europe 3.00

POSC 350. Latin American Politics 3.00

POSC 354. Politics of the Middle East 3.00

POSC 355. East Asian Politics 3.00

POSC 356. Politics of China 3.00

POSC 371. Topics in Comparative Politics 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00

**IV. Depth Component: 9 Credit Hours**

Choose three courses from the following, from at least two disciplines. At least one course must be in a discipline other than history or political science.

**Economics**

ECON 327. Game Theory 3.00

**Communication**

SCOM 331. Communication and Conflict 3.00

SCOM 332. Mediation 3.00

SCOM 334. Alternative Dispute Resolution 3.00

SCOM 248. Intercultural Communication 3.00

**Culture**

ANTH 366. Anthropology of War 3.00 (A, C)

**History**

HIST 300. U.S. Military History 3.00

HIST 301\*. European Military History 3.00

**Justice Studies**

JUST 322. Understanding Violence and Nonviolence 3.00

JUST 331. Human Rights in Theory and Practice 3.00 or POSC 331. Human Rights in Theory and Practice 3.00

JUST 372. Ethics and International Politics 3.00 or POSC 372. Ethics and International Politics 3.00

JUST 373. Rebuilding Post Conflict Societies 3.00

JUST 374. War and Justice 3.00

JUST 375. Genocide in the 20th Century 3.00

JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00

**Political Science**

POSC 361. Topics in International Relations 3.00

POSC 371. Topics in Comparative Politics 3.00

POSC 393. Human Security 3.00

POSC 394. International Conflict 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 398. Simulations 3.00

POSC 430. International Security and Conflict Management 3.00

POSC 435. International Terrorism 3.00

POSC 440. Post-Conflict Societies 3.00

POSC 458. International Political Analysis 3.00

**Religion**

REL 363. Apocalypticism, Religious Terrorism and Peace 3.00

**Internships**

A maximum of three credits in the major may be earned through an internship. Students must consult with the international affairs coordinator PRIOR to doing an internship to check on its applicability to the major.

**Study Abroad and Washington Semester**

Many of the courses available to students through JMU's Office of International Programs and the Washington Semester program can be used to fulfill requirements in the INTA major. Students planning to go abroad should keep this in mind in working out their schedules and must consult the INTA coordinator for course approvals and substitutions. If you have questions about the Washington Semester, review the program website (<http://www.jmu.edu/polisci/washington.shtml>) and contact the program director, Dr. David Jones.

# Department of International Business

Dr. Marion M. White, **Director**

**Phone:** (540) 568-3231 **Email:** [owyarhmm@jmu.edu](mailto:owyarhmm@jmu.edu)

**Location:** Zane Showker Hall, Room 435

**Website:** <http://www.jmu.edu/cob/international-business/>

## Professors

I. Clarke, S. Elwood, S. Gallagher, R. Horn, Q. Liu, M. Rosser, M. White

## Associate Professors

N. Cavusoglu, H. Sono

## Lecturers

D. Parker, D. Zisk

## Mission

The mission of the Program of International Business is to provide nationally competitive undergraduate education in the study of international business. The program is cross disciplinary and designed to prepare students for participation in organizations that require a broad business perspective, applicable skills in global business and an understanding of the complexity of the globalized world. The program also prepares students for graduate programs in business and related fields.

## Goals

- To provide a strong foundation in the international implications for the business disciplines.
- To develop students' cultural understanding through course work and a required semester abroad.
- To enable students to gain proficiency in a second language.
- To enable students to develop extensive knowledge of a specific region of the world related to the second language.
- To develop students' competencies in addressing specific managerial issues related to international business, such as ethical considerations, managing foreign exchange risk, managing a multicultural work force, etc.
- To facilitate students' continuing development of written and oral communication skills.

## Career Opportunities

- Consumer marketing and business-to-business marketing, including sales, consumer relations and market analysis.
- Consulting, including management analysis, strategic planning, expansion overseas and market entry strategies.
- Marketing research, including database management and account analysis.
- Corporate finance, financial analyst, project management, junior analyst-finance, planning and administration.
- Capital management, credit manager, assistant treasurer - funds flow and risk management.
- Banking and financial institutions, lending officer and marketing officer.
- Foreign commercial service officer in the U.S. Department of Commerce.
- Careers that require analytic acumen and the ability to adapt quickly to diverse and changing environments.

## Co-curricular Activities and Organizations

Global Commerce Club. This student club is open to all JMU students. It sponsors speakers, informational sessions and social events.

Epsilon Chi Omicron. This organization, founded in 1987 at JMU, is the international honor society for international business. The purpose of the organization is to encourage and recognize scholarly achievement. Membership requires an outstanding academic record while at JMU.

American Marketing Association. This student club is affiliated with the American Marketing Association, a national marketing association for marketing professionals, faculty and students. MMA is open to all JMU students. MMA is comprehensive with its marketing programming and offers students information and activities in direct marketing, retailing and marketing management.

Pi Sigma Epsilon. This is a professional fraternity, which focuses on programming and extracurricular experiences in marketing, personal selling and sales management.

Financial Management Association. FMA is an organization designed for those interested in pursuing a career in the financial arena.

## *International Business, B.B.A.*

### Degree and Major Requirements

The B.B.A. degree in international business requires a minimum of 120 credit hours of undergraduate work. Fifty percent of this work, 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of nonbusiness courses, B.B.A. students may include all hours taken in general education (usually 41), up to a total of nine hours in economics and three hours of COB 191. Business Analytics I. The remaining hours, to bring the total to 60, must be taken from any department outside the College of Business. Students should purposefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives.

### Degree Requirements

#### International Business Required Courses

- General Education courses *41 Credit Hours*<sup>1,2</sup>
- B.B.A. core courses *45 Credit Hours*
- International business major requirements *24 Credit Hours*<sup>1,3</sup>
- Nonbusiness major requirements *12-15 Credit Hours*

### Total: 122-125 Credit Hours

#### Footnotes

<sup>1</sup> Students are encouraged to choose general education courses having a foreign or international content. The program office has a list of these courses. The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> Some language and general education courses may be completed during the semester abroad. <sup>3</sup> Students are required to spend the equivalent of a semester abroad. See below for details.

### Additional Information

Students planning to major in international business must complete the 27 to 28 hour, lower-level B.B.A. curriculum prior to enrolling in upper-level core courses, normally taken in the first semester of the junior year. It is expected that the lower-level core curriculum along with the university general education curriculum will be completed during the first two years of study. Failing to complete all lower-level core requirements on time will delay enrollment in upper-level core and major courses until at least the second semester of the junior year.

The foreign language requirements of the major begin at the advanced level. Consequently, students with little or no foreign language training must use elective credits to obtain proficiency through the intermediate level.

## Major Requirements

Students majoring in international business must carefully plan their individual course work because not all required courses are offered each semester and because each student in the major is required to study or work abroad. The study/work abroad requirement is for a minimum of six weeks outside of the United States, unless express permission is granted by the program director for another option. The primary language spoken in the country chosen by each student for the study/work abroad requirement is not to be English and must be the language chosen by the student to meet the IB language requirement. Approval of the study/work abroad requirement must be obtained from the program director (approval forms are available online or outside Zane Showker Hall, room 436). International students should see the program director to determine appropriate requirements for this aspect of the curriculum.

International business majors must select a world region on which to concentrate that coincides with their selected language. For example, an international business major who selects French as his/her second language could choose Europe, Africa or Asia as a world region. Also, a student who selects Spanish as the second language could select either Europe or the Americas. The acceptable world regions are Africa/Middle East, Americas, Asia and Europe.

As part of the JMU assessment program, graduating seniors are required to participate in assessment activities. Assessment information is used to assist the COB faculty in modifying curricula and co-curricular events.

## Required Courses

BLAW 497. Legal Aspects of International Business 3.00<sup>1</sup>  
IB 480. International Business Theory and Policy 3.00<sup>2</sup>  
MGT 340. International Management 3.00  
Foreign language 300. Grammar and Communication

Foreign language 307-308. Civilization  
Foreign language 330. Business  
Foreign language 375. Business and Society 3

## Footnotes

<sup>1</sup> Offered fall semester only. <sup>2</sup> Offered spring semester only. <sup>3</sup> Students choosing Spanish to meet the IB language requirement should take either SPAN 485 or SPAN 486 to fulfill this requirement.

The remaining courses will depend upon which of the following three concentrations the student selects:

- General
- Marketing
- Finance

The requirements for each of the three concentrations are outlined below.

## B.B.A. Core Component

### B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I 3.00<sup>1</sup>  
COB 202. Interpersonal Skills 3.00  
COB 204. Computer Information Systems 3.00  
COB 241. Financial Accounting 3.00  
COB 291. Business Analytics II 3.00<sup>2</sup>  
ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00  
MATH 205. Introductory Calculus I [C3QR] 3.00<sup>3</sup> or MATH 235. Calculus I [C3QR] 4.00<sup>3</sup>  
COB 242. Managerial Accounting 3.00<sup>4,5</sup>

### B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management 3.00<sup>5,6</sup>  
COB 300B. Integrative Business: Finance 3.00<sup>5,6</sup>  
COB 300C. Integrative Business: Operations 3.00<sup>5,6</sup>

COB 300D. Integrative Business: Marketing 3.00<sup>5,6</sup>  
COB 318. Legal and Ethical Environment of Business 3.00<sup>7</sup>  
COB 487. Strategic Management 3.00<sup>8</sup>

## Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

## Recommended Schedule for Majors, International Business

### Third Year

COB 300A. Integrative Business: Management 3.00  
COB 300B. Integrative Business: Finance 3.00  
COB 300C. Integrative Business: Operations 3.00  
COB 300D. Integrative Business: Marketing 3.00

COB 318. Legal and Ethical Environment of Business 3.00  
ECON 270. International Economics 3.00<sup>2</sup>  
General Education courses 6.00  
Foreign language (300) grammar and communication 3.00<sup>1</sup>  
Foreign language (307-308) civilization course 3.00<sup>1</sup>

## Total: 30 Credit Hours

## Footnotes

<sup>1</sup> International business major requirement. <sup>2</sup> International business major requirement. Students with a finance concentration must take ECON 370 in place of ECON 270. ECON 370 is offered fall semester only.

## *International Business, Finance Concentration, B.B.A.*

### Concentration Requirements

#### Fourth Year

ACTG 483. International Accounting and Financial Reporting 3.00<sup>1,3</sup>  
BLAW 497. Legal Aspects of International Business 3.00<sup>1,2</sup>  
ECON 372. International Finance and Payments 3.00<sup>1</sup>  
FIN 355. International Financial Management 3.00<sup>1,2</sup>  
FIN 360. Analytical Methods in Finance 3.00<sup>1</sup>

IB 480. International Business Theory and Policy 3.00<sup>1,3</sup>  
MGT 340. International Management 3.00<sup>1</sup>  
COB 487. Strategic Management 3.00  
Foreign language (330) business course 3.00<sup>1</sup>  
Foreign language (375) business and society 3.00<sup>1</sup>

## Total: 30 Credit Hours

## Footnotes

<sup>1</sup> International business major requirement. <sup>2</sup> Offered fall semester only. <sup>3</sup> Offered spring semester only.

## *International Business, General Concentration, B.B.A.*

### Concentration Requirements

#### Fourth Year

ACTG 483. International Accounting and Financial Reporting 3.00 <sup>1,3</sup>  
BLAW 497. Legal Aspects of International Business 3.00 <sup>1,2</sup>  
FIN 355. International Financial Management 3.00 <sup>1,2</sup>  
IB 480. International Business Theory and Policy 3.00 <sup>1,3</sup>  
MGT 340. International Management 3.00 <sup>1</sup>

**Total: 30 Credit Hours**

**Footnotes**

<sup>1</sup> International business major requirement. <sup>2</sup> Offered fall semester only. <sup>3</sup> Offered spring semester only.

***International Business, Marketing Concentration, B.B.A.***

**Concentration Requirements**

**Fourth Year**

BLAW 497. Legal Aspects of International Business 3.00 <sup>1,2</sup>  
IB 480. International Business Theory and Policy 3.00 <sup>1,3</sup>  
MGT 340. International Management 3.00 <sup>1</sup>  
MKTG 460. Global Marketing 3.00 <sup>1</sup>  
International Business approved elective 3.00 1  
COB 487. Strategic Management 3.00  
Foreign language (330) business course 3.00 1

**Total: 30 Credit Hours**

**Footnotes**

<sup>1</sup> International business major requirement. <sup>2</sup> Offered fall semester only. <sup>3</sup> Offered spring semester only. <sup>4</sup> MKTG 384 is a prerequisite for MKTG 470.

MKTG 460. Global Marketing 3.00 <sup>1</sup>  
International Business approved elective 3.00 1  
COB 487. Strategic Management 3.00  
Foreign language (330) business course 3.00 1  
Foreign language (375) business and society 3.00 1

Foreign language (375) business and society 3.00 1  
*Choose two of the following: 6 Credit Hours*  
MKTG 384. Integrated Marketing Communications 3.00  
MKTG 385. Consumer Behavior 3.00  
MKTG 430. Professional Selling 3.00  
MKTG 470. Strategic Internet Marketing 3.00 <sup>4</sup>  
MKTG 482. Marketing Analytics 3.00



# Department of Justice Studies

Dr. Glenn P. Hastedt, **Director**

Phone: (540) 568-7124

Email: [hastedgp@jmu.edu](mailto:hastedgp@jmu.edu)

Location: Moody Hall, Room 213

Website: <http://www.jmu.edu/justicestudies>

## Professors

T. Castle, G. Hastedt, P. Plass, C. Robinson, S. Spivey

## Associate Professors

T. Beitzel, B. Meade, M. Poteyeva, H. Scheurman

## Assistant Professors

D. Beers, G. DeFazio, T. Parsons, C. Watkins

## Lecturer

D. Breneman

## Mission

Justice studies is committed to offering a cross disciplinary, intellectually challenging and vocationally relevant course of study for persons interested in academic or applied careers in justice studies at the community, national or global level.

## Goals

To carry out this mission, justice studies seeks to:

- Help students develop a comprehensive understanding of justice studies.
- Examine and explain justice and injustice and their impact on individuals, communities, institutions and/or nations.
- Understand human behavior and interactive systems with a focus on negotiation and conflict resolution in justice contexts.
- Sharpen students' ability to think and reason critically, to practice sound methodological skills and to communicate effectively.
- Prepare students to utilize and produce scholarship in the field of justice studies.

## Career Opportunities

The justice studies major includes opportunities for field work and career-related internships as part of the curriculum.

- Peace Corps
- Non-government organizations
- Law enforcement
- Corrections
- Law
- Nonprofit groups (national and international)
- Human services
- Domestic and international security
- Intelligence analysis
- Diplomatic Corps
- Research and graduate study

## Transfer Credit

A maximum of three courses may be transferred into the justice studies major from other institutions. No transfer credit will be given for any course offered in the major at the 300 or 400 level.

## *Justice Studies, Crime and Criminology Track, B.A.*

### Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*
- Philosophy course *3 Credit Hours*<sup>1</sup>
- Foreign language courses (intermediate level required) *1-14 Credit Hours*
- Major requirements (core courses and selected tracks) *41 Credit Hours*
- Electives *18-38 Credit Hours*

#### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> Any PHIL course except PHIL 120 or PHIL 150. Consult the list of courses satisfying Bachelor of Arts degree requirements on the Registrar's website.

### Major Requirements

#### Core Courses

- JUST 100. Justice Studies Proseminar *1.00*
- JUST 200. Introduction to Justice Studies *3.00*
- JUST 399. Justice Research Methods *4.00*
- JUST 400. Senior Seminar in Justice Studies *3.00*
- Choose one of the following: 3 Credit Hours*
- JUST 300. Perspectives On Comparative Justice *3.00*
- JUST 323. Comparative Criminal Justice *3.00*
- JUST 328. Race, Class and Justice *3.00*

*Choose one of the following (which is not required for your track): 3 Credit Hours*

- JUST 210. Crime and Criminal Justice *3.00*
- JUST 212. Theories of Crime and Criminal Justice *3.00*
- JUST 221. Social Justice Theories *3.00*
- JUST 223. Social Justice Interventions and Policies *3.00*
- JUST 235. Justice in the Global Community *3.00*
- JUST 237. Dilemmas in Global Justice *3.00*

#### Total: 17 Credit Hours

#### Students must select one of the following tracks:

#### Track A. Crime and Criminology

This track focuses on the nature, causes and solutions for crime, primarily but not exclusively in the United States. All students in Track A must take JUST 210. Crime and Criminal Justice, and JUST 212. Theories of Crime and Criminal Justice. Students select six additional courses from the following. At least four of the six electives must have a JUST identifier.

#### Courses

Note: Other courses may be substituted with adviser's and department chair's consent.

Select six additional courses from the following:

JUST 301. Special Topics in Justice Studies *3.00* (when topic is appropriate)<sup>1</sup>

JUST 307. Justice and Crime 3.00  
 JUST 309. Global Crime 3.00  
 JUST 311. Women, Crime and Criminal Justice 3.00  
 JUST 316. Human Development and Crime 3.00 or PSYC 316. Human Development and Crime 3.00  
 JUST 317. Victimization of Children 3.00  
 JUST 318. Sex Offenders 3.00  
 JUST 320. Organized Crime 3.00  
 JUST 322. Understanding Violence and Nonviolence 3.00  
 JUST 324. Death Penalty 3.00  
 JUST 327. Criminal Law 3.00  
 JUST 329. Perspectives On Law 3.00  
 JUST 330. Corrections 3.00 or SOWK 330. Corrections 3.00  
 JUST 334. Media and Justice 3.00

JUST 339. Mapping Justice 3.00  
 JUST 341. Gender and Justice 3.00  
 JUST 343. Justice and Society 3.00  
 JUST 345. Restorative Justice 3.00  
 JUST 357. Environmental Justice 3.00  
 JUST 361. Terrorism 3.00  
 JUST 365. Justice in Literature, Film and Art 3.00<sup>1</sup>  
 JUST 385. Disability and Justice 3.00  
 JUST 401. Internship in Justice Studies 4.00<sup>1</sup>  
 JUST 402. Advanced Research in Justice Studies 3.00<sup>1</sup>  
 JUST 403. Nelson Institute Seminar 3.00<sup>1</sup>  
 JUST 404. Practicum in Community-Based Research 3.00<sup>1</sup>  
 JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
 PSYC 415. Forensic Psychology 3.00<sup>2</sup>

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> May be taken for elective credit in Track A when the topic is appropriate. Students should seek approval from their advisers or the academic unit head. <sup>2</sup> Course is only open to students who are double majoring in Psychology.

### Recommended Schedule for Majors

#### First Year

JUST 200. Introduction to Justice Studies 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399)<sup>1</sup>  
 Track core course 3 Credit Hours

**Total: 9 Credit Hours**

#### Second Year

Track foundation course 3 Credit Hours  
 Outside track foundation course 3 Credit Hours  
 Track electives 6 Credit Hours

**Total: 12 Credit Hours**

#### Third Year

JUST 100. Justice Studies Proseminar 1.00  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 399. Justice Research Methods 4.00  
 Track electives 9 Credit Hours

**Total: 17 Credit Hours**

#### Fourth Year

JUST 400. Senior Seminar in Justice Studies 3.00  
 Track electives 3 Credit Hours

**Total: 6 Credit Hours**

#### Footnotes

<sup>1</sup> Can be counted for General Education, Cluster Three.

## *Justice Studies, Crime and Criminology Track, B.S.*

### Degree Requirements

#### Required Courses

- General Education courses 41 Credit Hours
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific literacy requirement (in addition to General Education) 3-4 Credit Hours
- Major requirements (core courses and selected track) 41 Credit Hours
- Electives 28-35 Credit Hours

**Total: 120 Credit Hours**

### Major Requirements

#### Core Courses

JUST 100. Justice Studies Proseminar 1.00  
 JUST 200. Introduction to Justice Studies 3.00  
 JUST 399. Justice Research Methods 4.00  
 JUST 400. Senior Seminar in Justice Studies 3.00  
 Choose one of the following: 3 Credit Hours  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 323. Comparative Criminal Justice 3.00  
 JUST 328. Race, Class and Justice 3.00

Choose one of the following (which is not required for your track): 3 Credit Hours

JUST 210. Crime and Criminal Justice 3.00  
 JUST 212. Theories of Crime and Criminal Justice 3.00  
 JUST 221. Social Justice Theories 3.00  
 JUST 223. Social Justice Interventions and Policies 3.00  
 JUST 235. Justice in the Global Community 3.00  
 JUST 237. Dilemmas in Global Justice 3.00

**Total: 17 Credit Hours**

#### Students must select one of the following tracks:

- Track A. Crime and Criminology
- Track B. Global Justice and Policy
- Track C. Social Justice Engagement

#### Track A. Crime and Criminology

This track focuses on the nature, causes and solutions for crime, primarily but not exclusively in the United States. All students in Track A must take JUST 210. Crime and Criminal Justice, and JUST 212. Theories of Crime and Criminal Justice. Students select six additional courses from the following. At least four of the six electives must have a JUST identifier.

#### Courses

Note: Other courses may be substituted with adviser's and department chair's consent.

Select six additional courses from the following:

JUST 301. Special Topics in Justice Studies 3.00 (when topic is appropriate)<sup>1</sup>  
 JUST 307. Justice and Crime 3.00  
 JUST 309. Global Crime 3.00  
 JUST 311. Women, Crime and Criminal Justice 3.00  
 JUST 316. Human Development and Crime 3.00 or PSYC 316. Human Development and Crime 3.00

JUST 317. Victimization of Children 3.00  
 JUST 318. Sex Offenders 3.00  
 JUST 320. Organized Crime 3.00  
 JUST 322. Understanding Violence and Nonviolence 3.00  
 JUST 324. Death Penalty 3.00  
 JUST 327. Criminal Law 3.00

JUST 329. Perspectives On Law 3.00  
 JUST 330. Corrections 3.00 or SOWK 330. Corrections 3.00  
 JUST 334. Media and Justice 3.00  
 JUST 339. Mapping Justice 3.00  
 JUST 341. Gender and Justice 3.00  
 JUST 343. Justice and Society 3.00  
 JUST 345. Restorative Justice 3.00  
 JUST 357. Environmental Justice 3.00  
 JUST 361. Terrorism 3.00

JUST 365. Justice in Literature, Film and Art 3.00<sup>1</sup>  
 JUST 385. Disability and Justice 3.00  
 JUST 401. Internship in Justice Studies 4.00<sup>1</sup>  
 JUST 402. Advanced Research in Justice Studies 3.00<sup>1</sup>  
 JUST 403. Nelson Institute Seminar 3.00<sup>1</sup>  
 JUST 404. Practicum in Community-Based Research 3.00<sup>1</sup>  
 JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
 PSYC 415. Forensic Psychology 3.00<sup>2</sup>

**Total: 18 Credit Hours**

**Footnotes**

<sup>1</sup> May be taken for elective credit in Track A when the topic is appropriate. Students should seek approval from their advisers or the academic unit head. <sup>2</sup> Course is only open to students who are double majoring in Psychology.

**Recommended Schedule for Majors**

**First Year**

JUST 200. Introduction to Justice Studies 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399)<sup>1</sup>  
 Track core course 3 Credit Hours

**Total: 9 Credit Hours**

**Second Year**

Track foundation course 3 Credit Hours  
 Outside track foundation course 3 Credit Hours  
 Track electives 6 Credit Hours

**Total: 12 Credit Hours**

**Third Year**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 399. Justice Research Methods 4.00  
 Track electives 9 Credit Hours

**Total: 17 Credit Hours**

**Fourth Year**

JUST 400. Senior Seminar in Justice Studies 3.00  
 Track electives 3 Credit Hours

**Total: 6 Credit Hours**

**Footnotes**

<sup>1</sup> Can be counted for General Education, Cluster Three.

***Justice Studies, Global Justice and Policy Track, B.A.***

**Degree Requirements**

**Required Courses**

- General Education 41 Credit Hours
- Philosophy course 3 Credit Hours<sup>1</sup>
- Foreign language courses (intermediate level required) 1-14 Credit Hours
- Major requirements (core courses and selected tracks) 41 Credit Hours
- Electives 18-38 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> Any PHIL course except PHIL 120 or PHIL 150. Consult the list of courses satisfying Bachelor of Arts degree requirements on the Registrar's website.

**Major Requirements**

**Core Courses**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 200. Introduction to Justice Studies 3.00  
 JUST 399. Justice Research Methods 4.00  
 JUST 400. Senior Seminar in Justice Studies 3.00  
 Choose one of the following: 3 Credit Hours  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 323. Comparative Criminal Justice 3.00  
 JUST 328. Race, Class and Justice 3.00

Choose one of the following (which is not required for your track): 3 Credit Hours

JUST 210. Crime and Criminal Justice 3.00  
 JUST 212. Theories of Crime and Criminal Justice 3.00  
 JUST 221. Social Justice Theories 3.00  
 JUST 223. Social Justice Interventions and Policies 3.00  
 JUST 235. Justice in the Global Community 3.00  
 JUST 237. Dilemmas in Global Justice 3.00

**Total: 17 Credit Hours**

**Students must select one of the following tracks:**

**Track B. Global Justice and Policy**

This track explores issues of justice in global context. Most prominent among them are questions of security, equity and equality. Courses in this track address the individual, group and state dimensions of these and related issues in a diverse set of policy areas including democratization, cultural identity, developmental, environmental protection, conflict resolution and human rights.

All students in Track B must take JUST 235. Justice in the Global Community and JUST 237. Dilemmas in Global Justice.

Students select six additional courses from the following. At least four must have a JUST identifier.

**Courses**

Note: Other courses may be substituted with adviser's and department chair's consent.

Select six additional courses from the following:

- JUST 301. Special Topics in Justice Studies 3.00<sup>2</sup>
- JUST 309. Global Crime 3.00
- JUST 320. Organized Crime 3.00
- JUST 324. Death Penalty 3.00
- JUST 331. Human Rights in Theory and Practice 3.00 or POSC 331. Human Rights in Theory and Practice 3.00
- JUST 334. Media and Justice 3.00<sup>2</sup>
- JUST 339. Mapping Justice 3.00
- JUST 341. Gender and Justice 3.00
- JUST 345. Restorative Justice 3.00
- JUST 350. Justice and Globalization 3.00
- JUST 351. Building Democracy 3.00

JUST 353. Justice and Development 3.00  
 JUST 357. Environmental Justice 3.00  
 JUST 361. Terrorism 3.00  
 JUST 365. Justice in Literature, Film and Art 3.00<sup>2</sup>  
 JUST 372. Ethics and International Politics 3.00 or POSC 372. Ethics and International Politics 3.00  
 JUST 373. Rebuilding Post Conflict Societies 3.00  
 JUST 374. War and Justice 3.00  
 JUST 375. Genocide in the 20th Century 3.00  
 JUST 376. Global Social Movements 3.00  
 JUST 377. Global Futures 3.00  
 JUST 385. Disability and Justice 3.00  
 JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00  
 JUST 401. Internship in Justice Studies 4.00<sup>2</sup>  
 JUST 402. Advanced Research in Justice Studies 3.00<sup>2</sup>  
 JUST 403. Nelson Institute Seminar 3.00<sup>2</sup>

JUST 404. Practicum in Community-Based Research 3.00<sup>2</sup>  
 JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
 MSCI 390. The Combat Experience 3.00  
 PHIL 335. The Individual, the State, and Justice 3.00  
 POSC 395. International Law 3.00  
 POSC 396. International Organizations 3.00  
 SCOM 332. Mediation 3.00  
 SCOM 342. Argument and Advocacy 3.00  
 SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00  
 Any 300-level anthropology course that is centered on a world region (other than North America) 1  
 Any 300-level history course that is centered on a world region (other than North America) and that includes coverage of the 20th century 1  
 Any 300-level political science course that is regionally focused 1  
 Any 300-level religion course with a contemporary and international focus

**Total: 18 Credit Hours**

**Footnotes**

<sup>1</sup> Only one course from this option may be counted towards the major; approval for course selection from Justice Studies and the academic unit offering the course is also required. <sup>2</sup> May be taken for elective credit in Track B when the topic is appropriate. Students should seek approval from their adviser or the department head.

**Recommended Schedule for Majors**

**First Year**

JUST 200. Introduction to Justice Studies 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399)<sup>1</sup>  
 Track core course 3 Credit Hours

**Total: 9 Credit Hours**

**Second Year**

Track foundation course 3 Credit Hours  
 Outside track foundation course 3 Credit Hours  
 Track electives 6 Credit Hours

**Total: 12 Credit Hours**

**Third Year**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 399. Justice Research Methods 4.0  
 Track electives 9 Credit Hours

**Total: 17 Credit Hours**

**Fourth Year**

JUST 400. Senior Seminar in Justice Studies 3.00  
 Track electives 3 Credit Hours

**Total: 6 Credit Hours**

**Footnotes**

<sup>1</sup> Can be counted for General Education, Cluster Three.

**Justice Studies, Global Justice and Policy Track, B.S.**

**Degree Requirements**

**Required Courses**

- General Education courses 41 Credit Hours
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific literacy requirement (in addition to General Education) 3-4 Credit Hours
- Major requirements (core courses and selected track) 41 Credit Hours
- Electives 28-35 Credit Hours

**Total: 120 Credit Hours**

**Major Requirements**

**Core Courses**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 200. Introduction to Justice Studies 3.00  
 JUST 399. Justice Research Methods 4.00  
 JUST 400. Senior Seminar in Justice Studies 3.00  
 Choose one of the following: 3 Credit Hours  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 323. Comparative Criminal Justice 3.00  
 JUST 328. Race, Class and Justice 3.00

Choose one of the following (which is not required for your track): 3 Credit Hours

JUST 210. Crime and Criminal Justice 3.00  
 JUST 212. Theories of Crime and Criminal Justice 3.00  
 JUST 221. Social Justice Theories 3.00  
 JUST 223. Social Justice Interventions and Policies 3.00  
 JUST 235. Justice in the Global Community 3.00  
 JUST 237. Dilemmas in Global Justice 3.00

**Total: 17 Credit Hours**

**Track B. Global Justice and Policy**

This track explores issues of justice in global context. Most prominent among them are questions of security, equity and equality. Courses in this track address the individual, group and state dimensions of these and related issues in a diverse set of policy areas including democratization, cultural identity, developmental, environmental protection, conflict resolution and human rights.

All students in Track B must take JUST 235. Justice in the Global Community and JUST 237. Dilemmas in Global Justice.

Students select six additional courses from the following. At least four must have a JUST identifier.

**Courses**

Note: Other courses may be substituted with adviser's and department chair's consent.

Select six additional courses from the following:

JUST 301. Special Topics in Justice Studies 3.00<sup>2</sup>  
 JUST 309. Global Crime 3.00  
 JUST 320. Organized Crime 3.00  
 JUST 324. Death Penalty 3.00

JUST 331. Human Rights in Theory and Practice 3.00 or POSC 331. Human Rights in Theory and Practice 3.00  
 JUST 334. Media and Justice 3.00<sup>2</sup>  
 JUST 339. Mapping Justice 3.00  
 JUST 341. Gender and Justice 3.00  
 JUST 345. Restorative Justice 3.00  
 JUST 350. Justice and Globalization 3.00  
 JUST 351. Building Democracy 3.00  
 JUST 353. Justice and Development 3.00  
 JUST 357. Environmental Justice 3.00  
 JUST 361. Terrorism 3.00  
 JUST 365. Justice in Literature, Film and Art 3.00<sup>2</sup>  
 JUST 372. Ethics and International Politics 3.00 or POSC 372. Ethics and International Politics 3.00  
 JUST 373. Rebuilding Post Conflict Societies 3.00  
 JUST 374. War and Justice 3.00  
 JUST 375. Genocide in the 20th Century 3.00  
 JUST 376. Global Social Movements 3.00  
 JUST 377. Global Futures 3.00  
 JUST 385. Disability and Justice 3.00

**Total: 18 Credit Hours**

**Footnotes**

<sup>1</sup> Only one course from this option may be counted towards the major; approval for course selection from Justice Studies and the academic unit offering the course is also required. <sup>2</sup> May be taken for elective credit in Track B when the topic is appropriate. Students should seek approval from their adviser or the department head.

**Recommended Schedule for Majors**

**First Year**

JUST 200. Introduction to Justice Studies 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399)<sup>1</sup>  
 Track core course 3 Credit Hours

**Total: 9 Credit Hours**

**Second Year**

Track foundation course 3 Credit Hours  
 Outside track foundation course 3 Credit Hours  
 Track electives 6 Credit Hours

**Total: 12 Credit Hours**

**Footnotes**

<sup>1</sup> Can be counted for General Education, Cluster Three.

***Justice Studies, Social Justice Engagement Track, B.A.***

**Degree Requirements**

**Required Courses**

- General Education 41 Credit Hours
- Philosophy course 3 Credit Hours<sup>1</sup>
- Foreign language courses (intermediate level required) 1-14 Credit Hours
- Major requirements (core courses and selected tracks) 41 Credit Hours
- Electives 18-38 Credit Hours

**Total: 120 Credit Hours**

**Footnotes**

<sup>1</sup> Any PHIL course except PHIL 120 or PHIL 150. Consult the list of courses satisfying Bachelor of Arts degree requirements on the Registrar's website.

**Major Requirements**

**Core Courses**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 200. Introduction to Justice Studies 3.00  
 JUST 399. Justice Research Methods 4.00  
 JUST 400. Senior Seminar in Justice Studies 3.00  
*Choose one of the following: 3 Credit Hours*  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 323. Comparative Criminal Justice 3.00  
 JUST 328. Race, Class and Justice 3.00

**Total: 17 Credit Hours**

**Track C. Social Justice**

This track is designed to investigate what is fair, equitable and just for society. Emphasizing the oppression and liberation of vulnerable, exploited and marginalized populations, this curriculum promotes sustainable and just solutions to social, political and economic problems.

Students in Track C must take JUST 221. Social Justice Theories, and JUST 223. Social Justice Interventions and Policies.

Students select six additional courses from the following. At least four of the six electives must have a JUST identifier.

**Courses**

JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00  
 JUST 401. Internship in Justice Studies 4.00<sup>2</sup>  
 JUST 402. Advanced Research in Justice Studies 3.00<sup>2</sup>  
 JUST 403. Nelson Institute Seminar 3.00<sup>2</sup>  
 JUST 404. Practicum in Community-Based Research 3.00<sup>2</sup>  
 JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
 MSCJ 390. The Combat Experience 3.00  
 PHIL 335. The Individual, the State, and Justice 3.00  
 POSC 395. International Law 3.00  
 POSC 396. International Organizations 3.00  
 SCOM 332. Mediation 3.00  
 SCOM 342. Argument and Advocacy 3.00  
 SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00  
 Any 300-level anthropology course that is centered on a world region (other than North America) 1  
 Any 300-level history course that is centered on a world region (other than North America) and that includes coverage of the 20th century 1  
 Any 300-level political science course that is regionally focused 1  
 Any 300-level religion course with a contemporary and international focus

**Third Year**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 399. Justice Research Methods 4.00  
 Track electives 9 Credit Hours

**Total: 17 Credit Hours**

**Fourth Year**

JUST 400. Senior Seminar in Justice Studies 3.00  
 Track electives 3 Credit Hours

**Total: 6 Credit Hours**

*Choose one of the following (which is not required for your track): 3 Credit Hours*

JUST 210. Crime and Criminal Justice 3.00  
 JUST 212. Theories of Crime and Criminal Justice 3.00  
 JUST 221. Social Justice Theories 3.00  
 JUST 223. Social Justice Interventions and Policies 3.00  
 JUST 235. Justice in the Global Community 3.00  
 JUST 237. Dilemmas in Global Justice 3.00

Note: Other courses may be substituted with adviser's and department chair's consent.

Choose from the following:

HIST 338. U.S. Urban History 3.00 or SOCI 338. U.S. Urban History 3.00  
JUST 301. Special Topics in Justice Studies 3.00<sup>1</sup>  
JUST 309. Global Crime 3.00  
JUST 311. Women, Crime and Criminal Justice 3.00  
JUST 322. Understanding Violence and Nonviolence 3.00  
JUST 324. Death Penalty 3.00  
JUST 334. Media and Justice 3.00<sup>1</sup>  
JUST 339. Mapping Justice 3.00  
JUST 341. Gender and Justice 3.00  
JUST 343. Justice and Society 3.00  
JUST 357. Environmental Justice 3.00  
JUST 361. Terrorism 3.00  
JUST 365. Justice in Literature, Film and Art 3.00  
JUST 375. Genocide in the 20th Century 3.00  
JUST 376. Global Social Movements 3.00  
JUST 385. Disability and Justice 3.00  
JUST 386. Sexual Orientation and Social Policy 3.00

JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00  
JUST 401. Internship in Justice Studies 4.00<sup>1</sup>  
JUST 402. Advanced Research in Justice Studies 3.00<sup>1</sup>  
JUST 403. Nelson Institute Seminar 3.00<sup>1</sup>  
JUST 404. Practicum in Community-Based Research 3.00<sup>1</sup>  
JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
MSCI 390. The Combat Experience 3.00  
POSC 326. Civil Rights 3.00  
POSC 348. The Politics of Cultural Pluralism 3.00  
POSC 383. Women and Politics in Comparative Perspective 3.00  
PSYC 310. The Psychology of Women and Gender 3.00<sup>2</sup>  
PSYC 320. Diversity Issues in Psychology 3.00  
REL 322. Sociology of Religion 3.00 or SOCI 322. Sociology of Religion 3.00  
REL 450. Religion and Society 3.00  
SOCI 336. Race and Ethnicity 3.00  
SOCI 354. Social Inequality 3.00  
SOCI 367. Sociology of Sexuality 3.00

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> May be taken for elective credit in Track C when the topic is appropriate. Students should seek approval from their advisers or the department head. <sup>2</sup> Course is only open to students who are double majoring in psychology.

### Recommended Schedule for Majors

#### First Year

JUST 200. Introduction to Justice Studies 3.00  
MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399)<sup>1</sup>  
Track core course 3 Credit Hours

**Total: 9 Credit Hours**

#### Second Year

Track foundation course 3 Credit Hours  
Outside track foundation course 3 Credit Hours  
Track electives 6 Credit Hours

**Total: 12 Credit Hours**

#### Footnotes

<sup>1</sup> Can be counted for General Education, Cluster Three.

#### Third Year

JUST 100. Justice Studies Proseminar 1.00  
JUST 300. Perspectives On Comparative Justice 3.00  
JUST 399. Justice Research Methods 4.00  
Track electives 9 Credit Hours

**Total: 17 Credit Hours**

#### Fourth Year

JUST 400. Senior Seminar in Justice Studies 3.00  
Track electives 3 Credit Hours

**Total: 6 Credit Hours**

## *Justice Studies, Social Justice Engagement Track, B.S.*

### Degree Requirements

#### Required Courses

- General Education courses 41 Credit Hours
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific literacy requirement (in addition to General Education) 3-4 Credit Hours
- Major requirements (core courses and selected track) 41 Credit Hours
- Electives 28-35 Credit Hours

**Total: 120 Credit Hours**

### Major Requirements

#### Core Courses

JUST 100. Justice Studies Proseminar 1.00  
JUST 200. Introduction to Justice Studies 3.00  
JUST 399. Justice Research Methods 4.00  
JUST 400. Senior Seminar in Justice Studies 3.00  
*Choose one of the following: 3 Credit Hours*  
JUST 300. Perspectives On Comparative Justice 3.00  
JUST 323. Comparative Criminal Justice 3.00  
JUST 328. Race, Class and Justice 3.00

*Choose one of the following (which is not required for your track): 3 Credit Hours*

JUST 210. Crime and Criminal Justice 3.00  
JUST 212. Theories of Crime and Criminal Justice 3.00  
JUST 221. Social Justice Theories 3.00  
JUST 223. Social Justice Interventions and Policies 3.00  
JUST 235. Justice in the Global Community 3.00  
JUST 237. Dilemmas in Global Justice 3.00

**Total: 17 Credit Hours**

#### Track C. Social Justice

This track is designed to investigate what is fair, equitable and just for society. Emphasizing the oppression and liberation of vulnerable, exploited and marginalized populations, this curriculum promotes sustainable and just solutions to social, political and economic problems.

Students in Track C must take JUST 221. Social Justice Theories, and JUST 223. Social Justice Interventions and Policies.

Students select six additional courses from the following. At least four of the six electives must have a JUST identifier.

#### Courses

Note: Other courses may be substituted with adviser's and department chair's consent.

Choose from the following:

HIST 338. U.S. Urban History 3.00 or SOCI 338. U.S. Urban History 3.00

JUST 301. Special Topics in Justice Studies 3.00<sup>1</sup>

JUST 309. Global Crime 3.00  
 JUST 311. Women, Crime and Criminal Justice 3.00  
 JUST 322. Understanding Violence and Nonviolence 3.00  
 JUST 324. Death Penalty 3.00  
 JUST 334. Media and Justice 3.00 <sup>1</sup>  
 JUST 339. Mapping Justice 3.00  
 JUST 341. Gender and Justice 3.00  
 JUST 343. Justice and Society 3.00  
 JUST 357. Environmental Justice 3.00  
 JUST 361. Terrorism 3.00  
 JUST 365. Justice in Literature, Film and Art 3.00  
 JUST 375. Genocide in the 20th Century 3.00  
 JUST 376. Global Social Movements 3.00  
 JUST 385. Disability and Justice 3.00  
 JUST 386. Sexual Orientation and Social Policy 3.00  
 JUST 392. Peace Studies 3.00 or POSC 392. Peace Studies 3.00  
 JUST 401. Internship in Justice Studies 4.00 <sup>1</sup>

JUST 402. Advanced Research in Justice Studies 3.00 <sup>1</sup>  
 JUST 403. Nelson Institute Seminar 3.00 <sup>1</sup>  
 JUST 404. Practicum in Community-Based Research 3.00 <sup>1</sup>  
 JUST 405. Research Assistantship in Justice Studies 1.00-3.00  
 MSCI 390. The Combat Experience 3.00  
 POSC 326. Civil Rights 3.00  
 POSC 348. The Politics of Cultural Pluralism 3.00  
 POSC 383. Women and Politics in Comparative Perspective 3.00  
 PSYC 310. The Psychology of Women and Gender 3.00 <sup>2</sup>  
 PSYC 320. Diversity Issues in Psychology 3.00  
 REL 322. Sociology of Religion 3.00 or SOCI 322. Sociology of Religion 3.00  
 REL 450. Religion and Society 3.00  
 SOCI 336. Race and Ethnicity 3.00  
 SOCI 354. Social Inequality 3.00  
 SOCI 367. Sociology of Sexuality 3.00

**Total: 18 Credit Hours**

**Footnotes**

<sup>1</sup> May be taken for elective credit in Track C when the topic is appropriate. Students should seek approval from their advisers or the department head. <sup>2</sup> Course is only open to students who are double majoring in psychology.

**Recommended Schedule for Majors**

**First Year**

JUST 200. Introduction to Justice Studies 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00 (prerequisite for JUST 399) <sup>1</sup>  
 Track core course 3 Credit Hours

**Total: 9 Credit Hours**

**Second Year**

Track foundation course 3 Credit Hours  
 Outside track foundation course 3 Credit Hours  
 Track electives 6 Credit Hours

**Total: 12 Credit Hours**

**Footnotes**

<sup>1</sup> Can be counted for General Education, Cluster Three.

**Third Year**

JUST 100. Justice Studies Proseminar 1.00  
 JUST 300. Perspectives On Comparative Justice 3.00  
 JUST 399. Justice Research Methods 4.00  
 Track electives 9 Credit Hours

**Total: 17 Credit Hours**

**Fourth Year**

JUST 400. Senior Seminar in Justice Studies 3.00  
 Track electives 3 Credit Hours

**Total: 6 Credit Hours**

# Department of Kinesiology

Dr. Janet Wigglesworth, **Department Head**

Phone: (540) 568-6145

Email: [wigglej@jmu.edu](mailto:wigglej@jmu.edu)

Location: Godwin Hall, Room 213

Website: <http://www.jmu.edu/kinesiology>

## Professors

S. Nye, M. Saunders, D. Wenos, J. Wigglesworth, J. Williams, C. Womack

## Associate Professors

E. Edwards, T. Hargens, N. Luden, T. Moran, S. Carson Sackett

## Assistant Professors

L. Gano-Overway, S. Kurti, C. McKay, G. Young

## Instructors

C. Duncan, R. Lifka, P. McMahan, J. Walters

## Mission

The Department of Kinesiology is dedicated to the development of future leaders in professions that maximize the potential of individuals and society through physical activity.

Programs include exercise science and teacher education in physical education and health.

The department is committed to providing:

- Outstanding undergraduate programs based on the criteria of relevant professional associations which will enable graduates success in their professional endeavors.
- Programs that build upon the strong liberal studies background provided through General Education.
- Opportunities that challenge students to think critically.
- Use of technological advances.
- An appreciation of the global community.
- Quality graduate programs that complement the undergraduate programs and provide qualified students with an opportunity for advanced study in the kinesiology discipline.
- Contributions to the university's General Education curriculum through programs designed to promote lifelong fitness and wellness.
- Service to JMU, the professions and local community through our unique knowledge and expertise.
- Research and development projects that push back the boundaries of knowledge and promote effective practice in the kinesiology discipline.

## Career Opportunities and Marketable Skills

- Athletic coach
- Exercise specialist
- Fitness facility manager
- Physical and health education
- Pre-professional health programs (pre-physical therapy, pre-medicine, pre-physician's assistant, pre-occupational therapy)

## Coaching Education Minor

### Minor Requirements

This minor prepares students for the coaching profession on the high school and younger level by complying with the requirements of the National Council for Accreditation of Coaching Education at Level 3, intermediate coach. Evidence of CPR/first aid certification must be presented prior to the coaching practicum. To enroll in the practicum, all of the minor courses except KIN 450 must be successfully completed (minimum of a "C") and the student's overall GPA must be 2.0. To successfully complete the minor, students must:

- Complete the American Sport Education Program (ASEP) Coaching Principles course and earn ASEP certification (part of KIN 450).
- Earn a minimum grade of a "C" in each of the six courses and a "satisfactory" on the practicum (KIN 473).

### Courses

ATEP 205. Introduction to Athletic Training (2,2) 3.00

KIN 202. Biological Foundations of Kinesiology & Recreation 3.00

KIN 353. Maximizing Sports Performance 3.00

KIN 425. Concepts of Strength and Conditioning 3.00

KIN 450. Principles of Coaching 3.00

KIN 473. Practicum in Coaching 3.00

Kinesiology techniques of sport class (with coordinator approval) 2 Credit Hours

**Total: 20 Credit Hours**

## Kinesiology, Exercise Science Concentration, B.S.

### Degree and Major Requirements

Students are advised to be certain they complete all General Education requirements before applying for graduation.

The kinesiology major program leads to the Bachelor of Science degree. Students are advised to familiarize themselves with the B.S. degree requirements.

Students who major in kinesiology work toward a B.S. degree by selecting and completing one of the following concentrations:

- Exercise Science
- Physical and Health Education Teacher Education

### Degree Requirements

#### General Education 41 Credit Hours<sup>1</sup>

- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours
- Kinesiology Core Courses 12 Credit Hours
- Major and concentration requirements 60-68 Credit Hours<sup>2</sup>
- Electives 15-23 Credit Hours

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The number of credits taken to meet major and concentration requirements may vary if courses are double-counted for General Education.





## ***Kinesiology, Physical and Health Education Teacher Education Concentration, B.S.***

### **Degree and Major Requirements**

Students are advised to be certain they complete all General Education requirements before applying for graduation.

The kinesiology major program leads to the Bachelor of Science degree. Students are advised to familiarize themselves with the B.S. degree requirements.

Students who major in kinesiology work toward a B.S. degree by selecting and completing one of the following concentrations:

- Exercise Science
- Physical and Health Education Teacher Education

### **Degree Requirements**

#### **Required Courses**

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- Kinesiology Core Courses *12 Credit Hours*
- Major and concentration requirements *60-68 Credit Hours*<sup>2</sup>
- Electives *15-23 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The number of credits taken to meet major and concentration requirements may vary if courses are double-counted for General Education.

### **Kinesiology Core Courses**

#### **Required Courses**

- KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] *3.00*
- KIN 202. Biological Foundations of Kinesiology & Recreation *3.00*
- KIN 303. Motor Development & Learning *3.00*
- KIN 426. Physical Activity Behaviors *3.00*

**Total: 12 Credit Hours**

### **Physical and Health Education Teacher Education Concentration**

The Physical and Health Education Teacher Education (PHETE) concentration is committed to educating future leaders in the profession of teaching physical and health education. The program encourages the teacher candidate to advocate for effective educational changes, work collaboratively and collectively for social change, and to continue to grow professionally. The PHETE concentration is a five-year Master of Arts in Teaching (M.A.T.) program. Upon successful completion of the first four years, students earn a Bachelor of Science (B.S.) degree in kinesiology. The fifth year M.A.T. degree provides the requisite courses to obtain a Virginia teaching license in Health and Physical Education (PreK-12). It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses. For more information contact the PHETE coordinator, Dr. Jacqueline Williams, Godwin Hall, Room 317, (540) 568-6957, williaja@jmu.edu.

### **Admission Policy**

The admission and retention standards are designed to instill a professional attitude and commitment to the profession of teaching. The admission and retention standards complement the JMU Teacher Education application process. The following outlines the admission and retention standards and procedures for PHETE.

#### **PHETE Admission Standards**

1. Full acceptance to the JMU Teacher Education Program
2. Submission of:
  - Work Experience Verification Form
  - Professional Resume
  - Personal Statement
3. Successful completion of the following course work: BIO 290, EDUC 300, PSYC 160\*, KIN 224, KIN 303\*, KIN 312 with a grade of "C" or better required
4. Demonstration and appreciation of professional dispositions

### **Concentration Requirements**

#### **Undergraduate Courses**

- BIO 290. Human Anatomy (3, 3) *4.00*
- EDUC 300. Foundations of American Education *3.00*
- PSYC 160. Life Span Human Development [C5SD] *3.00*
- KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] *3.00*
- KIN 202. Biological Foundations of Kinesiology & Recreation *3.00*
- KIN 221-225. Skill Laboratories *2.00 - 10.00*
- KIN 303. Motor Development & Learning *3.00*
- KIN 305. Social/Psychological Foundations in Kinesiology *3.00*
- KIN 310. Instructional Methods in Physical Education *3.00*
- KIN 311. Elementary Curriculum in Physical Education *2.00*
- KIN 312. The Profession of Teaching Health & Physical Education *2.00*
- KIN 313. Adapted Physical Education *3.00*
- KIN 314. Assessment in Elementary Physical Education *3.00*
- KIN 410. School Health Content for PHETE *3.00*
- KIN 411. Measurement and Evaluation in Kinesiology *3.00*
- KIN 426. Physical Activity Behaviors *3.00*
- KIN 480. Student Teaching in Physical Education *8.00*
- NUTR 280. Nutrition for Wellness *3.00*
- LED 420. Content Area Literacy, K-12 *2.00*

**Total: 67 Credit Hours**

#### **Graduate Courses**

- KIN 511. Technology in Health and Physical Education *3 Credit Hours*
- KIN 512. Instructional Methods in Middle and Secondary Physical Education *3 Credit Hours*
- KIN 513. Professional Issues for Prospective Physical and Health Educators *3 Credit Hours*
- KIN 514. Methods in School Health for PHETE *3 Credit Hours*
- KIN 610. Curriculum Design and Development in Health and Physical Education *3 Credit Hours*
- KIN 611. Teaching Diverse Populations in Health and Physical Education *3 Credit Hours*
- KIN 612. Analysis of Teaching and Learning *3 Credit Hours*
- KIN 683. Secondary Internship in Health and Physical Education *6 Credit Hours*  
*Choose one of the following: 3 Credit Hours*
- KIN 655. Research Techniques
- HTH 655. Research Techniques
- EDUC 630. Inquiry in Education

**Total: 30 Credit Hours**

## Recommended Schedule

### First Year

General Education 27 *Credit Hours*

KIN 100. Lifetime Fitness & Wellness (2,2) [C5W] 3.00

**Total: 30 Credit Hours**

### Sophomore Year

PSYC 160. Life Span Human Development [C5SD] 3.00

KIN 202. Biological Foundations of Kinesiology & Recreation 3.00

KIN 305. Social/Psychological Foundations in Kinesiology 3.00

BIO 290. Human Anatomy (3, 3) 4.00

General Education courses 8 *Credit Hours*

Electives 7 *Credit Hours*

**Total: 30 Credit Hours**

### Junior Year - Fall Semester

EDUC 300. Foundations of American Education 3.00

KIN 224. Skill Lab 2.00

KIN 303. Motor Development & Learning 3.00

KIN 312. The Profession of Teaching Health & Physical Education 2.00

NUTR 280. Nutrition for Wellness 3.00

Elective 3 *Credit Hours*

**Total: 16 Credit Hours**

### Junior Year - Spring Semester

KIN 222. Skill Lab 2.00

KIN 225. Skill Lab 2.00

KIN 410. School Health Content for PHETE 3.00

KIN 411. Measurement and Evaluation in Kinesiology 3.00

LED 420. Content Area Literacy, K-12 2.00

Electives 4 *Credit Hours*

**Total: 17 Credit Hours**

### Senior Year - Fall Semester

KIN 223. Skill Lab 2.00

KIN 310. Instructional Methods in Physical Education 3.00

KIN 311. Elementary Curriculum in Physical Education 2.00

KIN 313. Adapted Physical Education 3.00

Elective 3 *Credit Hours*

**Total: 12 Credit Hours**

### Senior Year - Spring Semester

KIN 221. Skill Lab 2.00

KIN 314. Assessment in Elementary Physical Education 3.00

KIN 426. Physical Activity Behaviors 3.00

KIN 480. Student Teaching in Physical Education 8.00

**Total: 16 Credit Hours**

### Fifth Year - Summer Session I

KIN 511. Technology in Health & PE 3 *Credit Hours*

KIN 610. Curriculum Design & Development in Health/PE 3 *Credit Hours*

KIN 611. Teaching Diverse Populations 3 *Credit Hours*

**Total: 9 Credit Hours**

### Fifth Year - Fall Semester

KIN 512. Instructional Methods in Middle & Secondary Ed 3 *Credit Hours*

KIN 514. Methods in School Health for PHETE 3 *Credit Hours*

KIN 516. Qualitative Analysis of Movement 3 *Credit Hours*

KIN 655. Research Techniques 3 *Credit Hours*

**Total: 12 Credit Hours**

### Fifth Year - Spring Semester

KIN 513. Professional Issues 3 *Credit Hours*

KIN 612. Analysis of Teaching & Learning 3 *Credit Hours*

KIN 683. Secondary Internship 6 *Credit Hours*

**Total: 12 Credit Hours**

# Department of Learning, Technology and Leadership Education

Dr. Diane M. Wilcox, **Interim Department Head**

**Phone:** (540) 568-5531

**Email:** [wilcoxdm@jmu.edu](mailto:wilcoxdm@jmu.edu)

**Location:** Memorial Hall, Room 3110

**Website:** <http://www.jmu.edu/coe/ltle>

## Professors

C. Beverly, D. Foucar-Szocki, O. Griffin, D. Wilcox

## Associate Professors

E. Brantmeier, N. Brantmeier, R. Collins, R. Crowder, M. Estes, D. Hearrington, M. Loso

## Assistant Professors

R. Ingram

## Instructors

J. Calcagno-Roach, E. Roberts Kaye, D. Meza, R. Snow, E. Stauffer, N. Swayne

## *Educational Media Minor*

**Coordinator:** Dr. Rich Ingram      **Phone:** (540) 568-6965

The educational media minor prepares students for employment in education, business, communications, non-profit and consulting fields where the effective design of information, instruction and media are important. Students who minor in educational media will develop psychological and technological skills intended to enhance the major program of study and prepare for the workplace. Students who successfully complete the minor will possess skills appropriate for teaching, training, designing instruction and developing related multimedia. Underlying theories and concepts integrated into the course work include but are not limited to the diffusion of information, learning theory, message design, group dynamics and materials evaluation.

The educational media minor requires a minimum of 18 credit hours selected in consultation with an adviser for this program.

## Required Courses

PSYC 160. Life Span Human Development [C5SD] 3.00  
LTLE 150. Information in Contemporary Society 3.00  
LTLE 370. Instructional Technology 3.00  
LTLE 372. Visual Literacy 3.00

LTLE 374. Photography for Learning 1.00  
LTLE 376. Video for Learning 1.00  
LTLE 378. Web Design for Learning 1.00  
LTLE 385. Foundations of Instructional Design 3.00

**Total: 18 Credit Hours**

## *Human Resource Development Minor*

**Coordinator:** Prof. Randy Snow      **Phone:** (540) 568-8842

The human resource development minor prepares students to develop and implement professional development and performance improvement programs and materials.

The minor is designed to provide students from a wide variety of content disciplines additional experiences and skill bases to seek employment in public and private sectors in the fields of training and development and performance improvement.

Students who minor in human resource development must complete 18 hours of course work, including LTLE 370.

## Requirements

HRD 240. Introduction to Human Resource Development 3.00  
HRD 245. Leadership in Organizational Settings 3.00  
LTLE 370. Instructional Technology 3.00

HRD 380. Performance and Task Analysis in Human Resource Development 3.00  
HRD 480. Learning in Adulthood 3.00  
HRD 485. Development of Materials and Programs 3.00

**Total: 18 Credit Hours**

# Department of Management

Dr. Laura Leduc, **Department Head**

Phone: (540) 568-5171

Email: [leduclm@jmu.edu](mailto:leduclm@jmu.edu)

Location: Zane Showker Hall, Room 510

Website: <http://www.jmu.edu/cob/management>

## Professors

P. Daly, S. Gallagher, R. Kolodinsky, L. Leduc, M. Rutherford, M. White

## Associate Professors

D. Cavazos, F. Mousa, M. Pattie, W. Ritchie, A. Shahzad, E. Stark

## Assistant Professors

A. Heavey, C. K. Lee, D. Peterson

## Lecturers

R. Eliason, C. Hamilton, F. Pargas, C. Roeder, M. Yankey, D. Zisk

## Mission

The mission of the Department of Management is to provide students with a nationally competitive undergraduate education in the field of management studies. The Department of Management major prepares future organizational leaders to manage effectively in a dynamic global business environment. The Department of Management faculty strive to develop students' theoretical and practical managerial expertise, focusing on interpersonal and team skills, situational and data analysis, innovation and creativity, problem solving, evidence based decision making, and ethical reasoning.

## Goals

The overall goals of the Department of Management (MGT) program are:

- To prepare graduates of the MGT major for a wide variety of management careers and leadership roles.
- To provide instruction relating to the study and practice of management to undergraduate and graduate students in the College of Business.

## Core Management Objectives

After studying management, students will possess an advanced understanding of:

- **The Functions of Management:** Management majors will understand the basic managerial functions of planning, organizing, leading and controlling and how these functions are used to achieve organizational objectives in dynamic, culturally diverse, and competitive global business environments.
- **The Legal and Ethical Environment of Management:** Management majors will recognize and understand the behavioral implications of the ethical and legal boundaries of managerial decision making and subsequent actions.
- **Effective Decision Making and Problem Solving:** Management majors will develop and enhance critical thinking, analytical and decision making skills. These skills will be demonstrated in students' ability to engage successfully in situational analysis, problem recognition, integration of information from diverse sources, use of logic and reasoning to develop solutions, and alternative courses of action, and implementation of action plans.
- **Organizational Strategy and Design:** Management majors will be able to identify and explain elements of the internal and external environments that influence the formulation, implementation and evaluation of organizational strategy, structure and design.

## Career Opportunities

- Project Manager
- Human Resources Generalist or Specialist
- Management Consultant
- Business Analyst
- Operations or Logistics Manager
- Supply Chain Analyst
- Labor Relations Specialist
- Small Business Owner/Manager
- Customer Service/Relations Manager
- Sales Manager
- Retail Manager
- Facility/Events Manager

## Co-curricular Activities and Organizations

- **Sigma Iota Epsilon (SIE):** National honors fraternity for management majors.
- **Madison Entrepreneurs:** a chapter of the national Collegiate Entrepreneurs Organization (CEO). Encouraging and supporting entrepreneurial activity and enterprise creation.
- **Society for Human Resource Management (SHRM):** Student chapter of a national organization that provides students with opportunities to learn more about the field of human resource management through speakers, facility tours, networking and other activities.
- **Association for Supply Chain Management (APICS):** JMU chapter of APICS, a national professional organization that provides research, education and certification programs that foster supply chain excellence, innovation and resilience.
- **The JMU Society of Real Estate (SRE):** A professional business organization that allows students to explore different facets of the real estate industry through speaker events, workshops, company site visits, and other activities.

## *Management, Business Analysis and Consulting Concentration, B.B.A.*

### Degree and Major Requirements

The B.B.A. degree in management requires a minimum of 120 credit hours of undergraduate work. Fifty percent of this work, 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of non-business courses, B.B.A. students may include all hours taken in general education (usually 41), up to a total of nine hours in economics and three hours of COB 191. Business Analytics I.

The remaining hours, to bring the total to 60, must be taken from any department outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives. The credit hour requirements for each of the program components are as follows:

### Degree Requirements

#### Required Courses

- General Education requirements *41 Credit Hours*<sup>1</sup>
- B.B.A. lower-level core courses *27 Credit Hours*
- B.B.A. upper-level core courses *18 Credit Hours*
- Management major requirements *24 Credit Hours*
- Non-business electives *8-11 Credit Hours*

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Students planning to major in management must complete the 27-28 hours of lower-division B.B.A. core curriculum prior to enrolling in upper-division core courses normally taken in the first semester of their junior year. It is expected that the lower-division core curriculum will be completed during the first two years of study along with most of the university general education curriculum. Failing to complete all the lower-division core requirements on time will delay enrollment in upper-division core and major courses. Because of the demands of group, team and outside of classroom applied assignments, students will not be allowed to enroll in more than four courses with a MGT prefix in any given semester. Management majors must choose one of the following options to complete the required eight courses in the MGT major:

- Option 1: Five MGT core courses, one concentration and one elective
- Option 2: Five MGT core courses and three MGT electives.

### Required Core Courses

MGT 320. Management of Innovation and Technology 3.00

MGT 325. Project Management 3.00

MGT 357. Evidence-Based Decision Making 3.00

MGT 365. Fundamentals of Human Resource Management 3.00

MGT 390. Organizational Leadership 3.00

## Total: 15 Credit Hours

### B.B.A. Core Component

#### B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I 3.00<sup>1</sup>

COB 202. Interpersonal Skills 3.00

COB 204. Computer Information Systems 3.00

COB 241. Financial Accounting 3.00

COB 291. Business Analytics II 3.00<sup>2</sup>

ECON 200. Introduction to Macroeconomics [C4GE] 3.00

ECON 201. Introduction to Microeconomics 3.00

MATH 205. Introductory Calculus I [C3QR] 3.00<sup>3</sup> or MATH 235. Calculus I [C3QR] 4.00<sup>3</sup>

COB 242. Managerial Accounting 3.00<sup>4,5</sup>

#### B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management 3.00<sup>5,6</sup>

COB 300B. Integrative Business: Finance 3.00<sup>5,6</sup>

COB 300C. Integrative Business: Operations 3.00<sup>5,6</sup>

COB 300D. Integrative Business: Marketing 3.00<sup>5,6</sup>

COB 318. Legal and Ethical Environment of Business 3.00<sup>7</sup>

COB 487. Strategic Management 3.00<sup>8</sup>

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

### Business Analysis and Consulting

The business analysis and consulting (BAC) concentration is designed to develop and enhance students' critical thinking, problem solving and decision-making skills. In this concentration students engage in research and analysis to build a strong foundation for learning and implementing the business analysis and consulting process. This focus area is suggested for students interested in working as a business analyst, consultant or solutions manager, or in any position that requires strong analytical and problem solving skills. MGT 357. Evidence-Based Decision Making is considered the first course in this concentration.

### Required Courses

MGT 457. Business Analysis and Consulting Fundamentals 3.00

MGT 467. Management Consulting 3.00

## Total: 6 Credit Hours

### Recommended Schedule for Majors

#### Third Year

##### First Semester

COB 300A. Integrative Business: Management 3.00

COB 300B. Integrative Business: Finance 3.00

COB 300C. Integrative Business: Operations 3.00

COB 300D. Integrative Business: Marketing 3.00

General Education or non-business elective 3 Credit Hours

##### Second Semester

General Education or non-business electives 6 Credit Hours

MGT 357. Evidence-Based Decision Making 3.00

Two the following five MGT core requirements: 9 Credit Hours

MGT 320. Management of Innovation and Technology 3.00

MGT 325. Project Management 3.00

MGT 357. Evidence-Based Decision Making 3.00

MGT 365. Fundamentals of Human Resource Management 3.00

MGT 390. Organizational Leadership 3.00

#### Fourth Year

##### Required Course

Remaining two of five MGT core course requirements 6 Credit Hours

COB 487. Strategic Management 3.00

General Education or non-business electives as needed

Choose One: 9 Credit Hours

Option 1: One concentration (two courses) plus one MGT elective

Option 2: Three MGT electives.

## Management, Human Resource Management Concentration, B.B.A.

### Degree and Major Requirements

The B.B.A. degree in management requires a minimum of 120 credit hours of undergraduate work. Fifty percent of this work, 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of non-business courses, B.B.A. students may include all hours taken in general education (usually 41), up to a total of nine hours in economics and three hours of COB 191. Business Analytics I.

The remaining hours, to bring the total to 60, must be taken from any department outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives. The credit hour requirements for each of the program components are as follows:

### Degree Requirements

#### Required Courses

General Education requirements 41 Credit Hours<sup>1</sup>

B.B.A. lower-level core courses 27 Credit Hours

B.B.A. upper-level core courses *18 Credit Hours*  
Management major requirements *24 Credit Hours*

Non-business electives *8-11 Credit Hours*

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Students planning to major in management must complete the 27–28 hours of lower-division B.B.A. core curriculum prior to enrolling in upper-division core courses normally taken in the first semester of their junior year. It is expected that the lower-division core curriculum will be completed during the first two years of study along with most of the university general education curriculum. Failing to complete all the lower-division core requirements on time will delay enrollment in upper-division core and major courses. Because of the demands of group, team and outside of classroom applied assignments, students will not be allowed to enroll in more than four courses with a MGT prefix in any given semester. Management majors must choose one of the following options to complete the required eight courses in the MGT major:

- Option 1: Five MGT core courses, one concentration and one elective
- Option 2: Five MGT core courses and three MGT electives.

### Required Core Courses

MGT 320. Management of Innovation and Technology *3.00*  
MGT 325. Project Management *3.00*  
MGT 357. Evidence-Based Decision Making *3.00*

MGT 365. Fundamentals of Human Resource Management *3.00*  
MGT 390. Organizational Leadership *3.00*

## Total: 15 Credit Hours

### B.B.A. Core Component

#### B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I *3.00*<sup>1</sup>

COB 202. Interpersonal Skills *3.00*

COB 204. Computer Information Systems *3.00*

COB 241. Financial Accounting *3.00*

COB 291. Business Analytics II *3.00*<sup>2</sup>

ECON 200. Introduction to Macroeconomics [C4GE] *3.00*

ECON 201. Introduction to Microeconomics *3.00*

MATH 205. Introductory Calculus I [C3QR] *3.00*<sup>3</sup> or MATH 235. Calculus I [C3QR] *4.00*<sup>3</sup>

COB 242. Managerial Accounting *3.00*<sup>4,5</sup>

#### B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management *3.00*<sup>5,6</sup>

COB 300B. Integrative Business: Finance *3.00*<sup>5,6</sup>

COB 300C. Integrative Business: Operations *3.00*<sup>5,6</sup>

COB 300D. Integrative Business: Marketing *3.00*<sup>5,6</sup>

COB 318. Legal and Ethical Environment of Business *3.00*<sup>7</sup>

COB 487. Strategic Management *3.00*<sup>8</sup>

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

### Human Resource Management

The human resource management (HRM) concentration is designed to help students broaden and deepen their understanding of the acquisition, development, management and retention of human capital in organizations. This focus area is suggested for students who intend to work in human resource (HR) generalist or specialist positions, students planning on a career in labor relations or employment law, students who plan to start or manage a business, and students who want to attend graduate school in an HR-related field. MGT 365. Fundamentals of Human Resource Management is considered the first course in this concentration.

### Required Courses

MGT 470. Acquiring and Developing Human Capital *3.00*

MGT 475. Managing and Retaining Human Capital *3.00*

## Total: 6 Credit Hours

### Recommended Schedule for Majors, Human Resource Management Concentration

#### Third Year

##### First Semester

COB 300A. Integrative Business: Management *3.00*

COB 300B. Integrative Business: Finance *3.00*

COB 300C. Integrative Business: Operations *3.00*

COB 300D. Integrative Business: Marketing *3.00*

General Education or non-business elective *3 Credit Hours*

##### Second Semester

COB 318. Legal and Ethical Environment of Business *3.00*

MGT 365. Fundamentals of Human Resource Management *3.00*

General Education or non-business electives *6 Credit Hours*

*Two of the following core requirements:*

MGT 320. Management of Innovation and Technology *3.00*

MGT 325. Project Management *3.00*

MGT 357. Evidence-Based Decision Making *3.00*

MGT 390. Organizational Leadership *3.00*

#### Fourth Year

##### Required Courses

COB 487. Strategic Management *3.00*

*Remaining two of five MGT core course requirements 6 Credit Hours*

General Education or non-business electives as needed

*Choose one of the following options: 9 Credit Hours*

Option 1: One concentration (two courses) plus one MGT elective

Option 2: Three MGT electives

### Management, Innovation and Entrepreneurship Concentration, B.B.A.

#### Degree and Major Requirements

The B.B.A. degree in management requires a minimum of 120 credit hours of undergraduate work. Fifty percent of this work, 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of non-business courses, B.B.A. students may include all hours taken in general education (usually 41), up to a total of nine hours in economics and three hours of COB 191. Business Analytics I.

The remaining hours, to bring the total to 60, must be taken from any department outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives. The credit hour requirements for each of the program components are as follows:

## Degree Requirements

### Required Courses

- General Education requirements *41 Credit Hours*<sup>1</sup>
- B.B.A. lower-level core courses *27 Credit Hours*
- B.B.A. upper-level core courses *18 Credit Hours*
- Management major requirements *24 Credit Hours*
- Non-business electives *8-11 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Students planning to major in management must complete the 27-28 hours of lower-division B.B.A. core curriculum prior to enrolling in upper-division core courses normally taken in the first semester of their junior year. It is expected that the lower-division core curriculum will be completed during the first two years of study along with most of the university general education curriculum. Failing to complete all the lower-division core requirements on time will delay enrollment in upper-division core and major courses. Because of the demands of group, team and outside of classroom applied assignments, students will not be allowed to enroll in more than four courses with a MGT prefix in any given semester. Management majors must choose one of the following options to complete the required eight courses in the MGT major:

- Option 1: Five MGT core courses, one concentration and one elective
- Option 2: Five MGT core courses and three MGT electives.

### Required Core Courses

MGT 320. Management of Innovation and Technology *3.00*  
MGT 325. Project Management *3.00*  
MGT 357. Evidence-Based Decision Making *3.00*

MGT 365. Fundamentals of Human Resource Management *3.00*  
MGT 390. Organizational Leadership *3.00*

**Total: 15 Credit Hours**

### B.B.A. Core Component

#### B.B.A. Lower-Level Core Component

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

COB 191. Business Analytics I *3.00*<sup>1</sup>  
COB 202. Interpersonal Skills *3.00*  
COB 204. Computer Information Systems *3.00*  
COB 241. Financial Accounting *3.00*  
COB 291. Business Analytics II *3.00*<sup>2</sup>  
ECON 200. Introduction to Macroeconomics [C4GE] *3.00*

ECON 201. Introduction to Microeconomics *3.00*  
MATH 205. Introductory Calculus I [C3QR] *3.00*<sup>3</sup> or MATH 235. Calculus I [C3QR] *4.00*<sup>3</sup>  
COB 242. Managerial Accounting *3.00*<sup>4,5</sup>

#### B.B.A. Upper-Level Core Component

The following courses comprise the B.B.A. Upper-Level Core Component:

COB 300A. Integrative Business: Management *3.00*<sup>5,6</sup>  
COB 300B. Integrative Business: Finance *3.00*<sup>5,6</sup>  
COB 300C. Integrative Business: Operations *3.00*<sup>5,6</sup>

COB 300D. Integrative Business: Marketing *3.00*<sup>5,6</sup>  
COB 318. Legal and Ethical Environment of Business *3.00*<sup>7</sup>  
COB 487. Strategic Management *3.00*<sup>8</sup>

### Footnotes

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

### Innovation and Entrepreneurship

The innovation and entrepreneurship (ENT1) concentration is designed to provide students with an introduction to the role of innovation in business development, a solid foundation in the principle elements of entrepreneurship and small business management, and the opportunity to gain hands-on experience working with a team to create a new business venture. This focus area is suggested for students interested in creating and managing a new business venture, students intending to work for larger firms that encourage innovation and intrapreneurship, and students planning to work in small or family run businesses. MGT 320. Management of Innovation and Technology is considered the first course in this concentration.

### Required Courses

MGT 471. Entrepreneurship and Small Business Management *3.00*

MGT 472. New Venture Creation *3.00*

**Total: 6 Credit Hours**

### Recommended Schedule for Majors, Innovation and Entrepreneurship Concentration

#### Third Year

##### First Semester

COB 300A. Integrative Business: Management *3.00*  
COB 300B. Integrative Business: Finance *3.00*  
COB 300C. Integrative Business: Operations *3.00*  
COB 300D. Integrative Business: Marketing *3.00*  
General Education or non-business elective *3 Credit Hours*

##### Second Semester

MGT 320. Management of Innovation and Technology *3.00*  
General Education or non-business electives *6 Credit Hours*  
*Two of the following MGT core requirements:*  
MGT 325. Project Management *3.00*

MGT 357. Evidence-Based Decision Making *3.00*

MGT 365. Fundamentals of Human Resource Management *3.00*

MGT 390. Organizational Leadership *3.00*

#### Fourth Year

##### Required Courses

COB 487. Strategic Management *3.00*

*Remaining two of five MGT core course requirements 6 Credit Hours*

General Education or non-business electives as needed

*Choose one of the following options: 9 Credit Hours*

Option 1: One concentration (two courses) plus one MGT elective

Option 2: Three MGT electives



# Department of Marketing

Dr. Theresa Clarke, **Interim Academic Unit Head**

Phone: (540) 568-3238

Email: [clarketb@jmu.edu](mailto:clarketb@jmu.edu)

Location: Zane Showker Hall, Room 535

Website: <http://www.jmu.edu/cob/marketing>

## Professors

I. Clarke, T. Clarke, V. Larsen, A. Wood

## Associate Professors

W. Faranda, M. Tokman

## Assistant Professors

G. Atav, J. Derby, K. Naletelich, J. Parker

## Lecturers

S. Hertenberg, C. Hessick, J. Manuli, R. McMillen, L. King, C. Snyder, R. Tate

## Mission

The marketing department's mission is to develop highly successful marketing professionals who deliver exceptional value to their customers, employers and communities and to advance the practice of marketing through academic and professional engagement.

The marketing curriculum focuses on traditional and emerging marketing skills needed in various business settings and industries. The curriculum seeks to develop competence in five areas: factual and conceptual knowledge, problem solving skills, communication skills, experiential learning, and use of information technology. Students will be prepared to enter corporate, small business or not-for-profit environments with highly valued skills and an understanding of the need for continuous learning.

A Professional Sales Concentration is available to all marketing students.

## Goals

- To deliver a solid foundation of the concepts and theories of the marketing discipline, including market environmental issues; strategic market planning, implementation and evaluation; marketing research; buyer behavior and market segmentation; and development of marketing programs.
- To engage students in critical thinking processes, requiring in-depth analysis of qualitative and quantitative market data and development of subsequent marketing strategies based on this analysis.
- To enable students to evaluate marketing alternatives and commit to a course of action, using financial, organizational, environmental and ethical criteria as bases for decision making.
- To teach students a variety of information technology tools and techniques to improve marketing and overall business performance and deliver greater value to customers.
- To facilitate students' continuing development of listening, writing and oral communication skills.
- To develop students' marketing-based interpersonal skills, such as group-based negotiation, consensus building, delegation and performance evaluation.
- To integrate classroom study with exposure to industry practices throughout the marketing curriculum and ensure marketing students access to experiential learning opportunities in marketing career tracks.
- To introduce students to the fundamentals of professional selling and develop students' interpersonal communication skills through face-to-face role play scenarios.

## Career Opportunities

- Consumer marketing and business-to-business marketing: direct marketing, market analysis, product development, Web-based marketing and customer relationship management.
- Sales: Produce and service sales positions across a broad range of companies and industries as sales development representatives, account managers, inside sales representatives, and outside sales representatives.
- Digital Marketing: digital account management, content management, technical writing, social media planning and analytics.
- Consulting: marketing consultation, data analysis and data sales.
- Marketing research: database management, market research analyst and project management.
- Product/Brand management: business-to-business sales, product specialist, channel development and promotional marketing.
- Retailing: store management, merchandise buying, trend analysis, Internet sales and visual merchandising.
- Not-for-profit marketing: fund-raising, public relations and customer service.
- Sports/events marketing: merchandising, contract administration, event marketing, trade show management and e-commerce marketing.

## Co-curricular Activities and Organizations

- Ad Club (MAAF). The MAAF is JMU's only student advertising organization and a student chapter of the American Advertising Federation (AAF).
- American Marketing Association. This student club is affiliated with the American Marketing Association, a national marketing association for marketing professionals, faculty and students. MMA is open to all JMU students. MMA is comprehensive with its marketing programming and offers students information and activities in direct marketing, retailing and marketing management.
- DECA. Collegiate DECA is a student-driven organization that values competence, innovation, integrity and teamwork.
- Delta Mu Sigma. DMS is a newly established honor society dedicated to the commitment of growth, innovation, and integrity of digital, direct, and database marketing scholarship and practice.
- Mu Kappa Tau. This is an honorary marketing fraternity for students with high scholastic records. Admission is by invitation only. The club invites speakers and engages in joint programming with other JMU student organizations.
- Pi Sigma Epsilon. PSE is a professional fraternity, which focuses on programming and extracurricular experiences in marketing, personal selling, and sales management.
- Professional Sales Club. This organization strives to help all students that are interested in sales and give them the knowledge and skills they need to be successful in a professional sales role.

## Transfer Credit Policy

The marketing program will accept no more than two courses for transfer credit toward the major. These courses must be from AACSB institutions. In addition to this general College of Business policy, there are restrictions on which courses will be accepted for transfer credit.

Students must take the following courses at JMU:

MKTG 482. Marketing Analytics

MKTG 485. Marketing Management

## ***Marketing, B.B.A.***

### **Degree and Major Requirements**

Marketing majors conform to the general structure of the B.B.A. degree program. The B.B.A. in marketing requires a minimum of 120 credit hours of undergraduate course work.

### **Degree Requirements**

#### **Required Courses**

- General Education requirements *41 Credit Hours*<sup>1</sup>
- B.B.A. lower-level core courses *27-28 Credit Hours*<sup>2</sup>
- B.B.A. upper-level core courses *18 Credit Hours*
- Marketing major requirements *27 Credit Hours*
- Non-business electives *7-13 Credit Hours*<sup>2</sup>

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> When B.B.A. lower-level core courses are used to meet General Education requirements (e.g., ECON 200 and MATH 205), the number of non-business elective hours a student must take to reach 120 hours increases from 7 to 13.

### **Additional Information**

Fifty percent of course work, or 60 credit hours, must be taken outside of the College of Business. In counting the 60 credit hours of nonbusiness courses, B.B.A. students may include all hours taken in general education (usually 41), up to a total of nine hours in economics and three hours of COB 191 or MATH 220. The remaining hours to bring the total to 60 must be taken from any academic unit outside the College of Business. Students should carefully select these non-business electives to help them gain additional knowledge and expertise for their careers and personal lives.

### **Major Requirements**

Students planning to major in marketing must complete the 30 hour, lower-division B.B.A. core requirements (see the College of Business section for the list of courses) prior to enrolling in upper-division B.B.A. core and marketing courses. Upper division courses normally begin in the first semester of the junior year. The lower-division core curriculum should be completed during the first two years of study along with most of the university General Education curriculum. Failing to complete all lower-division core requirements on time will delay enrollment in upper-division core and major courses. The following upper-division B.B.A. core courses are required: COB 300A, COB 300B, COB 300C, and COB 300D, COB 318 and COB 487.

### **Marketing Curriculum**

The marketing curriculum consists of 27 credit hours in marketing. The required courses equip students with knowledge and skills all marketers should have. Elective courses allow students to pursue areas of special interest and prepare for specific career tracks in marketing. Students may choose to complete a concentration in Professional sales.

### **Required Courses**

#### **Core Courses 15 Credit Hours**

- |   |  |
|---|--|
| MKTG 384. Integrated Marketing Communications <i>3.00</i> | MKTG 482. Marketing Analytics <i>3.00</i>  |
| MKTG 385. Consumer Behavior <i>3.00</i>                   | MKTG 485. Marketing Management <i>3.00</i> |
| MKTG 430. Professional Selling <i>3.00</i>                |  |
| Concentration and elective courses 6-12 Credit Hours      |  |

**Total: 27 Credit Hours**

### **B.B.A. Core Component**

#### **B.B.A. Lower-Level Core Component**

B.B.A. majors must complete all of the B.B.A. core components as part of their degree program. The following courses comprise the B.B.A. Lower-Level Core Component:

- |   |   |
|---|---|
| COB 191. Business Analytics I <i>3.00</i> <sup>1</sup>      | ECON 201. Introduction to Microeconomics <i>3.00</i>  |
| COB 202. Interpersonal Skills <i>3.00</i>                   | MATH 205. Introductory Calculus I [C3QR] <i>3.00</i> <sup>3</sup> or MATH 235. Calculus I [C3QR] <i>4.00</i> <sup>3</sup> |
| COB 204. Computer Information Systems <i>3.00</i>           | COB 242. Managerial Accounting <i>3.00</i> <sup>4,5</sup>   |
| COB 241. Financial Accounting <i>3.00</i>                   |   |
| COB 291. Business Analytics II <i>3.00</i> <sup>2</sup>     |   |
| ECON 200. Introduction to Macroeconomics [C4GE] <i>3.00</i> |   |

#### **B.B.A. Upper-Level Core Component**

The following courses comprise the B.B.A. Upper-Level Core Component:

- |   |   |
|---|---|
| COB 300A. Integrative Business: Management <i>3.00</i> <sup>5,6</sup> | COB 300D. Integrative Business: Marketing <i>3.00</i> <sup>5,6</sup>        |
| COB 300B. Integrative Business: Finance <i>3.00</i> <sup>5,6</sup>    | COB 318. Legal and Ethical Environment of Business <i>3.00</i> <sup>7</sup> |
| COB 300C. Integrative Business: Operations <i>3.00</i> <sup>5,6</sup> | COB 487. Strategic Management <i>3.00</i> <sup>8</sup>                      |

#### **Footnotes**

<sup>1</sup> MATH 220 may be substituted for COB 191. <sup>2</sup> COB 191 or equivalent and MATH 205 or equivalent are prerequisites for COB 291. <sup>3</sup> Calculus is required but not used in calculating the B.B.A. core GPA. MATH 235 is preferred for Finance majors. <sup>4</sup> COB 241 must be taken before COB 242. <sup>5</sup> COB 242 is a prerequisite or corequisite for COB 300 and is not used in calculating the B.B.A. core GPA. COB 242 is a prerequisite for COB 300 for students taking COB 300 in Antwerp. <sup>6</sup> All four COB 300 courses must be taken during the same semester. <sup>7</sup> COB 300 is a prerequisite or corequisite for COB 318. COB 318 is a prerequisite for COB 487. <sup>8</sup> COB 487 must be taken during the senior year.

### **Marketing Required Courses**

*Core Courses: 15 Credit Hours*

- |   |  |
|---|--|
| MKTG 384. Integrated Marketing Communications <i>3.00</i> | MKTG 482. Marketing Analytics <i>3.00</i>  |
| MKTG 385. Consumer Behavior <i>3.00</i>                   | MKTG 485. Marketing Management <i>3.00</i> |
| MKTG 430. Professional Selling <i>3.00</i>                |  |

#### **Choose four marketing electives: 12 Credit Hours**

- |  |  |
|--|--|
| MKTG 386. Services Marketing <i>3.00</i>     | MKTG 450. Business Marketing <i>3.00</i> |
| MKTG 388. Retail Marketing <i>3.00</i>       | MKTG 455. Sales Leadership <i>3.00</i>   |
| MKTG 410. Social Media Marketing <i>3.00</i> | MKTG 460. Global Marketing <i>3.00</i>   |

MKTG 462. International Logistics 3.00  
MKTG 465. CRM Technology for Sales Professionals 3.00  
MKTG 466. Advanced Professional Selling 3.00  
MKTG 470. Strategic Internet Marketing 3.00

MKTG 477. Digital Marketing Practicum 3.00  
MKTG 480. Product Development and Management 3.00  
MKTG 490. Special Studies in Marketing 1.00 - 3.00  
MKTG 494. Marketing Internship 3.00 - 6.00

### Total: 27 Credit Hours

### Recommended Schedule for Majors

Marketing majors should follow the course schedule below to complete the final two years of their program. It is possible to deviate from this schedule but care must be taken to ensure that all course prerequisites are met.

#### Third Year

##### First Semester

COB 300A. Integrative Business: Management 3.00  
COB 300B. Integrative Business: Finance 3.00  
COB 300C. Integrative Business: Operations 3.00  
COB 300D. Integrative Business: Marketing 3.00

##### Second Semester

COB 318. Legal and Ethical Environment of Business 3.00  
Nonbusiness electives 3-6 Credit Hours  
Choose three: 9 Credit Hours  
MKTG 384. Integrated Marketing Communications 3.00  
MKTG 385. Consumer Behavior 3.00  
MKTG 430. Professional Selling 3.00

#### Fourth Year

COB 487 must be taken during a student's fourth year; however, the course may be taken either semester.

##### First Semester

MKTG 482. Marketing Analytics 3.00  
Required marketing courses not completed junior year 3 Credit Hours  
Marketing electives 6 Credit Hours

COB 487. Strategic Management 3.00 or Nonbusiness elective 1-6 Credit Hours as needed

##### Second Semester

COB 487. Strategic Management 3.00 or Nonbusiness elective 1-6 Credit Hours  
MKTG 485. Marketing Management 3.00  
Marketing electives 6 Credit Hours

## Marketing, Professional Sales Concentration, B.B.A.

### Professional Sales Concentration Requirements

This concentration prepares students for careers in sales that focus on business customers and, in most cases, on the selling of relatively large ticket items. Courses in this concentration build on the content of MKTG 430. Students should complete this course as soon as possible after completing COB 300.

### Required Courses

#### Core Courses: 15 Credit Hours

MKTG 384. Integrated Marketing Communications 3.00  
MKTG 385. Consumer Behavior 3.00  
MKTG 430. Professional Selling 3.00

MKTG 482. Marketing Analytics 3.00  
MKTG 485. Marketing Management 3.00

To qualify for the Professional Sales Concentration, complete 12 credit hours of electives through one of the following options:

- Two sales-focused electives (six credit hours) and two other marketing electives (six credit hours) or Three sales-focused electives (nine credit hours) and one other marketing elective (three credit hours).

#### Sales-Focused Electives

MKTG 455. Sales Leadership 3.00  
MKTG 465. CRM Technology for Sales Professionals 3.00

MKTG 466. Advanced Professional Selling 3.00

### Total: 27 Credit Hours

### Recommended Schedule for Marketing, Professional Sales Concentration B.B.A.

#### Third Year

##### First Semester

COB 300A. Integrative Business: Management 3.00  
COB 300B. Integrative Business: Finance 3.00  
COB 300C. Integrative Business: Operations 3.00  
COB 300D. Integrative Business: Marketing 3.00  
Total: 12 Credit Hours

##### Second Semester

Nonbusiness electives 6 Credit Hours  
Choose two: 6 Credit Hours  
MKTG 384. Integrated Marketing Communications 3.00  
MKTG 385. Consumer Behavior 3.00  
MKTG 430. Professional Selling 3.00

##### Total: 12 Credit Hours

#### Fourth Year

COB 487 must be taken during a student's fourth year; however, the course may be taken either semester.

#### First Semester

MKTG 482. Marketing Analytics 3.00  
Required marketing courses not completed junior year 3 Credit Hours  
MKTG 455. Sales Leadership 3.00 or MKTG 465. CRM Technology for Sales Professionals 3.00  
Marketing elective 3 Credit Hours  
Nonbusiness elective 3 Credit Hours or COB 487. Strategic Management 3.00

##### Total: 15 Credit Hours

##### Second Semester

COB 487. Strategic Management 3.00 or Nonbusiness elective 3.00  
MKTG 485. Marketing Management 3.00  
MKTG 455. Sales Leadership 3.00 or MKTG 466. Advanced Professional Selling 3.00  
Marketing elective 3 Credit Hours

##### Total: 12 Credit Hours

# Department of Mathematics and Statistics

Dr. LouAnn Lovin, **Interim Department Head**

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Website: <http://www.jmu.edu/mathstat>

## Professors

D. Carothers, S. Garren, H. Hamdan, P. Kohn, R. Lee, J. Liu, L. Lovin, C. Lubert, S. Lucas, J. Marafino, K. Nashimoto, S. Prins, J. Rosenhouse, J. Sochacki, L. Taalman, A. Tongen, L. Van Wyk, D. Walton, D. Warne, P. Warne

## Associate Professors

E. A. Arnold, E. Brown, L. Chen, J. Ducey, R. Field, N. Jahan, B. Jones, M. Oh, E. O'Shea, K. Quertermous, D. Sharma, H. Shehadeh, J. Siegfried, A. Stevens, E. Strawbridge, R. Thelwell, J. Webb, C. Williams, L. Xu

## Assistant Professors

E. G. Arnold, R. Busi, B. Cochran, D. Duncan, C. Hoang, T. Olson, E. Ward, J. Willingham, D. Withana Gamage, C. Woodruff

## Visiting Assistant Professors

E. Abdurasul, H. Thakortal Gandhi

## Instructors

A. Casiple, H. Cong, J. Gibson, D. Hall, S. Horn, G. Jansen, E. Lahiere, T. Sprolden, C. Watson, A. Wilander

## Mission

The Department of Mathematics and Statistics provides a program of study in the mathematical sciences that meets the needs of a wide variety of students and makes a continuing contribution to the advancement of mathematical and statistical knowledge and its dissemination. The program provides opportunities for in-depth study that can lead to careers as mathematicians and statisticians in private and public sectors, teachers of mathematics, and further study in graduate school. The program provides support for the mathematical and statistical needs of students in the natural sciences, integrated sciences, social sciences, and professional and pre-professional programs. The program meets the general education needs of all students, providing an understanding of mathematical and statistical thinking and approaches to problem solving.

We are committed to promoting mathematics and statistics as an art of human endeavor as well as a fundamental method of inquiry into the sciences and a vast array of other disciplines. We are committed to encouraging an attitude of appreciation and support for mathematics and statistics in current university students and, through them, the next generation of citizens. We are also committed to fostering an appreciation for the effective use of applied mathematics and statistics in connection with and support of other disciplines for those students majoring in other subjects.

## Goals

As a major in mathematics or statistics, a student can expect to use and build on skills such as:

- Thinking critically
- Formulating and solving problems
- Communicating solutions clearly, both orally and in writing

These skills have been gained in previous courses in mathematics, statistics and other areas. As the breadth of knowledge of the subject grows, students gain an increased understanding and appreciation of the fact that mathematics is truly a universal language whose creation and applications cut across all boundaries of race, class, culture and time. There also will be opportunities for students to experience the challenges and rewards of faculty-mentored research, individually or as a member of a team, as they investigate mathematical and statistical problems that extend beyond those normally encountered in the classroom. Students increase their abilities to prove theorems, understand complex structures and apply mathematics and statistics in many real-world settings. The program students choose will make it possible for them to acquire strong preparation for graduate work or for professional applications in mathematics and statistics, teaching, natural and social sciences or other technical areas.

## Programs

The Department of Mathematics and Statistics offers the B.A. and B.S. degrees with a major in mathematics and the B.S. degree with a major in statistics. There is a program for a major in mathematics that qualifies a student for initial teaching licensure. A concentration in computational sciences is also available. Minors are offered in mathematics and statistics. The department also recognizes the importance of providing courses for non-specialists who need to make effective use of mathematics or statistics in their chosen careers. The university is an institutional/educational member of the American Mathematical Society, the American Statistical Association, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics.

Students are strongly encouraged to participate in the numerous undergraduate research opportunities as well as individual and small group projects available in the department. Opportunities exist through the Center for Mathematical Modeling, the Statistical Consulting Center, honors theses and independent studies with individual faculty mentors. Majors in the department are expected to participate in assessment activities. Assessment information is used to assist faculty members in modifying curricula.

## *Mathematics, B.A.*

### Credit by Examination

The Department of Mathematics offers credit by examination for some of the courses taught in the department. Students who want to take an examination must apply to the department head. Upon application students will receive details regarding approval to take the examination.

### Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*<sup>1,2</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*
- Philosophy course (in addition to General Education) *3 Credit Hours*
- University electives *19-35 Credit Hours*
- Major requirements (listed below) *41-45 Credit Hours*

#### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> MATH 231 or MATH 235 must be included and students seeking secondary teaching licensure must include PSYC 160. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Mathematics requirements depend on whether or not the student is seeking secondary teaching licensure. All students must complete 29-33 credit hours of the following required core mathematics courses and 12 credit hours of mathematics courses beyond the core.

## Core Courses Required of All Majors

MATH 236. Calculus II 4.00  
MATH 237. Calculus III 4.00  
MATH 245. Discrete Mathematics 3.00  
MATH 248. Computers & Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00 and  
MATH 336. Elementary Differential Equations 3.00<sup>1</sup>  
MATH 410. Advanced Calculus I 3.00  
MATH 430. Abstract Algebra I 3.00

## Choose one of the following:

MATH 318. Introduction to Probability and Statistics 4.00 or MATH 229.  
Introduction to Applied Statistics Using R 3.00 and

MATH 329. Introduction to Probability and Theoretical Statistics 3.00<sup>2</sup>

## Total: 29-33 Credit Hours

### Footnotes

<sup>1</sup> MATH 238. Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 if the student is completing a double major, seeking the computational sciences concentration, or received credit for MATH 238 before declaring a math major. <sup>2</sup> MATH 229 and MATH 329 is recommended. For students choosing MATH 318, a course with statistical data analysis (MATH 321, 322, 324, 327 or 354) is recommended.

## Additional Requirements for Students Seeking Secondary Teaching Licensure

Students seeking secondary teaching licensure must (in addition to the required core courses):

- Complete the 22-24 credit hours that comprise the pre-professional education program in secondary education.
- Complete 12 credit hours of mathematics courses:  
One of MATH 310 or MATH 315  
MATH 415  
MATH 470  
MATH 475

Students seeking secondary teaching licensure earn the Bachelor of Arts or Bachelor of Sciences degree and then complete the Master of Arts in Teaching degree.

It is necessary to be admitted to the teacher education program prior to enrolling in pre-professional education courses. For a full description of the program in secondary education, refer to the College of Education, Middle, Secondary and Mathematics Education, Department of.

## Additional Requirements for Students Not Seeking Secondary Teaching Licensure

Students not seeking secondary teaching licensure track must complete (in addition to the required core courses) one of the following options, each consisting of 12 credit hours of mathematics courses:

- One of MATH 411, MATH 431, MATH 434 or MATH 435, and nine hours of mathematics electives 310 or above. No more than six of the nine hours may be MATH 486 and/or MATH 497.
- One of the pairs of courses MATH 426 and MATH 427, MATH 440 and MATH 441, or MATH 448 and MATH 449, and six hours of mathematics electives numbered 310 or above.

The option chosen and the courses chosen to satisfy an option by a student are made in consultation with the student's adviser and are dependent upon the student's interests and career objectives. Students interested in pursuing graduate studies in mathematics are strongly urged to complete both MATH 411 and MATH 431.

## Recommended Schedule for Majors Seeking Secondary Licensure

### First Year

Cluster One: Skills for the 21st Century 9-12 *Credit Hours*

MATH 229. Introduction to Applied Statistics Using R 3.00

MATH 235. Calculus I [C3QR] 4.00

MATH 236. Calculus II 4.00

MATH 245. Discrete Mathematics 3.00

General Education courses 3-6 *Credit Hours*

Total: 30 Credit Hours

### Second Year

MATH 237. Calculus III 4.00

MATH 248. Computers & Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00

MATH 329. Introduction to Probability and Theoretical Statistics 3.00

MATH 336. Elementary Differential Equations 3.00

Pre-professional education requirements 6 *Credit Hours*

General Education courses/electives 7 *Credit Hours*

Total: 30 Credit Hours

### Third Year

MATH 430. Abstract Algebra I 3.00

Pre-professional education requirements and General

Education courses/electives 21 *Credit Hours*

Choose two of the following: 6 Credit Hours

MATH 310. Elem Number Theory 3.00

MATH 315. Real Number System 3.00

MATH 410. Advanced Calculus I 3.00

MATH 415. History of Mathematics 3.00

MATH 475. Fund Concepts of Geometry 3.00

Mathematics electives numbered MATH 310 or above

Total: 30 Credit Hours

### Fourth Year

Pre-professional education requirements and General

Education courses/electives 21 *Credit Hours*

Choose three from the following: 9 Credit Hours

MATH 310. Elem Number Theory 3.00

MATH 315. Real Number System 3.00

MATH 410. Advanced Calculus I 3.00

MATH 415. History of Mathematics 3.00

MATH 470. Connections in Mathematics 3.00

MATH 475. Fund Concepts of Geometry 3.00

Mathematics elective(s) numbered at or above MATH 310

Total: 30 Credit Hours

## Recommended Schedule for Majors Not Seeking Secondary Licensure

### First Year

Cluster One: Skills for the 21st Century 9-12 *Credit Hours*

MATH 229. Introduction to Applied Statistics Using R 3.00

MATH 235. Calculus I [C3QR] 4.00

MATH 236. Calculus II 4.00

Discrete Mathematics 3 *Credit Hours*

General Education courses 4-7 *Credit Hours*

Total: 30 Credit Hours

### Second Year

MATH 237. Calculus III 4.00

MATH 248. Computers & Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00

MATH 329. Introduction to Probability and Theoretical Statistics 3.00

MATH 336. Elementary Differential Equations 3.00

General Education courses/electives 13 *Credit Hours*

Total: 30 Credit Hours

### Third Year

General Education courses/electives 18-21 *Credit Hours*

Mathematics required or elective courses numbered MATH 310 or above 6-9  
*Credit Hours*

Choose one of the following: 3 Credit Hours

MATH 410. Advanced Calculus I 3.00

MATH 430. Abstract Algebra I 3.00

Total: 30 Credit Hours

### Fourth Year

Mathematics required or elective courses MATH 310 or above *6-9 Credit Hours*  
Electives *18-21 Credit Hours*  
Choose one of the following: *3 Credit Hours*

MATH 410. Advanced Calculus I *3.00*  
MATH 430. Abstract Algebra I *3.00*  
**Total: 30 Credit Hours**

## **Mathematics, B.S.**

### **Credit by Examination**

The Department of Mathematics offers credit by examination for some of the courses taught in the department. Students who want to take an examination must apply to the department head. Upon application students will receive details regarding approval to take the examination.

### **Degree Requirements**

#### **Required Courses**

- General Education *41 Credit Hours*<sup>1,2</sup>
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- University electives *32-35 Credit Hours*
- Major requirements (listed below) *41-45 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> MATH 231 or MATH 235 must be included and students seeking secondary teaching licensure must include PSYC 160. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### **Major Requirements**

Mathematics requirements depend on whether or not the student is seeking secondary teaching licensure. All students must complete 29-33 credit hours of the following required core mathematics courses and 12 credit hours of mathematics courses beyond the core.

#### **Core Courses Required of All Majors**

MATH 236. Calculus II *4.00*  
MATH 237. Calculus III *4.00*  
MATH 245. Discrete Mathematics *3.00*  
MATH 248. Computers & Numerical Algorithms *4.00*

MATH 300. Linear Algebra *3.00* and  
MATH 336. Elementary Differential Equations *3.00*<sup>1</sup>  
MATH 410. Advanced Calculus I *3.00*  
MATH 430. Abstract Algebra I *3.00*

#### **Choose one of the following:**

MATH 318. Introduction to Probability and Statistics *4.00* or MATH 229.  
Introduction to Applied Statistics Using R *3.00* and

MATH 329. Introduction to Probability and Theoretical Statistics *3.00*<sup>2</sup>

**Total: 29-33 Credit Hours**

#### **Footnotes**

<sup>1</sup> MATH 238. Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 if the student is completing a double major, seeking the computational sciences concentration, or received credit for MATH 238 before declaring a math major. <sup>2</sup> MATH 229 and MATH 329 is recommended. For students choosing MATH 318, a course with statistical data analysis (MATH 321, 322, 324, 327 or 354) is recommended.

## **Mathematics, Computational Sciences Concentration, B.A.**

### **Concentration Requirements**

For students majoring in mathematics or physics, the Departments of Mathematics and Physics offer a coordinated sequence of courses that prepare students for careers in the rapidly expanding field of computer modeling of complex systems. This program is structured so that students can earn a major in one department and a minor in the other. Students need not decide on a major field until their junior year.

The computational sciences concentration will prepare students to design and use computer models in any of those areas in which applied mathematics is used to understand complex systems (meteorology, astronomy, geology/geophysics, oceanography, physics, etc.). The preparation is appropriate for both those students who plan to enter the work force after graduation and those who plan to enter graduate school in applied mathematics, physics, or one of the other fields mentioned above.

Students should complete the following courses during the first two years of the program:

MATH 235. Calculus I, MATH 236. Calculus II, MATH 237. Calculus III  
MATH 238. Linear Algebra with Differential Equations (MATH 300 and MATH 336 may be substituted.)  
MATH 248. Computers & Numerical Algorithms

PHYS 240L. University Physics Laboratory I [C3T1G2], PHYS 250L. University Physics Laboratory II  
PHYS 240. University Physics I, PHYS 250. University Physics II, PHYS 260. University Physics III  
MATH 364/PHYS 364. Introduction to Fluid Mechanics

During their junior and senior years, students will normally complete the necessary course work for their major and minor. Mathematics majors will take PHYS 340. Mechanics, and MATH/PHYS 365, Introduction to Computational Fluid Mechanics, counted as a physics course to complete their physics minor. Physics majors will take MATH/PHYS 365 counted as a mathematics course and either MATH 337. Methods of Applied Calculus, or MATH 440. Fourier Analysis and Partial Differential Equation, to complete their mathematics minor. Seniors in either major must complete at least one topics or independent study/research course that involves computer modeling.

### **Credit by Examination**

The Department of Mathematics offers credit by examination for some of the courses taught in the department. Students who want to take an examination must apply to the department head. Upon application students will receive details regarding approval to take the examination.

### **Degree Requirements**

#### **Required Courses**

- General Education *41 Credit Hours*<sup>1,2</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*
- Philosophy course (in addition to General Education) *3 Credit Hours*
- University electives *19-35 Credit Hours*
- Major requirements (listed below) *41-43 Credit Hours*

**Total: 120 Credit Hours**

## Footnotes

<sup>1</sup> MATH 231 or MATH 235 must be included and students seeking secondary teaching licensure must include PSYC 160. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

Mathematics requirements depend on whether or not the student is seeking secondary teaching licensure. All students must complete 29-33 credit hours of the following required core mathematics courses and 12 credit hours of mathematics courses beyond the core.

### Core Courses Required of All Majors

MATH 236. Calculus II 4.00

MATH 237. Calculus III 4.00

MATH 245. Discrete Mathematics 3.00

MATH 248. Computers & Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00 and

MATH 336. Elementary Differential Equations 3.00 <sup>1</sup>

MATH 410. Advanced Calculus I 3.00

MATH 430. Abstract Algebra I 3.00

### Choose one of the following:

MATH 318. Introduction to Probability and Statistics 4.00 or MATH 229.

Introduction to Applied Statistics Using R 3.00 and

MATH 329. Introduction to Probability and Theoretical Statistics 3.00 <sup>2</sup>

### Total: 29-33 Credit Hours

## Footnotes

<sup>1</sup> MATH 238. Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 if the student is completing a double major, seeking the computational sciences concentration, or received credit for MATH 238 before declaring a math major. <sup>2</sup> MATH 229 and MATH 329 is recommended. For students choosing MATH 318, a course with statistical data analysis (MATH 321, 322, 324, 327 or 354) is recommended.

## Mathematics, Computational Sciences Concentration, B.S.

### Concentration Requirements

For students majoring in mathematics or physics, the Departments of Mathematics and Physics offer a coordinated sequence of courses that prepare students for careers in the rapidly expanding field of computer modeling of complex systems. This program is structured so that students can earn a major in one department and a minor in the other. Students need not decide on a major field until their junior year.

The computational sciences concentration will prepare students to design and use computer models in any of those areas in which applied mathematics is used to understand complex systems (meteorology, astronomy, geology/geophysics, oceanography, physics, etc.). The preparation is appropriate for both those students who plan to enter the work force after graduation and those who plan to enter graduate school in applied mathematics, physics, or one of the other fields mentioned above.

Students should complete the following courses during the first two years of the program:

MATH 235. Calculus I, MATH 236. Calculus II, MATH 237. Calculus III

MATH 238. Linear Algebra with Differential Equations (MATH 300 and MATH 336 may be substituted.)

MATH 248. Computers & Numerical Algorithms

PHYS 240L. University Physics Laboratory I [C3T1G2], PHYS 250L. University Physics Laboratory II

PHYS 240. University Physics I, PHYS 250. University Physics II, PHYS 260.

University Physics III

MATH 364/PHYS 364. Introduction to Fluid Mechanics

During their junior and senior years, students will normally complete the necessary course work for their major and minor. Mathematics majors will take PHYS 340. Mechanics, and MATH/PHYS 365, Introduction to Computational Fluid Mechanics, counted as a physics course to complete their physics minor. Physics majors will take MATH/PHYS 365 counted as a mathematics course and either MATH 337. Methods of Applied Calculus, or MATH 440. Fourier Analysis and Partial Differential Equation, to complete their mathematics minor. Seniors in either major must complete at least one topics or independent study/research course that involves computer modeling.

### Credit by Examination

The Department of Mathematics offers credit by examination for some of the courses taught in the department. Students who want to take an examination must apply to the department head. Upon application students will receive details regarding approval to take the examination.

### Degree Requirements

#### Required Courses

- General Education 41 Credit Hours <sup>1,2</sup>
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours
- University electives 32-35 Credit Hours
- Major requirements (listed below) 41-43 Credit Hours

### Total: 120 Credit Hours

## Footnotes

<sup>1</sup> MATH 231 or MATH 235 must be included and students seeking secondary teaching licensure must include PSYC 160. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

Mathematics requirements depend on whether or not the student is seeking secondary teaching licensure. All students must complete 29-33 credit hours of the following required core mathematics courses and 12 credit hours of mathematics courses beyond the core.

### Core Courses Required of All Majors

MATH 236. Calculus II 4.00

MATH 237. Calculus III 4.00

MATH 245. Discrete Mathematics 3.00

MATH 248. Computers & Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00 and

MATH 336. Elementary Differential Equations 3.00 <sup>1</sup>

MATH 410. Advanced Calculus I 3.00

MATH 430. Abstract Algebra I 3.00

### Choose one of the following:

MATH 318. Introduction to Probability and Statistics 4.00 or MATH 229.

Introduction to Applied Statistics Using R 3.00 and

MATH 329. Introduction to Probability and Theoretical Statistics 3.00 <sup>2</sup>

### Total: 29-33 Credit Hours

## Footnotes

<sup>1</sup> MATH 238. Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 if the student is completing a double major, seeking the computational sciences concentration, or received credit for MATH 238 before declaring a math major. <sup>2</sup> MATH 229 and MATH 329 is recommended. For students choosing MATH 318, a course with statistical data analysis (MATH 321, 322, 324, 327 or 354) is recommended.

## Statistics, B.S.

### Bachelor of Science in Statistics

The Mathematics and Statistics, Department of offers a major in statistics to meet the needs of both the public and the private sectors for graduates with degrees in statistics. The required courses provide a balance of applications and theory, which allows students to prepare for immediate employment or graduate studies by proper selection of the program electives.

#### Degree Requirements

##### Required Courses

- General Education *41 Credit Hours*<sup>1,2</sup>
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- University electives *29-32 Credit Hours*
- Major requirements (listed below) *44-46 Credit Hours*

**Total: 120 Credit Hours**

##### Footnotes

<sup>1</sup> MATH 231 or MATH 235 must be included. <sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major Requirements

Requirements for a B.S. degree with a major in statistics are the following required courses and a minimum of six credit hours from the electives listed below. Students interested in pursuing graduate studies in statistics are strongly encouraged to double-major in statistics and mathematics.

##### Required Courses

- |   |  |
|---|--|
| MATH 229. Introduction to Applied Statistics Using R <i>3.00</i> <sup>1</sup> | MATH 238. Linear Algebra with Differential Equations <i>4.00</i> |
| MATH 236. Calculus II <i>4.00</i>   | MATH 300. Linear Algebra <i>3.00</i>                             |
| MATH 237. Calculus III <i>4.00</i>  | <i>Electives: 6 Credit Hours</i>                                 |
| MATH 321. Analysis of Variance and Experimental Design <i>3.00</i>            | MATH 324. Applied Nonparametric Statistics <i>3.00</i>           |
| MATH 322. Applied Linear Regression <i>3.00</i>                               | MATH 325. Survey Sampling Methods <i>3.00</i>                    |
| MATH 327. Categorical Data Analysis <i>3.00</i>                               | MATH 326. Statistical Quality Control <i>3.00</i>                |
| MATH 329. Introduction to Probability and Theoretical Statistics <i>3.00</i>  | MATH 328. Time Series Analysis <i>3.00</i>                       |
| MATH 421. Applied Multivariate Statistical Analysis <i>3.00</i>               | BIO 454. Introduction to Biometrics (3, 1) <i>4.00</i>           |
| MATH 426. Probability and Mathematical Statistics I <i>3.00</i>               | MATH 410. Advanced Calculus I <i>3.00</i>                        |
| MATH 428. Statistical Consulting <i>3.00</i>                                  | MATH 411. Advanced Calculus II <i>3.00</i> <sup>2</sup>          |
| <i>Choose one of the following: 3-4 Credit Hours</i>                          | MATH 423. Stochastic Process <i>3.00</i>                         |
| MATH 248. Computers & Numerical Algorithms <i>4.00</i>                        | MATH 424. Statistical Decision Theory <i>3.00</i>                |
| MATH 309. SAS Programming and Data Management <i>3.00</i>                     | MATH 427. Probability and Mathematical Statistics II <i>3.00</i> |
| <i>Choose one of the following: 3-4 Credit Hours</i>                          | MATH 429. Research Project in Statistics <i>1.00 - 3.00</i>      |

**Total: 44-46 Credit Hours**

##### Footnotes

<sup>1</sup> MATH 220 with a grade of "B-" or better may be substituted for MATH 229 if the student received credit for MATH 220 before declaring a statistics major. <sup>2</sup> MATH 411 is recommended for students planning to do graduate work in statistics.

#### Recommended Schedule for Statistics

##### First Year

- Cluster One: Skills for the 21st Century *9 Credit Hours*  
MATH 229. Introduction to Applied Statistics Using R *3.00*  
MATH 236. Calculus II *4.00*  
MATH 309. SAS Programming and Data Management *3.00*<sup>1</sup>  
General Education courses *11 Credit Hours*

**Total: 30 Credit Hours**

##### Second Year

- MATH 237. Calculus III *4.00*  
MATH 321. Analysis of Variance and Experimental Design *3.00*  
MATH 322. Applied Linear Regression *3.00*  
MATH 329. Introduction to Probability and Theoretical Statistics *3.00*  
General Education courses/electives *17 Credit Hours*

**Total: 30 Credit Hours**

##### Third Year

- MATH 300. Linear Algebra *3.00*<sup>2</sup>  
MATH 327. Categorical Data Analysis *3.00*  
General Education courses/electives *24 Credit Hours*

**Total: 30 Credit Hours**

##### Fourth Year

- MATH 421. Applied Multivariate Statistical Analysis *3.00*  
MATH 426. Probability and Mathematical Statistics I *3.00*  
MATH 428. Statistical Consulting *3.00*  
Electives *21 Credit Hours*

**Total: 30 Credit Hours**

##### Footnotes

<sup>1</sup> MATH 248. Computers & Numerical Algorithms may be substituted. <sup>2</sup> MATH 238. Linear Algebra with Differential Equations may be substituted.

## Minors

### Mathematics Minor

The mathematics minor is open to students not majoring in mathematics or statistics. Each student must obtain prior approval of all courses to be counted in the minor from the adviser, Dr. Peter D. Kohn, or from the department head.

A minor in mathematics requires a minimum of 18 credit hours. At least six hours must be earned within the JMU Department of Mathematics and Statistics.

#### Core Courses

- MATH 231. Calculus with Functions I [C3QR] *3.00* and MATH 232. Calculus with Functions II *3.00* and MATH 236. Calculus II *4.00* or MATH 235. Calculus I [C3QR] *4.00* and MATH 236. Calculus II *4.00*
- Mathematics courses numbered MATH 237 or above, excluding mathematics courses numbered 301-309 *10 Credit Hours*

**Total: 18-20 Credit Hours**

### Statistics Minor



A minor in statistics requires a minimum of 18 credit hours. Students seeking the minor in statistics must complete one of the following options.

### Option 1

Not open to students majoring in mathematics. Students completing Option 1 must obtain prior approval of the courses to be counted in the minor from the statistics minor adviser, Dr. Nusrat Jahan.

#### Required Courses

MATH 322. Applied Linear Regression 3.00

*Choose one of the following: 3-4 Credit Hours*

MATH 220. Elementary Statistics [C3QR] 3.00

MATH 229. Introduction to Applied Statistics Using R 3.00

MATH 318. Introduction to Probability and Statistics 4.00

MATH 329. Introduction to Probability and Theoretical Statistics 3.00

*Choose four of the following: 12 Credit Hours*

MATH 309. SAS Programming and Data Management 3.00

MATH 321. Analysis of Variance and Experimental Design 3.00

MATH 324. Applied Nonparametric Statistics 3.00

MATH 325. Survey Sampling Methods 3.00

MATH 326. Statistical Quality Control 3.00

MATH 327. Categorical Data Analysis 3.00

MATH 328. Time Series Analysis 3.00

BIO 454. Introduction to Biometrics (3, 1) 4.00

MATH 421. Applied Multivariate Statistical Analysis 3.00

MATH 423. Stochastic Process 3.00

MATH 424. Statistical Decision Theory 3.00

MATH 426. Probability and Mathematical Statistics I 3.00

MATH 427. Probability and Mathematical Statistics II 3.00

**Total: 18-19 Credit Hours**

### Option 2

Not open to students majoring in mathematics. Students completing Option 2 must obtain prior approval of the courses to be counted in the minor from the statistics minor adviser, Dr. Nusrat Jahan.

#### Required Courses

MATH 236. Calculus II 4.00

MATH 237. Calculus III 4.00

MATH 322. Applied Linear Regression 3.00

*Choose one of the following:*

MATH 318. Introduction to Probability and Statistics 4.00

MATH 329. Introduction to Probability and Theoretical Statistics 3.00

*Choose two of the following: 6 Credit Hours*

MATH 321. Analysis of Variance and Experimental Design 3.00

MATH 326. Statistical Quality Control 3.00

MATH 423. Stochastic Process 3.00

MATH 426. Probability and Mathematical Statistics I 3.00

**Total: 20-21 Credit Hours**

### Option 3

The Option 3 minor in statistics is only open to students majoring in mathematics. Up to six hours may be double-counted towards the mathematics major. Students completing Option 3 must obtain prior approval of the courses to be counted in the minor from the statistics minor adviser, Dr. Nusrat Jahan.

#### Required Courses

MATH 229. Introduction to Applied Statistics Using R 3.00 <sup>1</sup>

MATH 321. Analysis of Variance and Experimental Design 3.00

MATH 322. Applied Linear Regression 3.00

MATH 329. Introduction to Probability and Theoretical Statistics 3.00 <sup>1</sup>

*Electives: 6-10 Credit Hours*

MATH 324. Applied Nonparametric Statistics 3.00

MATH 325. Survey Sampling Methods 3.00

MATH 327. Categorical Data Analysis 3.00

MATH 328. Time Series Analysis 3.00

MATH 354. Introduction to Biometrics 4.00

MATH 421. Applied Multivariate Statistical Analysis 3.00

MATH 426. Probability and Mathematical Statistics I 3.00

**Total: 18-20 Credit Hours**

#### Footnotes

<sup>1</sup> MATH 318 may be substituted for MATH 229 and MATH 329 by students taking at least 9 hours of elective courses.

# School of Media Arts and Design

Dr. Gwyneth Mellinger, **Director**

**Phone:** (540) 568-7007

**Email:** [smad@jmu.edu](mailto:smad@jmu.edu)

**Location:** Harrison Hall, Room 0283

**Website:** <http://www.jmu.edu/smad>

## Professors

S. Anderson, D. Flamiano, R. Greene, J. Hinshaw, J. Holman, M. Johnson, A. Leidholdt, D. Maune, G. Mellinger, K. Reynolds, R. Soenksen

## Associate Professors

M. Grundmann, S. Hokanson, A. Vilela, S. Wright, N. Zheng

## Assistant Professors

R. Alessi, N. Dinc, C. Guo, A. Hooker, T. Mitchell, I. O'Reilly, R. Parkhurst, D. Wang

## Instructor

J. Loyacano

## Mission Statement

The School of Media Arts and Design prepares students to serve as creative, reflective, and highly skilled media producers and storytellers, sensitive to the personal and social impact of the messages they create and to the important role media can play in advancing the public interest.

## Vision

To be a national leader in media education, providing innovative programs that embrace and integrate traditional media concepts, values, and skills with new and evolving technologies.

We value:

- Inquiry-based learning, both independent and collaborative, that emphasizes the creative process and is distinctly innovative, challenging, cooperative and collegial.
- Historical, legal and ethical literacy and critical thinking skills that enable students to reach thoughtful and principled decisions throughout their careers.
- Diverse communities and global perspectives acquired through study and experience.
- Strong co-curricular, extracurricular and internship activities that enrich education and enhance an understanding of the role of media in society.

## Goals

To help fulfill the above mission, the school requires students:

- To write clearly, concisely, accurately and effectively for a mass media situation: journalistic, cinematic or electronic.
- To demonstrate computer literacy.
- To demonstrate competency in information gathering for a variety of media situations.
- To recall the process involved in producing a publication (newspaper, magazine, radio, television or multimedia presentation).
- To understand how mass media businesses operate.
- To demonstrate competency in conducting pertinent media research.
- To recognize the history, theories, functions, and effects of mass media in society.
- To recall the history of legal and regulatory constraints on the mass media and new information technologies.
- To recognize ethical constraints on the mass media.
- To apply knowledge of the media in professional environments under academic supervision.

## Career Opportunities

The school integrates the fields and study of mass communication, advertising, corporate communication, digital video and cinema, interactive media, journalism, and mediated visual and aural expression. It offers a program of study that prepares students for careers that incorporate mass media and related areas of expertise, and for graduate study in mass communication and related areas.

## Co-curricular Activities and Organizations

Majors and interested non-majors are encouraged to participate in co-curricular activities and organizations associated with the school. Cocurricular activities entail practical media arts and design experiences for which credit is available through practica or other applied courses. Co-curricular organizations are student clubs and honorary societies associated with the school's programs of study.

## Co-curricular Activities

- The Breeze is the student newspaper.
- Curio is a feature magazine covering life in the Shenandoah Valley.
- WMRA-FM is the campus public radio station.

## Co-curricular Organizations

- SMAD Club is a student organization that promotes the School of Media Arts and Design, brings in speakers and organizes departmental events.
- Madison AAF, a chapter of the American Advertising Federation, is a club for those interested in careers in advertising.
- Society of Professional Journalists is the JMU chapter of a national organization for students and professionals working in the various fields of journalism.

## Special Admission and Retention Requirements

Admission to the School of Media Arts and Design is limited and competitive. There are two pathways to full admission to the SMAD major.

## Direct Admission

Entering freshmen and transfer students who are awarded a competitive scholarship by the university, the College of Arts and Letters, or by the School of Media Arts and Design will be fully and directly admitted to SMAD. Their concentration will be determined by the SMAD Director, in consultation with faculty. Such scholarship holders are exempt from the admission application requirement but must fulfill any conditions attached to their awards.

## Admission by Application

Students interested in majoring in the programs offered by the school must apply for a limited number of spaces in the major. An admission committee in the school reviews applications and offers admission based on availability to the most qualified students. A student may apply no more than two times for admission to the school.

## September Application Period

The September application process is only for transfer students matriculating to JMU in the current fall semester or the immediately preceding spring or summer semesters and have declared the SMAD major. These students must be officially admitted to JMU as transfer students and must have earned at least 30 hours of JMU approved post high school college credit. They must be degree-seeking students and must be enrolled in at least 12 hours at JMU during the fall semester. The application is due on Friday of the second week of the fall semester.

## January Application Period

Currently enrolled JMU students (including transfer students matriculating in January or in previous semesters) may apply during the January application period. Students applying to the major at JMU must be degree-seeking and have completed at least 12 hours or be enrolled in at least 12 hours at JMU. The application is due on the last Friday in January.

## Process

Students interested in applying for admission to this major must "declare" SMAD as a major and apply to become a "fully admitted" major. Declaring a SMAD major does not guarantee the student will be fully admitted into the SMAD major. Students must declare SMAD as a major prior to being eligible to enroll in SMAD 101. A declared SMAD student may take SMAD 101, but the student is restricted from SMAD courses beyond SMAD 101 until being fully admitted into the major.

A complete application to the major includes the following:

- Completion of SMAD 101 or enrollment in SMAD 101.
- Completion of the SMAD Admission Test. (Instructions for the SMAD Admission Test are given in SMAD 101).
- An application letter/personal essay expressing reasons for your interest in your first choice and second choice concentrations. Conduct research and then indicate what you know about careers in the concentration.
- A completed change of major form (available on MyMadison).
- A completed SMAD major card (available in the SMAD office).
- A completed SMAD questionnaire (available in the SMAD office).
- Unofficial transcripts (Transfer students must include the record of JMU transfer credit evaluation).
- Completed SMAD Application Package Checklist and Contract.

The student will present the required information in a manila folder to the main SMAD office with the student's last name, first name and student identification number on the tab of the folder. The student must supply the folder.

Following the review by the SMAD Admission Committee, students will be notified about their acceptance into the major. If accepted, students will be eligible to register for SMAD courses. Students not accepted into the major will be notified and may reapply the following January or a later January. Students may apply to the major no more than two times.

## Change of Concentration

Students accepted into the major must pick a concentration. Students who wish to change concentrations after being accepted into the major may do so only during the annual application period. To change a concentration, a letter must be submitted explaining why you want to change concentrations. This letter should be addressed to the Admission Committee and be no more than two pages in length. A Change of Concentration form must accompany the letter. A student, after consulting with his/her adviser and gaining approval of the admissions committee, will be permitted to change concentrations; however, there are no guarantees that the change request will be granted.

## Minimum Grades

If a student enrolled in SMAD 101 is accepted in the major and makes an "F" in the course, the student will be dropped from the major. In order to be eligible to reapply for the major, the student must re-take SMAD 101 and reapply. If a student enrolled in SMAD 101 is accepted in the major and makes a "D+," "D" or "D-" in the course, the student may continue to take classes in the major; however, the student must retake SMAD 101 the next semester and earn at least a "C-". Students are limited to taking SMAD 101 twice. Failure to achieve a grade of at least a "C-" after the second time will result in the student being dropped from the major, including being dropped from any SMAD courses for which the student is preregistered, and the student may not reapply for admission to the major.

To graduate with a degree in media arts and design, a student must have a grade point average of 2.0 ("C") or better in the major.

## Degree and Major Requirements

### B.A. Degree Requirements

#### Required Courses

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *23-37 Credit Hours*
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

### B.S. Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2</sup>
- Scientific Literacy requirement *3-4 Credit Hours*<sup>2</sup>
- University electives *33-34 Credit Hours*
- Major requirements *39 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>2</sup> In addition to course work taken to fulfill General Education requirements.

## Major Requirements

A student must complete a minimum of 39 SMAD credits. In addition to courses in the School of Media Arts and Design, students must complete at least 75 non-SMAD credits.

## Core Requirements

SMAD 101. Introduction to Media Arts and Design 3.00  
SMAD 201. Foundations of Visual Communication Design 3.00  
SMAD 202. Foundations of Audio-Visual Storytelling 3.00  
SMAD 203. Foundations of User Experience Design 3.00

SMAD 301. The Media Arts: Culture By Design 3.00<sup>1</sup> or SMAD 301L. The Media Arts: Culture By Design 3.00<sup>1</sup>  
SMAD 400. Senior Assessment in Media Arts and Design 0.00

## Choose one of the following concentrations: 24 Credit Hours

- Converged Media
- Creative Advertising
- Digital Video and Cinema
- Journalism

## Total: 39 Credit Hours

### Footnotes

<sup>1</sup> Students may receive SMAD credit for either SMAD 301 or SMAD 301L, but not both.

## Concentrations

### *Media Arts and Design, Creative Advertising Concentration, B.A.*

This professionally oriented concentration provides students with the knowledge and skills to create and manage advertising programs emphasizing new media. In addition to the theoretical concepts underlying advertising, students learn strategic creative writing, effective message design, and media production. Students also learn strategic planning, implementation and evaluation of new media technologies, and research and analysis of current trends and applications. The program reviews ethical and legal issues involved in the creative advertising process and the use of new media. Students planning careers in creative advertising should obtain a broad liberal arts education to better understand the characteristics that make the diversified communication process effective across various media and organizations.

## Major Requirements

SMAD Core Requirements 15 Credit Hours  
SMAD 242. Introduction to Advertising and New Media 3.00  
SMAD 252. Copywriting for Advertising 3.00<sup>1</sup>  
SMAD 342. Elements of Creative Advertising 3.00  
SMAD 443. Creative Advertising Campaigns 3.00

### Choose one of the following: 3 Credit Hours

SMAD 330. New Media Law 3.00  
SMAD 370. Mass Communication Law 3.00

### Choose one of the following Applied Skills courses: 3 Credit Hours

SMAD 210. News Reporting and Writing 3.00  
SMAD 220. Copy Editing 3.00  
SMAD 225. Photojournalism 3.00  
SMAD 305. Special Topics in Media Production 3.00<sup>2</sup>

SMAD 307. Interactive Design Web I 3.00  
SMAD 311. Feature Writing 3.00<sup>1</sup>  
SMAD 332. Visual Communication Design 3.00  
SMAD 422. Multimedia Journalism 3.00

### Choose two of the following Critical Analysis courses: 6 Credit Hours

SMAD 360L. British Media and Society 3.00  
SMAD 372. Media History 3.00  
SMAD 373. Media Analysis and Criticism 3.00  
SMAD 398. Critical Studies in Media Arts and Design 3.00<sup>2</sup>  
SMAD 470. New Media and Society 3.00  
SMAD 472. Media and Politics 3.00<sup>3</sup> or SMAD 472L. Media and Politics 3.00<sup>3</sup>  
SMAD 498. Senior Seminar in Media Arts and Design 3.00

## Total: 39 Credit Hours

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate. <sup>3</sup> Students may receive SMAD credit for either SMAD 301 or SMAD 301L, and SMAD 472 or SMAD 472L, but not both.

## Recommended Schedule for Majors

### First Year

SMAD 101. Introduction to Media Arts and Design 3.00  
Cluster One courses 9 Credit Hours  
General Education courses 18 Credit Hours

### Total: 30 Credit Hours

### Second Year

SMAD 201. Foundations of Visual Communication Design 3.00  
SMAD 202. Foundations of Audio-Visual Storytelling 3.00  
SMAD 203. Foundations of User Experience Design 3.00  
General Education courses 10-13 Credit Hours  
University electives 8-11 Credit Hours

### Total: 30 Credit Hours

### Third Year

SMAD 301. The Media Arts: Culture By Design 3.00 or SMAD 301L. The Media Arts: Culture By Design 3.00  
SMAD 242. Introduction to Advertising and New Media 3.00  
SMAD 252. Copywriting for Advertising 3.00

Creative advertising concentration intermediate applied skills elective course 3 Credit Hours

Creative advertising concentration critical analysis elective course 3 Credit Hours  
University electives 15 Credit Hours

### Total: 30 Credit Hours

### Fourth Year

SMAD 400. Senior Assessment in Media Arts and Design 0.00  
SMAD 342. Elements of Creative Advertising 3.00  
SMAD 443. Creative Advertising Campaigns 3.00  
Creative advertising concentration critical analysis elective course 3 Credit Hours  
University electives 18 Credit Hours

Choose one of the following:

SMAD 330. New Media Law 3.00  
SMAD 370. Mass Communication Law 3.00

### Total: 30 Credit Hours

### *Media Arts and Design, Creative Advertising Concentration, B.S.*

This professionally oriented concentration provides students with the knowledge and skills to create and manage advertising programs emphasizing new media. In addition to the theoretical concepts underlying advertising, students learn strategic creative writing, effective message design, and media production. Students also learn strategic planning, implementation and evaluation of new media technologies, and research and analysis of current trends and applications. The program reviews ethical and legal issues involved in the creative advertising process and the use of new media. Students planning careers in creative advertising should obtain a broad liberal arts education to better understand the characteristics that make the diversified communication process effective across various media and organizations.

## Concentration Requirements

SMAD Core Requirements 15 Credit Hours  
SMAD 242. Introduction to Advertising and New Media 3.00  
SMAD 252. Copywriting for Advertising 3.00<sup>1</sup>  
SMAD 342. Elements of Creative Advertising 3.00  
SMAD 443. Creative Advertising Campaigns 3.00  
Choose one of the following: 3 Credit Hours  
SMAD 330. New Media Law 3.00  
SMAD 370. Mass Communication Law 3.00  
Choose one of the following Applied Skills courses: 3 Credit Hours  
SMAD 210. News Reporting and Writing 3.00  
SMAD 220. Copy Editing 3.00  
SMAD 225. Photojournalism 3.00  
SMAD 305. Special Topics in Media Production 3.00<sup>2</sup>

SMAD 307. Interactive Design Web I 3.00  
SMAD 311. Feature Writing 3.00<sup>1</sup>  
SMAD 332. Visual Communication Design 3.00  
SMAD 422. Multimedia Journalism 3.00  
Choose two of the following Critical Analysis courses: 6 Credit Hours  
SMAD 360L. British Media and Society 3.00  
SMAD 372. Media History 3.00  
SMAD 373. Media Analysis and Criticism 3.00  
SMAD 398. Critical Studies in Media Arts and Design 3.00<sup>2</sup>  
SMAD 470. New Media and Society 3.00  
SMAD 472. Media and Politics 3.00<sup>3</sup> or SMAD 472L. Media and Politics 3.00<sup>3</sup>  
SMAD 498. Senior Seminar in Media Arts and Design 3.00

**Total: 39 Credit Hours**

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate.

<sup>3</sup> Students may receive SMAD credit for either SMAD 301 or SMAD 301L, and SMAD 472 or SMAD 472L, but not both.

## Recommended Schedule for Majors

### First Year

SMAD 101. Introduction to Media Arts and Design 3.00  
Cluster One courses 9 Credit Hours  
General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

### Second Year

SMAD 201. Foundations of Visual Communication Design 3.00  
SMAD 202. Foundations of Audio-Visual Storytelling 3.00  
SMAD 203. Foundations of User Experience Design 3.00  
General Education courses 10-13 Credit Hours  
University electives 8-11 Credit Hours

**Total: 30 Credit Hours**

### Third Year

SMAD 301. The Media Arts: Culture By Design 3.00 or SMAD 301L. The Media Arts: Culture By Design 3.00  
SMAD 242. Introduction to Advertising and New Media 3.00  
SMAD 252. Copywriting for Advertising 3.00

Creative advertising concentration intermediate applied skills elective course 3 Credit Hours

Creative advertising concentration critical analysis elective course 3 Credit Hours  
University electives 15 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

SMAD 400. Senior Assessment in Media Arts and Design 0.00  
SMAD 342. Elements of Creative Advertising 3.00  
SMAD 443. Creative Advertising Campaigns 3.00  
Creative advertising concentration critical analysis elective course 3 Credit Hours  
University electives 18 Credit Hours

Choose one of the following:

SMAD 330. New Media Law 3.00  
SMAD 370. Mass Communication Law 3.00

**Total: 30 Credit Hours**

## Media Arts and Design, Digital Video and Cinema Concentration, B.A.

The core mission of the Digital Video and Cinema concentration is to prepare students to be visual storytellers. Students will develop a broad understanding of the aesthetics, techniques and technologies that embody the visual storytelling process as well as a critical perspective of how media tools are used to create content, convey information and impact audiences.

The program offers preparation in writing, development, production and post-production in various genres, and an exploration of the continuously evolving commercial and artistic potential of visual media and story. Digital Video and Cinema students are encouraged to complement their concentration with a robust liberal arts experience that could include a minor and/or a second major. An internship is also recommended.

## Concentration Requirements

SMAD Core Requirements 15 Credit Hours  
SMAD 302. Video Production 3.00  
Choose one of the following: 3 Credit Hours  
SMAD 250. Scriptwriting 3.00<sup>1</sup>  
SMAD 251. Screenplay Writing 3.00<sup>1</sup>  
Choose one of the following: 3 Credit Hours  
SMAD 330. New Media Law 3.00  
SMAD 370. Mass Communication Law 3.00  
Choose one of the following: 3 Credit Hours  
SMAD 407. Business and Management of Digital Media 3.00  
SMAD 410. The Creative Producer 3.00  
Choose two of the following Applied Skills courses: 6 Credit Hours  
SMAD 303. Post Production 3.00  
SMAD 304. Audio Production 3.00  
SMAD 305. Special Topics in Media Production 3.00<sup>2</sup>  
SMAD 306. Studio Production 3.00  
SMAD 340. Advanced Screenplay Writing 3.00  
SMAD 402. Motion Graphic Design and Production 3.00

SMAD 403. Documentary Production 3.00  
SMAD 405. Producing and Directing 3.00  
SMAD 462. Documentary in Film & Television 3.00  
SMAD 463. Film Adaptations 3.00<sup>3</sup> or SMAD 463L. Film Adaptations 3.00<sup>3</sup>  
Choose two of the following Critical Analysis courses: 6 Credit Hours  
SMAD 360L. British Media and Society 3.00  
SMAD 371. Narrative Media Studies 3.00  
SMAD 373. Media Analysis and Criticism 3.00  
SMAD 380. Introduction to Film 3.00  
SMAD 398. Critical Studies in Media Arts and Design 3.00<sup>2</sup>  
SMAD 460. Film and Society 3.00  
SMAD 461. Film as Art 3.00  
SMAD 462. Documentary in Film & Television 3.00  
SMAD 463. Film Adaptations 3.00<sup>3</sup> or SMAD 463L. Film Adaptations 3.00<sup>3</sup>  
SMAD 464. Contemporary American Film 3.00  
SMAD 470. New Media and Society 3.00  
SMAD 498. Senior Seminar in Media Arts and Design 3.00

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate.

<sup>3</sup> Students may receive SMAD credit for either SMAD 463 or SMAD 463L, but not both.

**Total: 39 Credit Hours**

## Recommended Schedule for Majors

### First Year

SMAD 101. Introduction to Media Arts and Design 3.00

Cluster One courses *9 Credit Hours*  
General Education courses *18 Credit Hours*

**Total: 30 Credit Hours**

**Second Year**

SMAD 201. Foundations of Visual Communication Design *3.00*  
SMAD 202. Foundations of Audio-Visual Storytelling *3.00*  
SMAD 203. Foundations of User Experience Design *3.00*  
SMAD 250. Scriptwriting *3.00* or SMAD 251. Screenplay Writing *3.00*  
General Education courses *10-13 Credit Hours*  
University electives *5-8 Credit Hours*

**Total: 30 Credit Hours**

**Third Year**

SMAD 301. The Media Arts: Culture By Design *3.00* or SMAD 301L. The Media Arts: Culture By Design *3.00*  
SMAD 302. Video Production *3.00*  
Digital Video and Cinema concentration applied skills elective course *3 Credit Hours*

Digital Video and Cinema concentration critical analysis elective course *3 Credit Hours*

University electives *18 Credit Hours*

**Total: 30 Credit Hours**

**Fourth Year**

SMAD 400. Senior Assessment in Media Arts and Design *0.00*  
SMAD 330. New Media Law *3.00* or SMAD 370. Mass Communication Law *3.00*  
SMAD 407. Business and Management of Digital Media *3.00* or SMAD 410. The Creative Producer *3.00*  
Digital Video and Cinema concentration applied skills elective course *3 Credit Hours*  
Digital Video and Cinema concentration critical analysis elective courses *3 Credit Hours*  
University electives *18 Credit Hours*

**Total: 30 Credit Hours**

## ***Media Arts and Design, Digital Video and Cinema Concentration, B.S.***

The core mission of the Digital Video and Cinema concentration is to prepare students to be visual storytellers. Students will develop a broad understanding of the aesthetics, techniques and technologies that embody the visual storytelling process as well as a critical perspective of how media tools are used to create content, convey information and impact audiences.

The program offers preparation in writing, development, production and post-production in various genres, and an exploration of the continuously evolving commercial and artistic potential of visual media and story. Digital Video and Cinema students are encouraged to complement their concentration with a robust liberal arts experience that could include a minor and/or a second major. An internship is also recommended.

### **Concentration Requirements**

SMAD Core Requirements *15 Credit Hours*  
SMAD 302. Video Production *3.00*  
*Choose one of the following: 3 Credit Hours*  
SMAD 250. Scriptwriting *3.00*<sup>1</sup>  
SMAD 251. Screenplay Writing *3.00*<sup>1</sup>  
*Choose one of the following: 3 Credit Hours*  
SMAD 330. New Media Law *3.00*  
SMAD 370. Mass Communication Law *3.00*  
*Choose one of the following: 3 Credit Hours*  
SMAD 407. Business and Management of Digital Media *3.00*  
SMAD 410. The Creative Producer *3.00*  
*Choose two of the following Applied Skills courses: 6 Credit Hours*  
SMAD 303. Post Production *3.00*  
SMAD 304. Audio Production *3.00*  
SMAD 305. Special Topics in Media Production *3.00*<sup>2</sup>  
SMAD 306. Studio Production *3.00*  
SMAD 340. Advanced Screenplay Writing *3.00*  
SMAD 402. Motion Graphic Design and Production *3.00*

SMAD 403. Documentary Production *3.00*  
SMAD 405. Producing and Directing *3.00*  
SMAD 462. Documentary in Film & Television *3.00*  
SMAD 463. Film Adaptations *3.00*<sup>3</sup> or SMAD 463L. Film Adaptations *3.00*<sup>3</sup>  
*Choose two of the following Critical Analysis courses: 6 Credit Hours*  
SMAD 360L. British Media and Society *3.00*  
SMAD 371. Narrative Media Studies *3.00*  
SMAD 373. Media Analysis and Criticism *3.00*  
SMAD 380. Introduction to Film *3.00*  
SMAD 398. Critical Studies in Media Arts and Design *3.00*<sup>2</sup>  
SMAD 460. Film and Society *3.00*  
SMAD 461. Film as Art *3.00*  
SMAD 462. Documentary in Film & Television *3.00*  
SMAD 463. Film Adaptations *3.00*<sup>3</sup> or SMAD 463L. Film Adaptations *3.00*<sup>3</sup>  
SMAD 464. Contemporary American Film *3.00*  
SMAD 470. New Media and Society *3.00*  
SMAD 498. Senior Seminar in Media Arts and Design *3.00*

### **Footnotes**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate.

<sup>3</sup> Students may receive SMAD credit for either SMAD 463 or SMAD 463L, but not both.

**Total: 39 Credit Hours**

### **Recommended Schedule for Majors**

First Year  
SMAD 101. Introduction to Media Arts and Design *3.00*  
Cluster One courses *9 Credit Hours*  
General Education courses *18 Credit Hours*  
Total: 30 Credit Hours  
Second Year  
SMAD 201. Foundations of Visual Communication Design *3.00*  
SMAD 202. Foundations of Audio-Visual Storytelling *3.00*  
SMAD 203. Foundations of User Experience Design *3.00*  
SMAD 250. Scriptwriting *3.00* or SMAD 251. Screenplay Writing *3.00*  
General Education courses *10-13 Credit Hours*  
University electives *5-8 Credit Hours*  
Total: 30 Credit Hours  
Third Year  
SMAD 301. The Media Arts: Culture By Design *3.00* or SMAD 301L. The Media Arts: Culture By Design *3.00*  
SMAD 302. Video Production *3.00*

Digital Video and Cinema concentration applied skills elective course *3 Credit Hours*  
Digital Video and Cinema concentration critical analysis elective course *3 Credit Hours*  
University electives *18 Credit Hours*  
Total: 30 Credit Hours  
Fourth Year  
SMAD 400. Senior Assessment in Media Arts and Design *0.00*  
SMAD 330. New Media Law *3.00* or SMAD 370. Mass Communication Law *3.00*  
SMAD 407. Business and Management of Digital Media *3.00* or SMAD 410. The Creative Producer *3.00*  
Digital Video and Cinema concentration applied skills elective course *3 Credit Hours*  
Digital Video and Cinema concentration critical analysis elective courses *3 Credit Hours*  
University electives *18 Credit Hours*  
Total: 30 Credit Hours

## ***Media Arts and Design, Interactive Design Concentration, B.A.***

This concentration serves students interested in digital convergence - the delivery of content via multiple media formats such as text, images, audio, video and interactive websites. Students are involved in content creation and distribution using diverse communications media and are prepared for a variety of roles in media industries. Class work and practical experiences are grounded in online media and provide students with opportunities to develop additional skills using other media formats. At the same time, the program encourages students to obtain a broad liberal arts education so they will understand the theories, design, legalities and applications of convergence in society.

### Concentration Requirements

SMAD Core Requirements *12 Credit Hours*  
 SMAD 307. Interactive Design Web I *3.00*  
 SMAD 317. User Interaction Design *3.00*  
 SMAD 330. New Media Law *3.00*  
 SMAD 407. Business and Management of Digital Media *3.00*  
*Choose one Intermediate Applied Skills courses: 3 Credit Hours*  
 SMAD 305. Special Topics in Media Production *3.00*<sup>2</sup>  
 SMAD 308. Interactive Design II *3.00*  
 SMAD 332. Visual Communication Design *3.00*  
*Choose one Advanced Applied Skills courses: 3 Credit Hours*  
 SMAD 404. Advanced Interactive Design *3.00*  
 SMAD 408. Converged Media Lab *3.00*

*Choose two Critical Analysis courses: 6 Credit Hours*  
 SMAD 360L. British Media and Society *3.00*  
 SMAD 372. Media History *3.00*  
 SMAD 373. Media Analysis and Criticism *3.00*  
 SMAD 398. Critical Studies in Media Arts and Design *3.00*<sup>2</sup>  
 SMAD 470. New Media and Society *3.00*  
 SMAD 471. Media Ethics *3.00*  
 SMAD 472. Media and Politics *3.00*<sup>3</sup> or SMAD 472L. Media and Politics *3.00*<sup>3</sup>  
 SMAD 498. Senior Seminar in Media Arts and Design *3.00*  
**Total: 39 Credit Hours**

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate. <sup>3</sup> Students may receive SMAD credit for either SMAD 472 or SMAD 472L, but not both.

### Recommended Schedule for Majors

#### First Year

SMAD 101. Introduction to Media Arts and Design *3.00*  
 Cluster One courses *9 Credit Hours*  
 General Education courses *18 Credit Hours*

**Total: 30 Credit Hours**

#### Second Year

SMAD 201. Foundations of Visual Communication Design *3.00*  
 SMAD 202. Foundations of Audio-Visual Storytelling *3.00*  
 SMAD 203. Foundations of User Experience Design *3.00*  
 General Education courses *10-13 Credit Hours*  
 University electives *8-11 Credit Hours*

**Total: 30 Credit Hours**

#### Third Year

SMAD 301. The Media Arts: Culture By Design *3.00* or SMAD 301L. The Media Arts: Culture By Design *3.00*  
 SMAD 307. Interactive Design Web I *3.00*

SMAD 317. User Interaction Design *3.00*  
 Converged Media concentration intermediate applied skills elective course *3.00*  
 Converged Media concentration critical analysis elective course *3.00*  
 University electives *15 Credit Hours*

**Total: 30 Credit Hours**

#### Fourth Year

SMAD 400. Senior Assessment in Media Arts and Design *0.00*  
 SMAD 330. New Media Law *3.00*  
 SMAD 404. Advanced Interactive Design *3.00* or SMAD 408. Converged Media Lab *3.00*  
 SMAD 407. Business and Management of Digital Media *3.00*  
 Converged Media concentration critical analysis elective courses *6 Credit Hours*  
 University electives *18 Credit Hours*

**Total: 30 Credit Hours**

### Media Arts and Design, Interactive Design Concentration, B.S.

This concentration serves students interested in digital convergence - the delivery of content via multiple media formats such as text, images, audio, video and interactive websites. Students are involved in content creation and distribution using diverse communications media and are prepared for a variety of roles in media industries. Class work and practical experiences are grounded in online media and provide students with opportunities to develop additional skills using other media formats. At the same time, the program encourages students to obtain a broad liberal arts education so they will understand the theories, design, legalities and applications of convergence in society.

### Concentration Requirements

SMAD Core Requirements *12 Credit Hours*  
 SMAD 307. Interactive Design Web I *3.00*  
 SMAD 317. User Interaction Design *3.00*  
 SMAD 330. New Media Law *3.00*  
 SMAD 407. Business and Management of Digital Media *3.00*  
*Choose one Intermediate Applied Skills courses: 3 Credit Hours*  
 SMAD 305. Special Topics in Media Production *3.00*<sup>2</sup>  
 SMAD 308. Interactive Design II *3.00*  
 SMAD 332. Visual Communication Design *3.00*  
*Choose one Advanced Applied Skills courses: 3 Credit Hours*  
 SMAD 404. Advanced Interactive Design *3.00*

SMAD 408. Converged Media Lab *3.00*  
*Choose two Critical Analysis courses: 6 Credit Hours*  
 SMAD 360L. British Media and Society *3.00*  
 SMAD 372. Media History *3.00*  
 SMAD 373. Media Analysis and Criticism *3.00*  
 SMAD 398. Critical Studies in Media Arts and Design *3.00*<sup>2</sup>  
 SMAD 470. New Media and Society *3.00*  
 SMAD 471. Media Ethics *3.00*  
 SMAD 472. Media and Politics *3.00*<sup>3</sup> or SMAD 472L. Media and Politics *3.00*<sup>3</sup>  
 SMAD 498. Senior Seminar in Media Arts and Design *3.00*

**Total: 39 Credit Hours**

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate. <sup>3</sup> Students may receive SMAD credit for either SMAD 472 or SMAD 472L, but not both.

### Recommended Schedule for Majors

#### First Year

SMAD 101. Introduction to Media Arts and Design *3.00*  
 Cluster One courses *9 Credit Hours*  
 General Education courses *18 Credit Hours*

**Total: 30 Credit Hours**

#### Second Year

SMAD 201. Foundations of Visual Communication Design *3.00*  
 SMAD 202. Foundations of Audio-Visual Storytelling *3.00*  
 SMAD 203. Foundations of User Experience Design *3.00*

General Education courses *10-13 Credit Hours*  
 University electives *8-11 Credit Hours*

**Total: 30 Credit Hours**

#### Third Year

SMAD 301. The Media Arts: Culture By Design *3.00* or SMAD 301L. The Media Arts: Culture By Design *3.00*  
 SMAD 307. Interactive Design Web I *3.00*  
 SMAD 317. User Interaction Design *3.00*

Converged Media concentration intermediate applied skills elective course 3.00  
Converged Media concentration critical analysis elective course 3.00  
University electives 15 Credit Hours

**Total: 30 Credit Hours**

#### Fourth Year

SMAD 400. Senior Assessment in Media Arts and Design 0.00  
SMAD 330. New Media Law 3.00

SMAD 404. Advanced Interactive Design 3.00 or SMAD 408. Converged Media Lab 3.00

SMAD 407. Business and Management of Digital Media 3.00

Converged Media concentration critical analysis elective courses 6 Credit Hours  
University electives 18 Credit Hours

**Total: 30 Credit Hours**

### **Media Arts and Design, Journalism Concentration, B.A.**

This professionally-oriented program enables students to develop reporting, writing, editing and production skills needed to work in magazines, newspapers, video/broadcast and new media journalism through course work, internships and other practical experiences. At the same time the program encourages students to obtain a broad liberal arts education so they will understand many of the issues facing contemporary society.

#### Major Requirements

##### Concentration Requirements

SMAD Core Requirements 15 Credit Hours  
SMAD 210. News Reporting and Writing 3.00 <sup>1</sup>  
SMAD 309. Video Journalism 3.00  
SMAD 370. Mass Communication Law 3.00  
Choose one of the following: 3 Credit Hours  
SMAD 310. Advanced Reporting and Writing 3.00 <sup>1</sup>  
SMAD 311. Feature Writing 3.00  
Choose one Intermediate Applied Skills courses: 3 Credit Hours  
SMAD 220. Copy Editing 3.00  
SMAD 225. Photojournalism 3.00  
SMAD 305. Special Topics in Media Production 3.00 <sup>2</sup>  
SMAD 307. Interactive Design Web I 3.00  
SMAD 332. Visual Communication Design 3.00  
SMAD 403. Documentary Production 3.00  
Choose one Advanced Applied Skills courses: 3 Credit Hours  
SMAD 409. Electronic News Producing and Editing 3.00  
SMAD 421. Feature Magazine Product 3.00

SMAD 422. Multimedia Journalism 3.00  
SMAD 497. Advanced Projects in Media Arts and Design 3.00 (when topic is appropriate)

Choose one Critical Analysis courses: 3 Credit Hours

SMAD 372. Media History 3.00

SMAD 471. Media Ethics 3.00

Choose one Critical Analysis courses: 3 Credit Hours

SMAD 360L. British Media and Society 3.00

SMAD 372. Media History 3.00

SMAD 373. Media Analysis and Criticism 3.00

SMAD 398. Critical Studies in Media Arts and Design 3.00 <sup>2</sup>

SMAD 462. Documentary in Film & Television 3.00

SMAD 470. New Media and Society 3.00

SMAD 471. Media Ethics 3.00

SMAD 472. Media and Politics 3.00 <sup>3</sup> or SMAD 472L. Media and Politics 3.00 <sup>3</sup>

SMAD 498. Senior Seminar in Media Arts and Design 3.00

#### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate. <sup>3</sup> Students may receive SMAD credit for either SMAD 472 or SMAD 472L, but not both.

**Total: 39 Credit Hours**

##### Recommended Schedule for Majors

###### First Year

SMAD 101. Introduction to Media Arts and Design 3.00

Cluster One courses 9 Credit Hours

General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

###### Second Year

SMAD 201. Foundations of Visual Communication Design 3.00

SMAD 202. Foundations of Audio-Visual Storytelling 3.00

SMAD 203. Foundations of User Experience Design 3.00

SMAD 210. News Reporting and Writing 3.00

General Education courses 10-13 Credit Hours

University electives 5-8 Credit Hours

**Total: 30 Credit Hours**

###### Third Year

SMAD 220. Copy Editing 3.00

SMAD 309. Video Journalism 3.00

SMAD 301. The Media Arts: Culture By Design 3.00 or SMAD 301L. The Media Arts: Culture By Design 3.00

SMAD 310. Advanced Reporting and Writing 3.00 or SMAD 311. Feature Writing 3.00

Journalism concentration intermediate applied skills elective course 3 Credit Hours

Journalism concentration critical analysis elective course 3 Credit Hours

University electives 12 Credit Hours

**Total: 30 Credit Hours**

###### Fourth Year

SMAD 400. Senior Assessment in Media Arts and Design 0.00

SMAD 370. Mass Communication Law 3.00

Journalism concentration advanced applied skills elective course 3 Credit Hours

Journalism concentration critical analysis elective course 3 Credit Hours

University electives 18 Credit Hours

Choose one: 3 Credit Hours

SMAD 409. Electronic News Producing and Editing 3.00

SMAD 421. Feature Magazine Product 3.00

SMAD 422. Multimedia Journalism 3.00

**Total: 30 Credit Hours**

### **Media Arts and Design, Journalism Concentration, B.S.**

This professionally-oriented program enables students to develop reporting, writing, editing and production skills needed to work in magazines, newspapers, video/broadcast and new media journalism through course work, internships and other practical experiences. At the same time the program encourages students to obtain a broad liberal arts education so they will understand many of the issues facing contemporary society.

#### Major Requirements

##### Concentration Requirements

SMAD Core Requirements 15 Credit Hours  
SMAD 210. News Reporting and Writing 3.00 <sup>1</sup>  
SMAD 309. Video Journalism 3.00  
SMAD 370. Mass Communication Law 3.00  
Choose one of the following: 3 Credit Hours  
SMAD 310. Advanced Reporting and Writing 3.00 <sup>1</sup>  
SMAD 311. Feature Writing 3.00  
Choose one Intermediate Applied Skills courses: 3 Credit Hours

SMAD 220. Copy Editing 3.00

SMAD 225. Photojournalism 3.00

SMAD 305. Special Topics in Media Production 3.00 <sup>2</sup>

SMAD 307. Interactive Design Web I 3.00

SMAD 332. Visual Communication Design 3.00

SMAD 403. Documentary Production 3.00

Choose one Advanced Applied Skills courses: 3 Credit Hours

SMAD 409. Electronic News Producing and Editing 3.00



SMAD 421. Feature Magazine Product 3.00  
 SMAD 422. Multimedia Journalism 3.00  
 SMAD 497. Advanced Projects in Media Arts and Design 3.00 (when topic is appropriate)  
*Choose one Critical Analysis courses: 3 Credit Hours*  
 SMAD 372. Media History 3.00  
 SMAD 471. Media Ethics 3.00  
*Choose one Critical Analysis courses: 3 Credit Hours*  
 SMAD 360L. British Media and Society 3.00

SMAD 372. Media History 3.00  
 SMAD 373. Media Analysis and Criticism 3.00  
 SMAD 398. Critical Studies in Media Arts and Design 3.00<sup>2</sup>  
 SMAD 462. Documentary in Film & Television 3.00  
 SMAD 470. New Media and Society 3.00  
 SMAD 471. Media Ethics 3.00  
 SMAD 472. Media and Politics 3.00<sup>3</sup> or SMAD 472L. Media and Politics 3.00<sup>3</sup>  
 SMAD 498. Senior Seminar in Media Arts and Design 3.00

**Footnotes**

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> These courses satisfy concentration requirements when the topic is appropriate. <sup>3</sup> Students may receive SMAD credit for either SMAD 472 or SMAD 472L, but not both.

**Total: 39 Credit Hours**

**Recommended Schedule for Majors**

**First Year**

SMAD 101. Introduction to Media Arts and Design 3.00  
 Cluster One courses 9 Credit Hours  
 General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

**Second Year**

SMAD 201. Foundations of Visual Communication Design 3.00  
 SMAD 202. Foundations of Audio-Visual Storytelling 3.00  
 SMAD 203. Foundations of User Experience Design 3.00  
 SMAD 210. News Reporting and Writing 3.00  
 General Education courses 10-13 Credit Hours  
 University electives 5-8 Credit Hours

**Total: 30 Credit Hours**

**Third Year**

SMAD 220. Copy Editing 3.00  
 SMAD 309. Video Journalism 3.00  
 SMAD 301. The Media Arts: Culture By Design 3.00 or SMAD 301L. The Media Arts: Culture By Design 3.00

SMAD 310. Advanced Reporting and Writing 3.00 or SMAD 311. Feature Writing 3.00  
 Journalism concentration intermediate applied skills elective course 3 Credit Hours  
 Journalism concentration critical analysis elective course 3 Credit Hours  
 University electives 12 Credit Hours

**Total: 30 Credit Hours**

**Fourth Year**

SMAD 400. Senior Assessment in Media Arts and Design 0.00  
 SMAD 370. Mass Communication Law 3.00  
 Journalism concentration advanced applied skills elective course 3 Credit Hours  
 Journalism concentration critical analysis elective course 3 Credit Hours  
 University electives 18 Credit Hours  
*Choose one: 3 Credit Hours*  
 SMAD 409. Electronic News Producing and Editing 3.00  
 SMAD 421. Feature Magazine Product 3.00  
 SMAD 422. Multimedia Journalism 3.00

**Total: 30 Credit Hours**

***Media Arts and Design Teaching Licensure***

In addition to the general education and academic major requirements, media arts and design majors desiring to add an endorsement in journalism to a secondary teacher license in another content area must be admitted to teacher education, complete the pre-professional program in secondary education at the undergraduate level and complete the graduate level Master of Arts in Teaching degree.

It is critical that students seeking licensure consult regularly with both their education adviser and their major adviser to support their progression through the programs. For a full description of the program in secondary teaching, refer to the Middle, Secondary and Mathematics Education, Department of.

# Department of Middle, Secondary and Mathematics Education

Dr. Katie Dredger, **Department Head**

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## Professors

M. Cancienne, E. Carbaugh, M. Cude, K. Doubet, D. Haraway, M. Shoffner

## Associate Professors

R. Higdon, S. Purcell, A. Taylor Jaffee, A. Wallace

## Assistant Professors

Z. Rahman, A. Sawyer, A. Webb, K. Wiley

## Instructors

E. Imbrescia, D. Lane, A. Loso

## Middle Grades Education, B.S.

### Mission

The B.S. degree program in Middle Grades Education is designed to prepare candidates to teach students in grades 6-8 in the licensure areas of History and Social Sciences, Science, Mathematics, and English. The program builds on the foundational content knowledge students develop in their general education course work, coupled with a minor in one of the disciplinary knowledge areas through varied course work and experiences required and approved by the VDOE.

Drawn from research and theories in constructivism, human development, teaching, literacy, and learning, the MIED course work and field experiences prepare teacher candidates to employ a strong disciplinary approach to instruction that reflects an understanding of the diverse nature of learners and their families, while providing a socially just context for transformation where self-reflection and personal change can lead to empowerment and innovation in teaching and learning.

The Middle Grades Education program is designed to prepare teachers of grades 6-8. The program will prepare students to address the developmental characteristics of middle school students and to design appropriate curriculum and learning experiences that are cross disciplinary in nature and related directly to the social, emotional, physical, and intellectual needs of children between the ages of 10 and 14. The Middle Grades Education program is founded on the following five assumptions based on the Association for Middle Level Education (AMLE) standards:

- Knowledge and application of young adolescent development and diversity impacts curriculum and instruction and holds implications for middle school programs and practices;
- Knowledge and application of middle level curriculum requires content specific expertise, a comprehensive grasp of standards, and interdisciplinary instruction;
- Knowledge and application of middle school philosophy and organization includes understanding foundations of developmentally responsive programs in schools, as well as structures and best practices that enhance learning for all students;
- Knowledge and application of instruction and assessment includes an understanding of content pedagogy, instructional strategies, and assessment that influence data-informed instruction and modifications;
- Knowledge and application of professional roles includes being developmentally responsive, working with families and community partnerships, practicing professional dispositions, and participating in professional development.

## Degree and Major Requirements

### Degree Requirements

- General Education, <sup>1,2,3</sup> 41 credits
- Quantitative Requirement, 3 credits
- Scientific Literacy Requirement, 3 credits
- Middle Grades Education Major Requirements, 45 credits
- Content Major Area, 36-56 credits
- **Total: 120-128 credits**

### Footnotes

<sup>1</sup> Must include PSYC 160.

<sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>3</sup> The number of credits taken to meet requirements may vary if courses are double-counted for General Education to meet B.S. degree requirements. Courses may not be double-counted between General Education and B.S. degree requirements.

### Major Requirements

#### Core Requirements

EDUC 165. Social Foundations of Exceptionalities, 3 credits  
EDUC 300. Foundations of American Education, 3 credits  
EDUC 310. Teaching in a Diverse Society, 3 credits  
MIED 311. Field Experience in Middle Education, 1 credit  
MIED 489. Effective Practices in Middle Education, 3 credits  
MSSE 240. Foundations of General Education 6-12, 3 credits  
MSSE 303. Classroom Management for Adolescents, 3 credits  
MSSE 425. Assessment in Middle and Secondary Education, 3 credits  
MSSE 450. Internship Seminar, 2 credits  
MSSE 460. Differentiation for Adolescents, 3 credits  
READ 440. Literacy-Based Learning in Secondary Education, 3 credits

**Total: 30 credits**

#### Student Teaching/Internship Requirements

MSSE 475. Internship in Middle and Secondary Education, 8 credits

**Total: 8 credits**

#### Middle Education Concentrations

**Choose one of the following concentrations: 7 credits**

*Science Concentration*

MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8

MSSE 471S. Field Experience in Middle Education in

Science Laboratory

Choose one:

MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8

MSSE 470H. Social Studies Teaching Methods, Grades 6-8

MSSE 470M. Mathematics Teaching Methods, Grades 6-8

Approved elective

*English Concentration*

MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8

MSSE 471E. Field Experience in Middle School English Laboratory

Choose one:

MSSE 470H. Social Studies Teaching Methods, Grades 6-8

MSSE 470M. Mathematics Teaching Methods, Grades 6-8

MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8

Approved elective

*Social Studies Concentration<sup>4</sup>*

MSSE 470H. Social Studies Teaching Methods, Grades 6-8 3 credits

MSSE 471H. Field Experience in Middle Education in Social Studies Laboratory  
 Choose one:  
 MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8  
 MSSE 470M. Mathematics Teaching Methods, Grades 6-8  
 MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8  
 Approved elective  
 4 Middle Education Social Studies candidates must take POSC 335 as part of their General Education requirements

*Mathematics Concentration*  
 MSSE 470M. Mathematics Teaching Methods, Grades 6-8  
 MSSE 471M. Field Experience in Middle School Mathematics Laboratory  
 Choose one:  
 MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8  
 MSSE 470H. Social Studies Teaching Methods, Grades 6-8  
 MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8  
 Approved elective  
**Total: 7 credits**

## Recommended Schedule of Courses

### First Year

PSYC 160. Life Span Human Development [C5SD], 3 credits  
 EDUC 300. Foundations of American Education, 3 credits  
 EDUC 310. Teaching in a Diverse Society, 3 credits  
 General Education Cluster One and Cluster Two, 9 credits  
 B.S. degree requirements, 3 credits

**Total: 30 credits**

### Second Year

EDUC 165. Social Foundations of Exceptionalities, 3 credits  
 MSSE 240. Foundations of General Education 6-12, 3 credits  
 READ 440. Literacy-Based Learning in Secondary Education, 3 credits  
 General Education Cluster Three and Cluster Four, 9 credits  
 B.S. degree requirements, 3 credits

Licensure Area Content courses, 9 credits,

**Total: 30 credits**

### Third Year

Remaining General Education, 11 credits  
 Licensure Area Content courses, 9 credits  
 All students seeking licensure, 6 credits  
 MSSE 425. Assessment in Middle and Secondary Education,  
 MSSE 460. Differentiation for Adolescents,  
 Choose one set of courses below:, 4 credits

*For those seeking English licensure:*

MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8  
 MSSE 471E. Field Experience in Middle School English Laboratory

*For those seeking social studies licensure:*

MSSE 470H. Social Studies Teaching Methods, Grades 6-8,  
 MSSE 471H. Field Experience in Middle Education in Social Studies Laboratory  
*For those seeking mathematics licensure:*

MSSE 470M. Mathematics Teaching Methods, Grades 6-8,  
 MSSE 471M. Field Experience in Middle School Mathematics Laboratory  
*For those seeking science licensure:*

MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8,  
 MSSE 471S. Field Experience in Middle Education in Science Laboratory

**Total: 30 credits**

### Fourth Year

Choose one:, 3 credits

MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8  
 MSSE 470H. Social Studies Teaching Methods, Grades 6-8  
 MSSE 470M. Mathematics Teaching Methods, Grades 6-8  
 MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8

Approved elective

MIED 311. Field Experience in Middle Education Laboratory, 1 credit  
 MIED 489. Effective Practices in Middle Education, 3 credits  
 MSSE 303. Behavior Management in the Middle and, 3 credits

Secondary Classroom

MSSE 450. Internship Seminar, 2 credits

MSSE 475. Internship in Middle and Secondary Education, 8 credits

Licensure-Area Courses and/or Electives/Add-on Endorsement, 10 credits

**Total: 30 credits**

**Total: 120 Credit Hours**

## Secondary Education B.S.

### Mission

The B.S. degree program in Secondary Education (SEED) is designed to prepare candidates to teach students in grades 6-12 in the licensure areas of Biology, Chemistry, Earth Science, English, History and Social Science, Mathematics, or Physics. The program builds on the foundational content knowledge students develop in their general education course work, along with a second major in an approved content area and experiences required and approved by the VDOE, which includes a minimum of 36 additional credits in the licensure area.

This education degree program seeks to foster in its candidates an empathic understanding of the ways that high school students are affected by social contexts and by the student's own abilities/disabilities; the knowledge and pedagogical skills to support each student's right to success; and belief in the value of each student.

The Secondary Education degree program emphasizes the preparation of effective and reflective teachers who are knowledgeable in the content they are preparing to teach and cognizant of the characteristics of adolescents ages 12-18.

The Secondary Education program focuses on providing students with an excellent educational basis that is supplemented through a solid foundation in licensure content areas. Students earn a second major in a content area that exceeds licensure expectations in collaboration with the following departments on campus: Biology, Chemistry, English, Geology and Environmental Science, History, Physics and Astronomy, Political Science, and Mathematics and Statistics. Through the core curriculum, students become knowledgeable about professional roles as educators in the fields of English, mathematics, social studies and the sciences while learning research-based pedagogy in the planning and implementation of knowledge, skills and disposition lessons for school settings. The curriculum includes opportunities for observation and application in a variety of school settings. Students will choose a concentration area to gain knowledge, skills and abilities that are more specific to a particular discipline. Course work for the 6-12 licensure concentrations focuses on teaching methodology in secondary schools.

## Degree and Major Requirements

### Degree Requirements

- General Education, <sup>1,2,3</sup> 41 credits
- Quantitative Requirement, 3 credits
- Scientific Literacy Requirement, 3 credits
- Secondary Education Major Requirements, 45 credits
- Licensure Area Minor and Course Requirements and Electives, 41-56 credits

**Total: 120 credits**

### Footnotes

<sup>1</sup> Must include PSYC 160.

<sup>2</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

<sup>3</sup> The number of credits taken to meet requirements may vary if courses are double-counted for General Education to meet B.S. degree requirements. Courses may not be double-counted between General Education and B.S. degree requirements.

## Major Requirements

### Secondary Education Core Requirements

EDUC 165. Social Foundations of Exceptionalities 3.00  
EDUC 300. Foundations of American Education 3.00  
EDUC 310. Teaching in a Diverse Society 3.00  
MSSE 240. Foundations of General Education 6-12 3.00  
MSSE 303. Classroom Management for Adolescents 3.00  
MSSE 425. Assessment in Middle and Secondary Education 3.00  
MSSE 450. Internship Seminar 2.00  
MSSE 460. Differentiation for Adolescents 3.00  
READ 440. Literacy-Based Learning in Secondary Education 3.00

### Student Teaching/Internship Requirements

MSSE 475. Internship in Middle and Secondary Education 8.00

### Secondary Education Major Tracks

Select one of the following tracks for 11 credits:

*Chemistry, Biology, Earth Science, or Physics Track*

Choose one:

MSSE 397. Science Pedagogy 2.00  
BIO 397. Science Pedagogy 2.00  
CHEM 397. Science Pedagogy 2.00  
CSM 397. Science Pedagogy 2.00  
PHYS 302. Science Pedagogy 2.00  
MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8 3.00  
MSSE 471S. Field Experience in Middle Education in Science Laboratory 1.00  
MSSE 480S. Science Content Methods, Grades 9-12 2.00  
MSSE 481S. Science Field Placement, Grades 9-12 (Lab) 1.00

Choose one:

MSSE 495. Topics in Science Pedagogical Content Knowledge 2.00

BIO 489. Topics in Science Pedagogical Content Knowledge 2.00

### English Track

MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8 3.00  
MSSE 471E. Field Experience in Middle School English Laboratory 1.00  
MSSE 480E. English/Language Arts Content Methods, Grades 9-12 3.00  
MSSE 481E. English Field Placement, Grades 9-12 (Lab) 1.00  
READ 254. Literature for Adolescents 3.00

### Social Studies Track

MSSE 470H. Social Studies Teaching Methods, Grades 6-8 3.00  
MSSE 471H. Field Experience in Middle Education in Social Studies Laboratory 1.00  
MSSE 480H. Social Studies Content Methods, Grades 9-12 3.00  
MSSE 481H. Social Studies Field Placement, Grades 9-12 (Lab) 1.00  
MSSE 489H. Special Topics in Social Studies Pedagogical Content Knowledge 3.00

### Mathematics Track

MSSE 470M. Mathematics Teaching Methods, Grades 6-8 3.00  
MSSE 471M. Field Experience in Middle School Mathematics Laboratory 1.00  
MSSE 480M. Mathematics Content Methods, Grades 9-12 3.00  
MSSE 481M. Mathematics Field Placement, Grades 9-12 (Lab) 1.00  
MSSE 489M. Special Topics in Math Pedagogical Content Knowledge 3.00

### Content Major, 36.00-56.00 credits

Varies based on content major; see below

**Total: 120-128**

## Content Area Requirements

In addition to the Secondary Education major, students must complete a second major in a specified content area, as shown below.

### Biology

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 250. Ecology and Evolution (3,3) 4.00

*Biology Education Concentration 12.00*

\*BIO 260. Anatomy and Physiology for Secondary Education 4.00

Choose one:

BIO 350. Paleobiology (3, 2) 4.00

GEOL 350. Paleobiology (3, 2) 4.00

Choose one:

\*BIO 489. Topics in Science Pedagogical Content Knowledge 2.00

\*MSSE 495. Topics in Science Pedagogical Content Knowledge 2.00

Choose one:

\*BIO 397. Science Pedagogy 2.00

\*CHEM 397. Science Pedagogy 2.00

\*CSM 397. Science Pedagogy 2.00

\*MSSE 397. Science Pedagogy 2.00

\*PHYS 302. Science Pedagogy 2.00

*Cognates 21.00-22.00*

Chemistry: 11 Credit Hours

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00

CHEM 241. Organic Chemistry I 3.00

Physics: 4 Credit Hours

PHYS 140. College Physics I [C3PP] 3.00 and

PHYS 140L. General Physics Laboratory [C3PP] 1.00 or PHYS 240. University Physics I [C3PP] 3.00 and

PHYS 240L. University Physics Laboratory I [C3PP] 1.00

Mathematics/Statistics: 6-7 Credit Hours

Choose one:

MATH 220. Elementary Statistics [C3QR] 3.00

MATH 229. Introduction to Applied Statistics Using R 3.00

Choose one:

MATH 231. Calculus with Functions I [C3QR] 3.00

\*MATH 233. Calculus with Modeling I 3.00

MATH 235. Calculus I [C3QR] 4.00

*Biology electives: 10 Credit Hours*

To include one plant-focused organismal diversity course

To include one animal-focused organismal diversity course

To include one upper level lab course

At least one course that intersects with environmental science is strongly encouraged

**Total Credits for Biology Major: 59-60**

**Total Credits for Double Major: 128-129**

*Note: Total credits for the double major include 10 credits of General Education and six credits of BS degree requirements fulfilled as part of the Biology major; four credits are double-counted with the secondary education major.*

### Chemistry

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 132. General Chemistry II 3.00

CHEM 135L. Special General Chemistry Laboratory I 1.00 3

CHEM 136L. Special General Chemistry Laboratory II 2.00 3

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 270. Inorganic Chemistry I 3.00

CHEM 287L. Integrated Inorganic/Organic Laboratory I 2.00

CHEM 288L. Integrated Inorganic/Organic Laboratory II 2.00

CHEM 331. Physical Chemistry I 3.00

CHEM 351. Analytical Chemistry 4.00

CHEM 361. Biochemistry I 3.00

CHEM 481. Literature and Seminar I 1.00

*Chemistry Education Concentration Courses 7.00*

CHEM 325. Chemical Hazards and Laboratory Safety 1.00

CHEM 336L. Applied Physical Chemistry Laboratory 2.00

Choose one:

\*CHEM 397. Science Pedagogy 2.00

\*BIO 397. Science Pedagogy 2.00

\*CSM 397. Science Pedagogy 2.00

\*MSSE 397. Science Pedagogy 2.00

\*PHYS 302. Science Pedagogy 2.00

Choose one:

\*MSSE 495. Topics in Science Pedagogical Content Knowledge 2.00

\*BIO 489. Topics in Science Pedagogical Content Knowledge 2.00  
*Cognate Courses for Chemistry Education Concentration 19.00-21.00*  
ISCI 173. Life and Environmental Science for Teachers [C3L] 3.00<sup>1</sup>  
MATH 235. Calculus I [C3QR] 4.00 and  
MATH 236. Calculus II 4.00 (or MATH 231, MATH 232 and MATH 236)  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 240L. University Physics Laboratory I [C3PP] 1.00  
PHYS 250. University Physics II 3.00

### Earth Science

Choose one:  
GEOL 102 Environment Earth 3.00  
GEOL 110 Physical Geology 3.00  
GEOL 115 Earth Systems and Climate Change 3.00  
GEOL 210 Applied Physical Geology 3.00  
GEOL 110L. Physical Geology Lab 1.00  
GEOL 167. History and Philosophy of the Geosciences 3.00  
Choose one:  
GEOL 211 Introduction to Oceanography 3.00  
GEOL 401 Oceanography for Teachers 3.00  
GEOL 230. Evolution of Earth 4.00  
GEOL 291. Geowriting and Communication 3.00  
GEOL 320. Meteorology 3.00  
GEOL 367. Genesis of Solid Earth Materials 4.00  
GEOL 377. Earth Surface Processes 3.00  
GEOL 387. Stratigraphy, Structure, & Tectonics 4.00  
GEOL 477. Contemporary Issues in the Geosciences 3.00  
Choose one:  
ASTR 220 General Astronomy I 3.00  
GEOL 272 Planetary Geology 3.00

### English

ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century 3.00  
ENG 236. Survey of English Literature: Eighteenth Century to Modern 3.00  
ENG 247. Survey of American Literature: From the Beginning to the Civil War 3.00  
ENG 248. Survey of American Literature: From the Civil War to the Modern Period 3.00  
ENG 299. Writing About Literature  
READ 254. Literature for Adolescents 3.00  
Choose one of the following:  
ENG 309. Traditional English Grammar 3.00  
ENG 310. Modern English Grammar 3.00  
Choose one of the following:  
ENG 317. Shakespeare's Tragedies and Romances  
ENG 318. Shakespeare's Comedies and Histories

### History

HIST 101. World History to 1500 3.00  
HIST 102 World History since 1500 3.00  
HIST 225 U.S. History 4.00  
HIST 350. Virginia History 3.00  
HIST 457. Comparative Empires 3.00  
HIST 395. History Seminar 3.00  
Choose one: 3.00  
HIST 270. Modern Middle East  
HIST 201. Europe to 1815  
HIST 273. Asia to 1600  
HIST 202. Europe since 1815  
HIST 274. Modern Asia  
HIST 263. Africa  
HUM 252. Latin American Cultures and Identities  
Choose four 300 or 400-level courses, at least one from each of these areas:  
12.00  
U.S. History  
European History  
World History  
*ISS Minor for History Majors*

### Mathematics

MATH 229. Introduction to Applied Statistics Using R 3.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00

PHYS 250L. University Physics Laboratory II 1.00  
<sup>1</sup> Fulfills General Education cluster three natural systems. Must be an approved section for secondary education.

**Total Credits for Chemistry Major: 59**

**Total Credits for Double Major: 128**

*Note: Total credits for the double major includes 17 credits double-counted among Chemistry, General Education, and the BS degree requirements; four credits are double-counted with the secondary education major.*

Choose one:

GEOL 491. Geological Literature and Research 2.00  
GEOL 494. Internship in Geology 1.00-3.00  
GEOL 497. Problems in Geology 1.00-3.00  
GEOL 499. Honors in Geology 1.00-6.00  
Choose one from each area, plus one additional course: 16.00  
BIO 140 Foundations of Biology 1 or BIO 150 Foundations of Biology II or BIO 350 Paleobiology  
CHEM 131-131L General Chemistry I or CHEM 132-132L General Chemistry II  
PHYS 140-140L College Physics I or PHYS 150-150L College Physics II or  
GEOL 440 Geophysics  
Choose two: 7.00-8.00  
MATH 205 Introductory Calculus 1 3.00  
MATH 232 Calculus with Functions II 4.00  
MATH 235 Calculus 1 4.00

**Total Credits for Earth Science Major: 60**

**Total Credits for Double Major: 128**

*Note: Total credits for the double major includes 17 credits double-counted among Earth Science, General Education, and the BS degree requirements; four credits are double-counted with the secondary education major.*

ENG 319. Teaching Shakespeare  
ENG 320L. Shakespeare on the Page and Stage in London  
At least one course at any level in American literature  
At least one course at any level in British literature  
At least one course at any level in world literature  
Choose 15 credits from 300-level ENG course work 15.00  
One course in literature pre-1700 (satisfied by Shakespeare course) 3.00  
One course in literature pre-1900 3.00  
One course in Identity, Diversity, Power 3.00  
One additional course at 300 level 3.00<sup>1</sup>  
<sup>1</sup> ENG 396. Advanced Composition is highly recommended, but not required

**Total Credits for English Major: 36**

**Total Credits for Double Major: 120**

*Note: Total credits for the double major includes three credits double-counted with the secondary education major.*

POSC 225. U.S. Government 3.00

Choose one:

ISS 330. Maps, Money and World Trade 3.00  
GEOG 300 or 400-level elective 3.00

Choose one:

ECON 200. Macroeconomics 3.00  
ECON 201. Microeconomics 3.00

Choose one:

GEOG 280. Introduction to Cultural Geography 3.00  
GEOG 200. The Global Dimension 3.00  
POSC 335. Comparative Politics for Teachers 3.00  
POSC 302. State and Local Government 3.00  
POSC elective 3.00

**Total Credits for History Major with Interdisciplinary Social Sciences Minor: 54**

**Total Credits for Double Major: 128**

*Note: Total credits for the double major includes 12 credits double-counted between History and ISS and six credits double-counted with General Education.*

MATH 237. Calculus III 4.00

MATH 245. Discrete Mathematics 3.00

MATH 248. Computers and Numerical Algorithms 4.00

MATH 300. Linear Algebra 3.00

Choose one:

MATH 310. Elem Number Theory 3.00

MATH 315. Real Number System 3.00

Choose one:

MATH 318. Introduction to Probability and Statistics 4.00

MATH 229. Introduction to Applied Statistics Using R 3.00 and MATH 329.

Introduction to Probability and Theoretical Statistics 3.00<sup>1</sup>

MATH 336. Elementary Differential Equations 3.00<sup>2</sup>

MATH 410. Advanced Calculus I 3.00

MATH 430. Abstract Algebra I 3.00

*Note: Total credits for the double major includes nine credits double-counted among Mathematics, General Education, and the BS degree requirements; six credits are double-counted with the secondary education major.*

Choose one:

MATH 329. Introduction to Probability and Theoretical Statistics 3.00

MATH 415. History of Mathematics 3.00

MATH 470. Connections in Mathematics 3.00

MATH 475. Fund Concepts of Geometry 3.00

<sup>1</sup> MATH 229 and MATH 329 is recommended. For students choosing MATH 318, a course with statistical data analysis (MATH 321, 322, 324, 327 or 354) is recommended.

<sup>2</sup> MATH 238. Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 if the student is completing a double major, seeking the computational sciences concentration or received credit for MATH 238 before declaring a math major.

**Total Credits for Mathematics Major: 44-46**

**Total Credits for Double Major: 124-126**

## Recommended Schedule of Classes

### First Year

EDUC 300. Foundations of American Education

PSYC 160. Life Span Human Development [C5SD]

WRTC 103. Critical Reading and Writing [C1W]

Any Gen. Ed. Cluster 3 course with a MATH designation [C3QR]

### Second Year

EDUC 310. Teaching in a Diverse Society

EXED 200. Foundations of Exceptional Education (spring semester)

MSSE 240. Foundations of General Education 6-12 (spring semester)

### Third Year

MSSE 425. Assessment in Middle and Secondary Education

MSSE 470. Content Area Teaching Methods, Grades 6-8

MSSE 471. Field Experience in Middle Grades Education

LED 440. Literacy-Based Learning in Secondary Education

### Fourth Year

MSSE 460. Differentiation for Adolescents (fall semester)

MSSE 480. Content Area Teaching Methods, Grades 9-12 (fall semester)

MSSE 481. Field Placement, Grades 9-12 (fall semester)

MSSE 403. Behavior and Classroom Management in a Diverse Society (spring semester)

MSSE 450. Internship Seminar (spring semester)

MSSE 475. Internship in Middle and Secondary Education (spring semester)

Pedagogical Content Knowledge Courses - varies by content area (spring semester)

## Vocational Education Courses

For persons employed by school divisions, to teach in vocational programs, the following courses are available and can be used by trade and industrial education teachers to upgrade their provisional license to the technical professional teaching license.

### Courses

PSYC 160. Life Span Human Development [C5SD] 3.00

EDUC 490. Special Topics in Education 1.00 - 4.00

VOED 383. Curriculum & Instructional Procedures in Vocational Education 3.00

**Total: 9 Credit Hours**

# Department of Military Science

LTC Thomas Tolman, **Department Head**

Phone: (540) 568-6264/6048

Email: [tolmante@jmu.edu](mailto:tolmante@jmu.edu)

Location: Memorial Hall, Suite 1123J

Website: <http://www.jmu.edu/rotc>

## Professor

T. Tolman

## Associate Professors

A. Burrell, C. Gibson, W. Jones, P. Waller

## Instructor

D. Kirk

## Mission

The James Madison University Army ROTC Duke Battalion mission is to recruit, develop, educate and provide quality leadership training, practical hands-on experience and Army values character development in order to commission agile and adaptive leaders to serve as the future officer leadership in the Army, Army Reserve or Army National Guard. Additionally, it is our mission to motivate young people through caring leadership to be better citizens committed to lifelong service of the community and nation.

## Goals

The program offers two, three and four year options, allowing students to complete the requirements to earn a commission as an Army officer. The three and four year programs consist of a basic course and an advanced course. A two year option allows students with at least two academic years remaining in either undergraduate or graduate studies to complete all requirements for commissioning as a second lieutenant in the active Army, Army National Guard or Army Reserves. Additionally, students not intending to pursue a career in the military will gain valuable leadership, teambuilding and communication skills, which transfer into marketable civilian job skills.

## Career Opportunities and Marketable Skills

Army ROTC provides students with highly marketable leadership skills. The curriculum imparts leadership principles, concepts of human development, and aspects of health and fitness. Practical application of classroom instruction in lab develops one's leadership style, communication and organizational skills, and strengthens personal character. Development of these skills implicitly builds one's self-confidence, discipline and professional attributes.

Army Reservists or Army National Guardsmen who are continuing their education full time may be eligible for the Simultaneous Membership Program, which combines Reserve Forces duty with Army ROTC on campus and enables the student to earn approximately \$5,000 in two years. Graduates of the program earn an Army commission and may serve four years in career areas as diverse as medical service, signal, infantry, law enforcement, aviation or nursing. There are also opportunities for students seeking graduate degrees to delay going on active duty in order to pursue a graduate study program in law, medicine or other subjects. Further, Army ROTC scholarships are competitive for graduate students with no prior Army ROTC experience.

## Co-curricular Activities and Organizations

- Color Guard
- JMU Cannon Crew
- JMU Ranger Group
- Scabbard and Blade Military Honor Society
- Army Ten Miler Team
- Ranger Challenge

## Special Admission and Retention Requirements

Advanced military science courses are normally taken during the junior and senior years, or during graduate school. Qualified students pursuing a commission as a second lieutenant are contracted and paid a subsistence allowance of \$300-\$500 per month for up to 10 months during the school year. Prior to commissioning, each cadet must successfully complete the four-week ROTC Leader Development Assessment Course (LDAC) at Ft. Knox, Kentucky. Cadets must maintain at least a 2.0 GPA, meet DoD medical fitness standards and meet Army physical fitness and weight control standards.

## *Air Force Reserve Officers Training Corps*

Col. Patrick H. Donley, Ph.D., **Department Head**

Phone: (434) 924-6831

Email: [afrotc@virginia.edu](mailto:afrotc@virginia.edu)

Fax: (434) 982-2842

Location: AFROTC Detachment 890

Website: <http://www.virginia.edu/afrotc>

University of Virginia, P.O. Box 400188, Charlottesville, VA 22904-4188

## Professor

Col. P. Donley, Ph.D.

## Associate Professors

D. Brown, C. Delawder, C. Ulman

## Mission Statement

The Air Force ROTC program is designed to recruit, educate and commission officer candidates through college campus programs based on Air Force requirements. Units are located at 145 college and university campuses throughout the United States and Puerto Rico. Students from schools near Air Force ROTC host institutions can attend classes through 1025 separate crosstown enrollment programs or consortium agreements.

## Goals

The Air Force Reserve Officers' Training Corps (AFROTC) at James Madison University is established under a cross-town agreement with the University of Virginia. JMU students will take AFROTC classes at the University of Virginia for JMU credit. AFROTC provides a program of leadership development that prepares college men and women for service as commissioned officers in the United States Air Force. After graduation, they assume active duty positions in both flying and non-flying specialties. To accomplish this, the Department of Air Science recruits, selects, retains and commissions officer candidates as second lieutenants in the United States Air Force. AFROTC:

- Provides ethics and values education, stressing the Air Force core values of integrity first, service before self and excellence in all we do.
- Prepares cadets to be commissioned as second lieutenants through a curriculum that develops leadership and management skills and provides opportunities to use these skills in a variety of practical applications.
- Provides an understanding of how to lead and influence small organizations, with a strong emphasis on personal integrity, honor and individual responsibility. The techniques of effective leadership and quality management are stressed to achieve mission accomplishment.
- Enhances the cadets' understanding of the role of the military in society and provides an in-depth orientation to history and tradition of the Air Force and how the Air Force serves the nation. This goal is reinforced by summer hands-on leadership training and career orientation opportunities at Air Force bases around the country.
- Provides programs and experiences that increase self-confidence, self-discipline, accountability, physical stamina, poise and other traits essential to the development of a leader of character who is prepared to serve the nation in and out of uniform.

The curriculum and leader development programs of the Department of Air Science are mentally and physically challenging. Cadets learn basic military skills and participate in physical conditioning program starting in the first year. The program moves progressively from followership to leadership experiences and culminates with the fourth-year class cadets planning, organizing and administering all leadership training for the cadet wing. On-campus instruction is conducted in the classroom by Air Force officers and in the field environment by officer and cadet leaders. A demanding summer field training encampment prior to the junior year prepares the cadet for acceptance into the commissioning track. Air Force ROTC offers four- and three-year tracks. All cadets must complete four credits of AFROTC academics prior to a four-week summer encampment. The three-year track cadets must complete both first and second year academic courses during their first year in ROTC. Students who have Junior ROTC, other-service ROTC, national guard, reserve or active duty military experience may request credit and advanced placement.

Unless the student earns an AFROTC scholarship, there is no service obligation inside the first two years of the four year program. However, all students who enter into the Professional Officer Course (the last two years) enter into a contractual obligation with the Air Force to serve on active duty upon commissioning.

After graduation and commissioning as second lieutenants in the Air Force, graduates serve in any number of career fields for a four-year active duty service commitment. Interested and qualified students may compete to become Air Force pilots, combat systems officers (CSO), air battle managers (ABM) or remotely piloted aircraft pilots (RPA). Successful pilot candidates serve a 10 year active duty service commitment, and CSO, ABM or RPA candidates incur a six year active duty service commitment after completion of career field training.

## Co-curricular Activities and Organizations

- Arnold Air Society
- Drill Team

## Special Admission and Retention Requirements

The Professional Officer Course is normally taken during the junior and senior years. Qualified students pursuing a commission as a second lieutenant are contracted and paid a subsistence allowance of \$300-\$500 per month. Cadets must maintain at least a 2.5 GPA, meet DoD medical fitness standards and meet Air Force physical fitness and weight control standards.

## AFROTC Scholarships

Merit-based financial scholarships may be offered to highly academically competitive and qualified students already enrolled in the program. Awardees may be offered an AFROTC scholarship for full or partial college tuition, incidental fees and textbook allowances and a monthly subsistence allowance of \$300-\$500 depending on academic year. Scholarship students incur a military obligation after their first year.

## Degree Requirements

The Leadership Laboratory (LLab) course taken during the first year is a weekly laboratory that touches on the topics of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies. The second year LLab course provides students with the opportunity to demonstrate fundamental management skills and prepares them for Field Training. The third year LLab course provides the opportunity to develop fundamental management skills while planning and conducting cadet activities. Finally, the fourth year LLab course provides the opportunity to use leadership skills in planning and conducting cadet activities. It prepares students for commissioning and entry into the active-duty Air Force.

The air science curriculum is divided into two phases:

### Phase One: General Military Courses

AIRS 100. Leadership Laboratory *0.00* (every semester)

AIRS 110. The Foundations of the United States Air Force I *1.00* (fall, first year)

AIRS 120. The Foundations of the United States Air Force II *1.00* (spring, first year)

AIRS 210. The Evolution of Air and Space Power I *1.00* (fall, second year)

AIRS 220. The Evolution of Air and Space Power II *1.00* (spring, second year)

**Total: 4 Credit Hours**

### Phase Two: Professional Officer Courses

AIRS 100. Leadership Laboratory *0.00* (every semester)

AIRS 310. Concepts of Air Force Leadership and Management I *3.00* (fall, third year)

AIRS 320. Concepts of Air Force Leadership and Management II *3.00* (spring, third year)

AIRS 410. National Security Affairs/Preparation for Active Duty I *3.00* (fall, fourth year)

AIRS 420. National Security Affairs/Preparation for Active Duty II *3.00* (spring, fourth year)

**Total: 12 Credit Hours**

## Military Science

### Degree Requirements

The Military Science curriculum is divided into two phases:

#### Phase One: Basic Military Science

MSCI 100. Leadership Laboratory *2.00* (two semesters)

MSCI 101. Introduction to Leadership and the Army *2.00*

MSCI 102. Leadership Development Fundamentals *2.00*

MSCI 200. Intermediate Leadership Laboratory *2.00* (two semesters)

MSCI 201. Leadership Styles - Theory and Application *2.00*

MSCI 202. Developing Leader Skills *2.00*

**Total: 16 Credit Hours**

#### Note on basic military science

The basic course is open to all JMU students. There is no military obligation incurred for taking 100- and 200-level military science courses. This curriculum is designed to help students in the near-term as leaders on campus. The classes will also help students be more effective leaders in the long-term, whether they serve in the military or as leaders in civilian life. Topics addressed include problem solving, critical thinking, problem-solving methods, leadership theory, followership, group cohesion, goal setting, feedback mechanisms, physical fitness and land navigation.

Lessons are taught in a seminar format, emphasizing student discussions and practical exercises. Courses are open to all students with no prerequisites and no military obligation. Students must enroll in both the lab and the classroom instruction.

Placement credit for the basic course may be awarded through multiple programs including prior military service, basic training, or successful completion of the ROTC summer leadership training course at Ft. Knox, Ky.

#### Phase Two: Advanced Military Science

MSCI 300. Advanced Leadership Laboratory *3.00* (two semesters)

MSCI 310. Leading Small Organizations *3.00*

MSCI 320. Developing Advanced Leader Skills *3.00*

MSCI 400. Advanced Leadership Laboratory II *3.00* (two semesters)

MSCI 410. Seminar Command Management *3.00*

MSCI 420. Seminar on Officership Transition *3.00*

**Total: 24 Credit Hours**



**Note on advanced military science**

The advanced course focuses on instruction and case studies which build leadership competencies and military skills in preparation for future responsibilities as Army officers and successful completion of the Leader Development Assessment Course (LDAC) at Ft. Knox, KY. Instruction includes the principles of war, decision-making processes, planning models and risk assessment. Advanced leadership instruction focuses on motivational theory, the role and actions of leaders, and organizational communications. Courses are only open to advanced course-contracted cadets with prerequisites and a military obligation is incurred

***Military Leadership Minor*****Courses**

Basic military science courses *16 Credit Hours*

Advanced military science courses *24 Credit Hours*

Military History course (MSCI 150) *3 Credit Hours*

**Total: 43 Credit Hours****Scholarships**

Contact the department's enrollment officers at (540) 568-3633 for scholarship information.

# School of Music

Dr. Eric Ruple, **Director**

**Phone:** (540) 568-3614

**Email:** [rupleek@jmu.edu](mailto:rupleek@jmu.edu)

**Location:** Music Building, Room 130 **Website:** <http://www.jmu.edu/music>

## Professors

S. Barber, S. Bolstad, C. Carrillo, B. Chandler, A. Connell, D. Cottrell, W. Dabback, G. Dobner, C. Donakowski, C. Dotas, J. Gibson, J. Haney, W. Huang, A. Lankford, D. Maddison, L. Piitz, D. Pope, E. Ruple, G. Sparks, M.J. Speare, K. Stees, C. Stevens, J. Taylor

## Associate Professors

P. Aponte, V. Curry, E. Guinivan, R. Hallahan, W.B. Hayes, L. Maynard, K. McMillan, D. Rierson, P. Steinberg, D. Stringham, J. van der Vat-Chromy, I. Zook

## Assistant Professors

F. Beyers, C. Cangelosi, S. Jankauskas, J. Peterson, D. Phoenix-Neal, J. Rathgeber, S. Suggs, J. Walker, J. Zyko

## Instructor

S. Ridders

## Mission

The mission of the School of Music is to provide the highest level of musical training in a comprehensive program that prepares students in conducting, music education, music industry, music performance, theory, composition and music history and to prepare them to be thoughtful and productive citizens. Specifically, the school's mission is to:

- Select undergraduate and graduate majors and minors who have demonstrated a commitment to developing their musical skills and talents.
- Motivate music enthusiasts to explore musical concepts by exposing them to and including them in music performance, composition and education.
- Foster a sense of community that encourages intellectual curiosity, creative endeavor, cultural diversity and respect for various perspectives.
- Encourage excellence from faculty members as educators, researchers, performers, clinicians and supporters so that they develop students into motivated, competent professionals and outstanding world citizens.
- Provide music majors and non-music majors with knowledge of music and develop appropriate skill levels and musicianship.
- Offer curricula that prepare students to be professionals in music performance, composition, education or industry.
- Broaden students' understanding of music through innovative teaching, creative experiences and scholarly research.
- Provide a wide variety of cultural events for the JMU and Shenandoah Valley communities.
- Expose students to current technology employed in the music field, such as computers, music instruction software, electronic devices, and advanced audio and visual equipment.
- Prepare D.M.A. students to teach at the college level, not just in their principal areas but also in many of the core curriculum classes, such as theory, music history and music appreciation.

The School of Music is an accredited institutional member of the National Association of School of Music.

## Objectives

The ten major degree concentrations are each designed to establish a set of skills and a knowledge base necessary for success as a practitioner in specific career areas in the broad field of music. These objectives are achieved through School of Music classes:

- Through core music classes, students will attain a general level of functional musicianship sufficient to begin and sustain a professional career in the music field.
- To gain awareness and basic competency in composition and analysis of the standard forms and styles of western music.
- To gain a broad historical perspective on the development of the forms and styles of western music, as well as diverse world musics.
- To develop a knowledge base enabling the placement of music within stylistic and chronological eras through cues that can be aurally identified.
- To develop a minimal ability to use a piano keyboard in the study, analysis and performance of music.
- To learn and practice the basic skills of conducting a musical ensemble and leading a rehearsal.
- Through attendance at musical performances, students will gain awareness and acceptance of a broad variety of music, as well as of the traditional practices of concert musicians through listening to and watching others perform.
- Through specialized classes in each concentration, students will attain skills and attitudes necessary for the establishment and maintenance of a career as a professional musician.
- Students in all concentrations will take weekly lessons in a primary instrument until they have mastered the skills of performance on that instrument sufficiently well to pass the graduation level for the specific concentration and to successfully complete a senior recital in performance or composition.
- Students in all concentrations will perform regularly in both solo and ensemble situations, allowing them to gain a variety of professional-level performing experiences. At least one ensemble per semester is required of all music students until they have completed all the major requirements for the B.M. degree.
- Students in all concentrations will take specialized classes at the upper levels to learn the skills and more concentrated knowledge bases of the individual concentration areas. These classes may be aimed at developing a broad survey knowledge of music literature or history in a particular segment of the repertoire, or at the discovery and development of skills needed in the field but not necessarily to be mastered through individual practice and performance.
- In some major concentrations, internships are required that put the student into the work world in a supervised off-campus learning activity designed to give practical workplace experience in the field.

## Career Opportunities

The various programs offered by the school can lead students to a wide range of careers. Programs in performance or composition are intended for students who desire to continue their musical training in graduate programs that will prepare them for professional careers in performance, composition and/or teaching at the college level.

Those who elect the emphasis in music industry will be prepared for positions in a broad area of music-business occupations and for admission to graduate professional schools of business.

The music education program prepares students to teach vocal and/or instrumental music in public schools.

The music theatre program is designed to prepare vocal music majors for the field of popular Broadway musical theatre performance as well as for careers in opera and operetta.

The jazz studies program prepares students for the rigors of graduate study in jazz performance, equips students with the jazz vocabulary necessary for professional performance, and provides knowledge and skills necessary for employment in private instruction or as a jazz specialist in public schools.

The following list of careers is only a small sample of possibilities:

- Artists' manager
- Composer
- Conductor

- Entertainment lawyer
- Music educator
- Music journalist
- Music librarian
- Music software developer
- Orchestra manager
- Performing artist
- Professional accompanist
- Professor/teacher
- Record producer

## Co-curricular Activities and Organizations

These activities are open to all JMU students without audition:

- Concert Band

These activities are open to all JMU students with audition or instructor permission:

- Bach Aria Group
- Brass Ensembles
- Camerata Strings
- Chamber Orchestra
- Chorale
- Clarinet Choir
- Collegium Musicum
- Flute Choir
- Guitar Ensemble
- Horn Choir
- Marching Royal Dukes
- Jazz Band
- Jazz Chamber Ensembles
- Jazz Ensemble
- Madison Singers
- Opera Theatre
- Opera Theatre Orchestra
- Percussion Ensemble
- Piano Accompanying
- Steel Drum Band
- String Ensembles
- Men's and Women's Chorus
- Symphonic Band
- Symphony Orchestra
- Treble Chamber Choir
- Trombone Choir
- Trumpet Ensemble
- Tuba and Euphonium Ensemble
- Wind Symphony
- Woodwind Ensembles

## Admission Requirements

Students choosing to major in music must possess a solid background and experience in the performance medium they elect for their major, and they should display sufficient musical talent to indicate promise in their field.

To be considered for undergraduate admission to the music program, all entering first year students, transfer students and previously enrolled students seeking re-admission must complete the following:

- Submit an application for admission to JMU's Office of Admission. date.
- Submit the Undergraduate Music Audition Application to select an audition date.
- Successfully complete an audition.

Audition guidelines may be found on the music website.

Students are encouraged to contact the applied faculty on their area of performance expertise with specific questions about their audition. General questions about the music degree programs may be answered by an admissions assistant at (540) 568-3851 or by sending a message to music\_admit@jmu.edu.

## Audition, Exam and Placement Test

No student will be accepted into the music degree programs until an audition is successfully completed and passed. A piano placement test will also be taken but has no bearing on acceptance. The piano test primarily determines keyboard skills class-level placement.

All candidates are expected to perform the entrance audition on one of the scheduled audition dates. The school does not encourage special appointments and will arrange them only when applicants have serious conflicts with the scheduled auditions.

Because assessing a student's ability through a recorded performance is difficult, only students who live at great distances are encouraged to send audition recordings. All recordings submitted must be of high quality and demonstrate the student's ability.

The audition should reveal the student's highest level of musical attainment. Appropriate literature in at least two varying styles and tempos is suggested so that the school can evaluate the candidate's ability accurately. If you have specific questions regarding appropriate audition literature, please contact the applied professor of your area of performance.

In addition to meeting the audition requirements above, all students who intend to major in the Bachelor of Music, emphasis in music industry or the music industry minor are required to first complete MUI 221 and then enroll in MUI 231 and MUI 250. To successfully complete MUI 250, prospective majors and minors must submit a portfolio for review, showing evidence of their interest and potential for success in the music industry. The portfolio should represent work completed in the above classes with assistance in resume preparation from Career and Academic Planning. Portfolios will be reviewed once each fall and once each spring semester. Following the portfolio review, students who are recommended for the major or minor will be eligible to register for upper level music industry classes. Students who are not recommended for admission to the major or minor may reapply the following semester. To obtain the schedule of portfolio review sessions, as well as other specific information about the admission process, contact the School of Music, music industry area.

All major concentrations in the School of Music require potential candidates to develop additional qualifications before full admission to the concentrations. These gateways are generally attempted at the end of the first or second year in the major. For additional details, see the School of Music's Undergraduate Music Student Handbook.

## Class Fees

There is a once per semester fee for enrollment in MUAP 200, MUAP 214 and MUAP 300. Applied Music Lesson (Undergraduate). See MyMadison for details.

## Music Scholarships

The entrance audition also serves as the scholarship audition. All music scholarships are awarded on the basis of merit. Recorded auditions will not qualify a prospective student for consideration to receive a music scholarship.

A transfer student on scholarship at another school can only be considered for a scholarship at JMU if the music executive of the current school sends a written release to the director of the School of Music.

## Retention Policy

Students admitted as music majors must meet school standards published in the School of Music Student Handbook to continue. To ensure that these standards are met, the Music Academic Review Coordinator examines each music major's progress at the end of each semester in accordance with policies stated in the handbook.

Music majors must earn a minimum grade of "C-" in all music courses required for their degree. In situations where courses are sequential, with prerequisites (for example, MUS 141-MUS 142, MUS 241-MUS 242, or MUS 100-MUS 101-MUS 202-MUS 303), if a grade lower than "C-" is earned, it does not constitute fulfillment of the prerequisite. A student who wishes to take MUS 142 must first pass MUS 141, with a "C-" or higher.

## Bachelor of Music Degree

The Bachelor of Music degree offers six specialized majors: performance, composition, music industry, music education, jazz studies and music theatre. All music majors must complete the General Education program and a 30 credit hour core program of music courses common to all the majors' curricula. The remaining hours are specified under each of the various majors and concentrations.

All undergraduate music majors must perform on the primary instrument in one assigned ensemble each semester when one or more of the following indicators applies:

- They are enrolled for a minimum of 12 credit hours on campus.
- They are enrolled for applied lessons on the primary instrument.
- They have not completed all of the requirements in the music major.
- They are not enrolled in an off-campus internship or in student teaching.

While students are required to participate in only one ensemble each semester, they are encouraged to take advantage of the many performance opportunities offered by the School of Music by participating in more than one ensemble. For information regarding the ensemble audition process, see the Undergraduate Music Student Handbook.

If piano is the primary instrument, see the specific requirements in the Undergraduate Music Student Handbook.

All music students should enroll in class piano each semester until they meet the keyboard skills requirements appropriate to their specific degree or concentration. Graduating seniors must participate in assessment activities including assessment day, as represented by MUS 220.

Another vital aspect of the programs is attendance at recitals and concerts. Attending these events contributes to the breadth of students' knowledge of music literature. Hearing performances also allows students to observe performing techniques from the student to the professional levels. Consequently, undergraduate music majors must attend a minimum of 10 recitals per semester for six semesters, totaling 60 attendances during their degree studies. Students must continue to register for MUS 195 until they fulfill this requirement.

### Degree Requirements

- General Education courses 35-41 *Credit Hours*<sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 54-62 *Credit Hours*

**Total: 123-133 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

#### Required Courses

MUS 141. Music Theory I 3.00	MUS 242. Theory IV 3.00
MUS 142. Music Theory II 3.00	MUS 243. Aural Skills III 1.00
MUS 143. Aural Skills I 1.00	MUS 244. Aural Skills IV 1.00
MUS 144. Aural Skills II 1.00	MUS 317. Basic Conducting 2.00
MUS 195. Recital Attendance 0.00 (six semesters)	MUS 373. Music History 3.00
MUS 206. Introduction to Global Music [C2VPA] 3.00 <sup>1</sup>	MUS 374. Music History 2.00
MUS 220. Assessment Tests - School of Music 0.00	MUS 375. Music History 3.00
MUS 241. Music Theory III 3.00	

#### Choose one of the following: 1 Credit Hour

MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)	MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)
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**Total: 30 Credit Hours**

### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

### Recommended Schedule for First Year Majors

The first year of study shares a common curriculum for all concentrations. The year is devoted to courses from the basic music core requirements, General Education courses, ensemble participation and applied study in the major applied area.

#### First Year

##### First Semester

MUS 141. Music Theory I 3.00
MUS 143. Aural Skills I 1.00
MUS 195. Recital Attendance 0.00
WRTC 103. Critical Reading and Writing [C1W] 3.00
Applied music major course 2 <i>Credit Hours</i>
Music ensemble course 1-2 <i>Credit Hours</i>
General Education courses (from Cluster One) 6 <i>Credit Hours</i>
Choose one of the following (According to placement decision): 1 <i>Credit Hour</i>
MUS 100. Keyboard Skills 1.00
MUS 101. Keyboard Skills II 1.00
MUS 202. Keyboard Skills III 1.00
MUS 303. Keyboard Skills IV 1.00

**Total: 15-16 Credit Hours**

##### Second Semester

MUS 142. Music Theory II 3.00
MUS 144. Aural Skills II 1.00
MUS 195. Recital Attendance 0.00
Applied music major course 2 <i>Credit Hours</i>
Music ensemble course 1-2 <i>Credit Hours</i>
General Education courses (MUS 206 and final course from Cluster One) 6 <i>Credit Hours</i>
Choose one of the following: 1 <i>Credit Hour</i>
MUS 101. Keyboard Skills II 1.00
MUS 202. Keyboard Skills III 1.00
MUS 303. Keyboard Skills IV 1.00

**Total: 15-16 Credit Hours**

### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

## Bachelor of Music in Jazz Studies

**Coordinator:** Dr. Charles Dotas

**Phone:** (540) 568-6180

### Degree Requirements

- General Education courses 38-41 *Credit Hours*<sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 60 *Credit Hours*

## Total: 128-131 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Additional requirements: Admission to the Jazz Studies program by successful completion of Level 4 in applied music study (primary instrument) and jazz performance audition, no sooner than end of second year as approved music major.

MUS 146. Jazz Theory and Ear Training 2.00

MUS 305. Jazz Keyboard Skills 1.00

MUAP 300. Applied Music Lesson (Undergraduate) 1.00 - 3.00 (Jazz Study, Level 5-8) <sup>2</sup>

MUS 345. Small Ensemble Jazz Arranging 3.00

MUS 346. Large Ensemble Jazz Arranging 3.00

MUS 356. History of Jazz in America 3.00

MUS 395. Junior or Senior Half Recital 0.00 <sup>3</sup>

MUS 440. Jazz Improvisation Laboratory II 2.00 <sup>4</sup>

MUS 495. Senior Graduation Recital 1.00

MUED 473. Jazz Ensemble Procedures and Techniques 2.00

MUAP 355. Jazz Chamber Ensemble 1.00 (in addition to major ensemble requirement) <sup>5</sup>

Applied music study (primary instrument), Level 1-4 8 Credit Hours 6

Ensembles (one each semester) 8 Credit Hours 7

Approved jazz electives 5 Credit Hours 8

## Total: 60 Credit Hours

### Footnotes

<sup>2</sup> Applied Jazz Study (3 credit hours) taken after acceptance into the Jazz Studies program. Applied Jazz Study (2 credit hours) recommended for students interested in preparing for the Jazz Studies audition. Student must be enrolled in Applied Jazz Study during the semesters in which the Half Recital and Graduation Recital are presented. <sup>3</sup> Presented at the end of the junior year, jazz repertoire. <sup>4</sup> MUS 440 is a corequisite with Applied Jazz Study and can be repeated each semester.

<sup>5</sup> Students accepted into the Jazz Studies program must enroll in MUAP 355 each semester until graduation. <sup>6</sup> To be taken during the first and second years. Students accepted into Jazz Studies program may continue applied music study (in addition to applied jazz study) with consent of primary applied instructor. <sup>7</sup> Prior to acceptance into Jazz Studies program, ensemble placement determined by primary instrument applied faculty and Ensemble Committee. Students accepted into the Jazz Studies program must enroll in MUAP 347. Jazz Ensemble (or MUAP 348. Jazz Band with jazz studies coordinator permission) each semester until graduation. Students in the Jazz Studies program are encouraged to continue participation in additional School of Music ensembles. <sup>8</sup> Approved electives include: MUS 446. Jazz Composition, MUS 480. Advanced Seminar in Musicological Topics and MUS 485. Advanced Jazz Topics Seminar.

## Music Composition, B.M.

### Degree Requirements

- General Education courses 35-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 54-62 Credit Hours

## Total: 123-133 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

## Bachelor of Music in Composition

Coordinator: Dr. Jason Haney

Phone: (540) 568-6664

### Degree Requirements

- General Education courses 38-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 61 Credit Hours

## Total: 129-132 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

Additional requirements: Admission to this concentration by approval of theory/composition faculty. Grades no lower than "B" in all theory and composition courses.

MUS 341. Advanced Analysis 2.00

MUS 352. Music Composition 2.00 - 3.00

MUS 435. Instrumentation 3.00

MUS 444. Counterpoint 2.00

MUS 445. Orchestration 3.00

MUS 450. Topics in Music Analysis 3.00 <sup>2</sup>

MUS 480. Advanced Seminar in Musicological Topics 3.00 <sup>3</sup>

MUS 495. Senior Graduation Recital 1.00

Applied major study 12 Credit Hours

Ensembles (one each semester) 8 Credit Hours 4

Music literature or seminar electives 3 Credit Hours

Approved music electives 2 Credit Hours 5

## Total: 61 Credit Hours

### Footnotes

<sup>2</sup> Must include two different iterations of MUS 450. <sup>3</sup> The MUS 480 requirement will be fulfilled by taking the class when the seminar focuses on a topic within the past century. MUS 480 can also be repeated to fulfill the requirements for a music literature elective or the approved music electives. <sup>4</sup> Various ensembles approved by adviser. <sup>5</sup> Approved music electives may not be fulfilled by additional ensemble credits.

## Music Education, Instrumental Track, B.M.

### Endorsement in Both Vocal and Instrumental Music

Students desiring licensure in both instrumental and vocal music should consult the coordinator of music education to plan their programs.

### Degree Requirements

#### Required Courses

- General Education courses 35-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 54-62 Credit Hours

## Total: 123-133 Credit Hours

## Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

MUS 141. Music Theory I *3.00*  
MUS 142. Music Theory II *3.00*  
MUS 143. Aural Skills I *1.00*  
MUS 144. Aural Skills II *1.00*  
MUS 195. Recital Attendance *0.00* (six semesters)  
MUS 206. Introduction to Global Music [C2VPA] *3.00*<sup>1</sup>  
MUS 220. Assessment Tests - School of Music *0.00*  
MUS 241. Music Theory III *3.00*  
MUS 242. Theory IV *3.00*  
MUS 243. Aural Skills III *1.00*

MUS 244. Aural Skills IV *1.00*  
MUS 317. Basic Conducting *2.00*  
MUS 373. Music History *3.00*  
MUS 374. Music History *2.00*  
MUS 375. Music History *3.00*  
*Choose one of the following: 1 Credit Hour*  
MUS 101. Keyboard Skills II *1.00* (required for music industry majors and prerequisite for MUS 202-MUS 303)  
MUS 303. Keyboard Skills IV *1.00* (all music majors except music industry; must be passed prior to student teaching)

**Total: 30 Credit Hours**

## Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

## Instrumental Track

(Applied study in winds, strings, percussion, piano)<sup>1</sup>

## Degree Requirements

- General Education courses *38-41 Credit Hours*<sup>2</sup>
- Core music program courses *30 Credit Hours*
- Major concentration courses and electives *42-43 Credit Hours*
- Professional education sequence *20 Credit Hours*

**Total: 130-134 Credit Hours**

## Footnotes

<sup>1</sup> Students whose major instrument is piano must pass an interview with music education faculty, an audition on a band or orchestra instrument, and participate in instrumental ensembles each semester except for two during which they must elect MUAP 357. Piano Accompanying and Piano Ensemble. Performance in these ensembles will be on the secondary instrument with one semester on piano permitted as ensemble needs dictate. <sup>2</sup> PSYC 160 may double count as a Cluster Five course in General Education

## Major Requirements

MUED 200. Small Ensemble for Instrumental Music Education Majors *0.00*  
MUED 271. Music Education: A Professional Choice *1.00*  
MUED 273. Music Education: Professional Practice *1.00*  
MUED 310. Vocal Techniques *1.00*  
MUED 371. Beginning Methods and Materials for Instrumental Music *2.00*  
MUED 373. Advanced Methods and Materials for Instrumental Music *2.00*

MUS 150. Introduction to Technological Applications in Music *1.00*  
MUS 319. Intermediate Instrumental Conducting *2.00*  
MUS 395. Junior or Senior Half Recital *0.00*  
MUS 442. Instrumental Arranging *3.00*  
Applied music study (major instrument) *13 Credit Hours*  
Ensembles (one each semester for seven semesters) *7 Credit Hours* 2,3

## Instrumental Techniques classes

One credit required in major instrument area. Two credits are required in other three instrumental areas. In the case of piano students, two credits are required in each instrument area for a total of eight credits.

MUED 301. Woodwind Techniques- MUED 302. Woodwind Techniques  
MUED 303. Brass Techniques-MUED 304. Brass Techniques

MUED 305. Percussion Techniques- MUED 306. Percussion Techniques  
MUED 307. String Techniques- MUED 308. String Techniques

**Choose one of the following: 2 Credit Hours**

MUED 470. Marching Band Procedures *2.00*  
MUED 472. Survey String Orch Rep *2.00*

MUED 474. Guitar Pedagogy and Classroom Methods *2.00*

**Total: 42-43 Credit Hours**

## Footnotes

<sup>2</sup> Wind and percussion majors are required to participate in marching band for a minimum of two years, but participation every year is recommended. <sup>3</sup> Students whose major instrument is piano must pass an interview with music education faculty, an audition on a band or orchestra instrument, and participate in instrumental ensembles each semester except for two during which they must elect MUAP 357. Piano Accompanying and Piano Ensemble.

## Additional Information

Performance in these ensembles will be on the secondary instrument with one semester on piano permitted as ensemble needs dictate.

## *Music Education, Vocal Track, B.M.*

### Endorsement in Both Vocal and Instrumental Music

Students desiring licensure in both instrumental and vocal music should consult the coordinator of music education to plan their programs.

## Degree Requirements

- General Education courses *35-41 Credit Hours*<sup>1</sup>
- Core music program courses *30 Credit Hours*
- Major concentration courses and electives *54-62 Credit Hours*

**Total: 123-133 Credit Hours**

## Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Major Requirements

MUS 141. Music Theory I *3.00*  
MUS 142. Music Theory II *3.00*  
MUS 143. Aural Skills I *1.00*

MUS 144. Aural Skills II *1.00*  
MUS 195. Recital Attendance *0.00* (six semesters)  
MUS 206. Introduction to Global Music [C2VPA] *3.00*<sup>1</sup>

MUS 220. Assessment Tests - School of Music 0.00  
MUS 241. Music Theory III 3.00  
MUS 242. Theory IV 3.00  
MUS 243. Aural Skills III 1.00  
MUS 244. Aural Skills IV 1.00  
MUS 317. Basic Conducting 2.00  
MUS 373. Music History 3.00

MUS 374. Music History 2.00  
MUS 375. Music History 3.00  
*Choose one of the following: 1 Credit Hour*  
MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)  
MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

#### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

### ***Bachelor of Music in Music Education***

Phone: (540) 568-6753

The Bachelor of Music degree in Music Education is designed primarily for those preparing to teach vocal or instrumental music in public schools. In addition to the School of Music requirements outlined below, students seeking a degree in music education must meet all the criteria for admission to the teacher education program and complete the professional education sequence for teaching licensure.

#### Teaching Licensure Requirements

Students who want to pursue the music education program must earn acceptance into the teaching licensure program offered by the College of Education.

#### Professional Education Sequence

EDUC 300. Foundations of American Education 3.00  
MUED 480. Student Teaching 6.00-12.00 (senior year)  
PSYC 160. Life Span Human Development [C5SD] 3.00

Pre-adolescent and Adolescent Child  
LED 420. Content Area Literacy, K-12 2.00

**Total: 20 Credit Hours**

#### Vocal Track

(Applied study in voice or piano)

#### Degree Requirements

- General Education courses 38-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 42 Credit Hours
- Professional education sequence 20 Credit Hours

**Total: 130-133 Credit Hours**

#### Footnotes

<sup>1</sup> PSYC 160 may double count as a Cluster Five course in General Education.

#### Major Requirements

MUED 201. Small Ensemble for Vocal Music Education Majors 0.00  
MUED 206. Instrumental Music Methods for Vocal MUED Majors 1.00  
MUED 271. Music Education: A Professional Choice 1.00  
MUED 273. Music Education: Professional Practice 1.00  
MUED 372. General Music Practices 2.00  
MUED 376. Choral Music Mat & Tech 2.00  
MUED 380. Music in the Elem School 2.00  
MUED 471. School Musical, Jazz and Show Choir Procedures 2.00  
MUS 120. Diction for Singers 1.00  
MUS 121. Diction for Singers II 1.00

MUS 150. Introduction to Technological Applications in Music 1.00  
MUS 318. Intermediate Choral Conducting 2.00  
MUS 395. Junior or Senior Half Recital 0.00  
MUS 441. Vocal Arranging 3.00  
MUS 477. Vocal Pedagogy 2.00  
Applied major study (voice or keyboard) 12 Credit Hours  
Applied secondary area (voice for piano majors; MUS 304. Advanced Keyboard Skills for voice majors) 2 Credit Hours 1  
Ensembles (one each semester for seven semesters) 7 Credit Hours 2

**Total: 42 Credit Hours**

#### Footnotes

<sup>1</sup> Vocal majors must pass the Advanced Keyboard Skills exam. <sup>2</sup> Piano majors may elect MUAP 357. Piano Accompanying and Piano Ensemble for two semesters.

### ***Music Performance, Instrumental Track, B.M.***

#### Degree Requirements

- General Education courses 35-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 54-62 Credit Hours

**Total: 123-133 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major Requirements

MUS 141. Music Theory I 3.00  
MUS 142. Music Theory II 3.00  
MUS 143. Aural Skills I 1.00  
MUS 144. Aural Skills II 1.00

MUS 195. Recital Attendance 0.00 (six semesters)  
MUS 206. Introduction to Global Music [C2VPA] 3.00 <sup>1</sup>  
MUS 220. Assessment Tests - School of Music 0.00  
MUS 241. Music Theory III 3.00

MUS 242. Theory IV 3.00  
MUS 243. Aural Skills III 1.00  
MUS 244. Aural Skills IV 1.00  
MUS 317. Basic Conducting 2.00  
MUS 373. Music History 3.00  
MUS 374. Music History 2.00

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

#### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

#### Instrumental Track

**Co-coordinators:** Dr. Susan Barber, Dr. Carl Donakowski and Prof. Kevin Stees

**Phone:** (540) 568-6197

#### Track Degree Requirements

- General Education courses 38-41 *Credit Hours* <sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 54 *Credit Hours*

**Total: 122-125 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Track Major Requirements

Additional requirements: Admission to this concentration by successful completion of performance audition, no sooner than end of first year as approved music major.

MUS 319. Intermediate Instrumental Conducting 2.00

MUS 341. Advanced Analysis 2.00

MUS 395. Junior or Senior Half Recital 0.00

MUS 472. Instrumental Pedagogy 1.00

MUS 480. Advanced Seminar in Musicological Topics 3.00 <sup>2</sup>

MUS 375. Music History 3.00

*Choose one of the following: 1 Credit Hour*

MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)

MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

MUS 495. Senior Graduation Recital 1.00

Applied music courses (major instrument) 22 *Credit Hours*

Chamber ensembles (in addition to the eight semester major ensemble requirement) 6 *Credit Hours*

Ensembles (one each semester) 8 *Credit Hours*

Advanced music literature or seminar elective 3 *Credit Hours*

Approved music electives 6 *Credit Hours* 3

**Total: 54 Credit Hours**

#### Footnotes

<sup>2</sup> The MUS 480 requirement will be fulfilled by taking the class when the seminar focuses on a topic within the past century. MUS 480 can also be repeated to fulfill the requirements for an advanced music literature elective or the approved music electives. <sup>3</sup> Approved music electives may not be fulfilled by additional ensemble credits. A maximum of two credits may be counted in secondary applied music study.

#### Music Performance, Piano Track - Subtrack in Accompanying/Coaching, B.M.

#### Degree Requirements

- General Education courses 35-41 *Credit Hours* <sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 54-62 *Credit Hours*

**Total: 123-133 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major Requirements

MUS 141. Music Theory I 3.00

MUS 142. Music Theory II 3.00

MUS 143. Aural Skills I 1.00

MUS 144. Aural Skills II 1.00

MUS 195. Recital Attendance 0.00 (six semesters)

MUS 206. Introduction to Global Music [C2VPA] 3.00 <sup>1</sup>

MUS 220. Assessment Tests - School of Music 0.00

MUS 241. Music Theory III 3.00

MUS 242. Theory IV 3.00

MUS 243. Aural Skills III 1.00

MUS 244. Aural Skills IV 1.00

MUS 317. Basic Conducting 2.00

MUS 373. Music History 3.00

MUS 374. Music History 2.00

MUS 375. Music History 3.00

*Choose one of the following: 1 Credit Hour*

MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)

MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

#### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

#### Piano Track, Subtrack in Accompanying/ Coaching

**Coordinator:** Dr. Gabriel Dobner

**Phone:** (540) 568-6002

#### Track Degree Requirements

- General Education courses 38-41 *Credit Hours* <sup>1</sup>
- Core music program courses 30 *Credit Hours*



- Major concentration courses and electives *58 Credit Hours*

**Total: 126-129 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

**Track Major Requirements**

- MUS 120. Diction for Singers *1.00*
- MUS 121. Diction for Singers II *1.00*
- MUS 341. Advanced Analysis *2.00*
- MUS 371. Private Piano Pedagogy *3.00*
- MUS 395. Junior or Senior Half Recital *0.00*
- MUS 444. Counterpoint *2.00*
- MUS 460. Piano Literature I *2.00*
- MUS 467. Song Literature I *2.00* or MUS 468. Song Literature II *2.00*
- MUS 495. Senior Graduation Recital *1.00*
- Applied piano accompanying *9 Credit Hours*
- Applied piano study *13 Credit Hours*

- Applied voice study *2 Credit Hours*
- Approved music electives *6 Credit Hours* <sup>1</sup>
- Ensembles (one each semester) *8 Credit Hours*
- Choose one of the following: *4 Credit Hours*
- FR 101. Elementary French I *3.00 - 4.00*
- GER 101. Elementary German I *3.00 - 4.00*
- ITAL 101. Elementary Italian I *3.00 - 4.00*
- Choose one of the following: *2 Credit Hours*
- MUS 318. Intermediate Choral Conducting *2.00*
- MUS 319. Intermediate Instrumental Conducting *2.00*

**Total: 58 Credit Hours**

**Footnotes**

<sup>1</sup> Approved music electives may not be fulfilled by additional ensemble credits.

***Music Performance, Piano Track, B.M.***

**Degree Requirements**

**Required Courses**

- General Education courses *35-41 Credit Hours* <sup>1</sup>
- Core music program courses *30 Credit Hours*
- Major concentration courses and electives *54-62 Credit Hours*

**Total: 123-133 Credit Hours**

**Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

**Major Requirements**

- MUS 141. Music Theory I *3.00*
- MUS 142. Music Theory II *3.00*
- MUS 143. Aural Skills I *1.00*
- MUS 144. Aural Skills II *1.00*
- MUS 195. Recital Attendance *0.00* (six semesters)
- MUS 206. Introduction to Global Music [C2VPA] *3.00* <sup>1</sup>
- MUS 220. Assessment Tests - School of Music *0.00*
- MUS 241. Music Theory III *3.00*
- MUS 242. Theory IV *3.00*
- MUS 243. Aural Skills III *1.00*
- MUS 244. Aural Skills IV *1.00*
- MUS 317. Basic Conducting *2.00*
- MUS 373. Music History *3.00*
- MUS 374. Music History *2.00*
- MUS 375. Music History *3.00*
- Choose one of the following: *1 Credit Hour*
- MUS 101. Keyboard Skills II *1.00* (required for music industry majors and prerequisite for MUS 202-MUS 303)
- MUS 303. Keyboard Skills IV *1.00* (all music majors except music industry; must be passed prior to student teaching)

**Total: 30 Credit Hours**

**Footnotes**

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

**Piano Track**

**Coordinator:** Dr. Lori Piitz

**Phone:** (540) 568-6646

**Track Major Requirements**

Additional requirements: Admission to this concentration by successful completion of performance audition, no sooner than end of first year as approved music major.

- MUS 341. Advanced Analysis *2.00*
- MUS 371. Private Piano Pedagogy *3.00*
- MUS 372. Supervised Private Piano Teaching *1.00*
- MUS 395. Junior or Senior Half Recital *0.00*
- MUS 420. Piano Technology *1.00 - 2.00*
- MUS 444. Counterpoint *2.00*

- MUS 450. Topics in Music Analysis *3.00*
- MUS 460. Piano Literature I *2.00*
- MUS 470. Piano Literature II *2.00*
- MUS 480. Advanced Seminar in Musicological Topics *3.00* <sup>2</sup>
- MUS 495. Senior Graduation Recital *1.00*
- Applied piano study *22 Credit Hours*
- Ensembles (one each semester) *8 Credit Hours*
- Approved music electives *2 Credit Hours* <sup>3</sup>

**Total: 56 Credit Hours**

**Footnotes**

<sup>2</sup> Must include two different iterations of MUS 480. Advanced Seminar in Musicological Topics. <sup>3</sup> Approved music electives may not be fulfilled by additional ensemble credits.

***Music Performance, Vocal Track, B.M.***

**Major Requirements**

- MUS 141. Music Theory I *3.00*
- MUS 142. Music Theory II *3.00*
- MUS 143. Aural Skills I *1.00*
- MUS 144. Aural Skills II *1.00*
- MUS 195. Recital Attendance *0.00* (six semesters)
- MUS 206. Introduction to Global Music [C2VPA] *3.00* <sup>1</sup>
- MUS 220. Assessment Tests - School of Music *0.00*
- MUS 241. Music Theory III *3.00*

MUS 242. Theory IV 3.00  
MUS 243. Aural Skills III 1.00  
MUS 244. Aural Skills IV 1.00  
MUS 317. Basic Conducting 2.00  
MUS 373. Music History 3.00  
MUS 374. Music History 2.00

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

#### Vocal Track

**Coordinator:** Dr. John Little

**Phone:** (540) 568-6970

#### Track Major Requirements

Additional requirements: Admission to this concentration by successful completion of performance audition, no sooner than end of first year as approved music major.

MUS 120. Diction for Singers 1.00  
MUS 121. Diction for Singers II 1.00  
MUS 304. Advanced Keyboard Skills 1.00  
MUS 318. Intermediate Choral Conducting 2.00  
MUS 341. Advanced Analysis 2.00  
MUS 395. Junior or Senior Half Recital 0.00  
MUS 465. Opera History and Literature I 2.00  
MUS 466. Opera History and Literature II 2.00  
MUS 467. Song Literature I 2.00

**Total: 58 Credit Hours**

#### Footnotes

<sup>2</sup> Bachelor of Music in Performance, voice majors must participate in MUAP 343. Opera Theatre in an on-stage capacity for at least two semesters. They may elect to fill the ensemble requirement in their remaining semesters by taking any of the credited vocal ensembles of the school: Men's or Women's Chorus, Treble Chamber Choir, Chorale, Madison Singers, or Opera Theatre. A minimum of one credit of ensemble must be selected each semester.

### ***Music, Music Industry Emphasis, B.M.***

- General Education courses 35-41 *Credit Hours* <sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 54-62 *Credit Hours*

**Total: 123-133 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major Requirements

MUS 141. Music Theory I 3.00  
MUS 142. Music Theory II 3.00  
MUS 143. Aural Skills I 1.00  
MUS 144. Aural Skills II 1.00  
MUS 195. Recital Attendance 0.00 (six semesters)  
MUS 206. Introduction to Global Music [C2VPA] 3.00 <sup>1</sup>  
MUS 220. Assessment Tests - School of Music 0.00  
MUS 241. Music Theory III 3.00  
MUS 242. Theory IV 3.00  
MUS 243. Aural Skills III 1.00

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

#### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

### **Bachelor of Music with an Emphasis in Music Industry**

**Coordinator:** Dr. David Cottrell

**Phone:** (540) 568-6303

#### Degree Requirements

- General Education courses 38-41 *Credit Hours* <sup>1</sup>
- Core music program courses 30 *Credit Hours*
- Major concentration courses and electives 57 *Credit Hours*

**Total: 128 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major and Emphasis Requirements

ACTG 244. Accounting for Non-Business Majors 3.00  
MGT 305. Management and Organizational Behavior 3.00

MUS 375. Music History 3.00

*Choose one of the following: 1 Credit Hour*

MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)

MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

MUS 468. Song Literature II 2.00

MUS 477. Vocal Pedagogy 2.00

MUS 495. Senior Graduation Recital 1.00

*Applied voice study 16 Credit Hours*

*Ensembles (one each semester) 8 Credit Hours 2*

*Choose two of the following: 16 Credit Hours*

FR 101. Elementary French I 3.00 - 4.00

FR 102. Elementary French II 3.00 - 4.00

GER 101. Elementary German I 3.00 - 4.00

GER 102. Elementary German II 3.00 - 4.00

ITAL 101. Elementary Italian I 3.00 - 4.00

ITAL 102. Elementary Italian II 3.00 - 4.00

MUS 244. Aural Skills IV 1.00

MUS 317. Basic Conducting 2.00

MUS 373. Music History 3.00

MUS 374. Music History 2.00

MUS 375. Music History 3.00

*Choose one of the following: 1 Credit Hour*

MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)

MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

MUI 231. Legal Aspects of Music Industry 3.00  
MUI 250. Portfolio Review 0.00  
MUI 440. Entrepreneurship in Music Industry 3.00  
MUI 492. Internship in Mus Ind 3.00 - 6.00  
Applied major study 14 Credit Hours

**Total: 57 Credit Hours**

#### Footnotes

<sup>1</sup> Approved music electives may not be fulfilled by additional ensemble credits.

## ***Music, Music Theatre Emphasis, B.M.***

### Degree Requirements

- General Education courses 35-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 54-62 Credit Hours

**Total: 123-133 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

MUS 141. Music Theory I 3.00  
MUS 142. Music Theory II 3.00  
MUS 143. Aural Skills I 1.00  
MUS 144. Aural Skills II 1.00  
MUS 195. Recital Attendance 0.00 (six semesters)  
MUS 206. Introduction to Global Music [C2VPA] 3.00 <sup>1</sup>  
MUS 220. Assessment Tests - School of Music 0.00  
MUS 241. Music Theory III 3.00  
MUS 242. Theory IV 3.00  
MUS 243. Aural Skills III 1.00

Ensembles (one each semester for seven semesters) 7 Credit Hours  
Music industry electives 12 Credit Hours  
Approved music electives 3 Credit Hours 1  
MUS 395. Junior or Senior Half Recital 0.00

MUS 244. Aural Skills IV 1.00  
MUS 317. Basic Conducting 2.00  
MUS 373. Music History 3.00  
MUS 374. Music History 2.00  
MUS 375. Music History 3.00  
*Choose one of the following: 1 Credit Hour*  
MUS 101. Keyboard Skills II 1.00 (required for music industry majors and prerequisite for MUS 202-MUS 303)  
MUS 303. Keyboard Skills IV 1.00 (all music majors except music industry; must be passed prior to student teaching)

**Total: 30 Credit Hours**

#### Footnotes

<sup>1</sup> MUS 206 will count for the Music Core and also for the General Education, Cluster Two, Part 2 if desired. There will be a specific music major section of MUS 206 offered once each academic year.

### Additional Information

For a recommended eight-semester outline of curricular requirements for each major concentration, see the School of Music's Undergraduate Music Student Handbook.

## **Bachelor of Music with an Emphasis in Music Theatre**

**Director of Opera and Music Theatre:** Dr. Don Rierson      **Phone:** (540) 568-4164

### Degree Requirements

- General Education courses 38-41 Credit Hours <sup>1</sup>
- Core music program courses 30 Credit Hours
- Major concentration courses and electives 55 Credit Hours

**Total: 123-126 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major and Emphasis Requirements

Additional requirements: Admission to this concentration by successful completion of performance audition, no sooner than end of first year as approved music major.

MUI 221. Survey of Music Industry 3.00  
MUS 120. Diction for Singers 1.00  
MUS 121. Diction for Singers II 2.00  
MUS 357. Music Theatre History and Analysis 3.00 or THEA 357. Music Theatre History and Analysis 3.00  
MUS 395. Junior or Senior Half Recital 0.00  
MUS 465. Opera History and Literature I 2.00  
MUS 466. Opera History and Literature II 2.00  
THEA 251. Acting I: Basic Acting 3.00  
THEA 353. Music Theatre Performance 2.00  
Applied voice study 16 Credit Hours  
Approved music, theatre or dance electives 2 Credit Hours 2  
Ensembles (one each semester, as listed below) 8 Credit Hours 3  
*Choose one of the following: 3 Credit Hours*  
THEA 171. Performance Production 3.00  
THEA 273. Design Aspects of Performance 3.00  
*Choose one of the following courses: 2-3 Credit Hours*

THEA 261. Voice for the Stage 3.00  
THEA 303. Topics in Theater 1.00 - 3.00  
THEA 351. Acting II: Intermediate Acting 3.00  
THEA 454. Advanced Music Theatre Performance 2.00  
*Choose two of the following: 4-5 Credit Hours*  
DANC 245. Dance Improvisation (0, 4) 2.00  
MUS 343. Basic Movement and Acting Skills for the Opera Stage 2.00  
THEA 281. Movement for the Actor 3.00  
*Choose two dance classes of appropriate level from modern, ballet, ballroom, jazz, or tap: 4 Credit Hours*  
DANC 140. Elementary Modern Dance (0, 4) 2.00  
DANC 440. Advanced Modern Dance (0, 4) 2.00  
DANC 142. Elementary Ballet (0, 4) 2.00  
DANC 442. Advanced Ballet (0, 4) 2.00  
DANC 144. Ballroom Dance (0, 4) 2.00  
DANC 146. Jazz Dance (0, 4) 2.00  
DANC 446. Advanced Jazz 2.00  
DANC 147. Tap Dance (0, 4) 2.00  
DANC 247. Intermediate Tap 2.00

**Total: 55 Credit Hours**

## Footnotes

<sup>2</sup> Approved music electives may not be fulfilled by additional ensemble credits. <sup>3</sup> Bachelor of Music in music theatre majors must participate in MUAP 343. Opera Theatre, in an on-stage capacity for at least three semesters. They may elect to fill the ensemble requirement in their remaining semesters by taking any of the credited vocal ensembles of the school - Men's or Women's Chorus; Treble Chamber Choir; Chorale; Madison Singers; Opera Theatre. A minimum of one credit of ensemble must be selected each semester.

## Minors

### General Music Minor<sup>1</sup>

Open to all JMU undergraduate students, the general music minor develops both the performing and non-performing musician's understanding of music. The minor requires the successful completion of six hours drawn from three areas - fundamentals, literature and history, and electives - for a total of 18 credit hours. Students must earn 50 percent of the required curriculum at JMU.

#### Required Courses

##### Fundamentals: 3-6 Credit Hours

MUS 131. Fundamentals of Music 3.00

MUS 140. Introduction to Music Theory and Aural Skills 4.00

##### Literature and History: 6-9 Credit Hours

MUS 200. Music in General Culture [C2VPA] 3.00

MUS 203. Music in America [C2VPA] 3.00

MUS 206. Introduction to Global Music [C2VPA] 3.00

MUS 356. History of Jazz in America 3.00

MUS 357. Music Theatre History and Analysis 3.00

MUS 373. Music History 3.00 or MUS 374. Music History 2.00 or MUS 375.

Music History 3.00

##### Electives - Any music course may count in this category: 6 Credit Hours

All music ensembles

MUI 221. Survey of Music Industry 3.00

MUI 315. Songwriting 3.00

MUI 422. Concert Production & Promotion 3.00

MUED 380. Music in the Elem School 2.00

MUS 204. History of Rock 3.00

MUS 240. Jazz Improvisation Laboratory I 2.00 or MUS 440. Jazz Improvisation Laboratory II 2.00

**Total: 18 Credit Hours**

#### Footnotes

<sup>1</sup> The minor in music does not qualify a student to teach music in Virginia public schools.

## Jazz Studies Minor

Open to all undergraduate students at JMU, the jazz studies minor helps students majoring in other disciplines understand and perform the jazz art form. The minor requires the successful completion of 15 credit hours in specified music courses and five credit hours in jazz ensembles. Students must earn 50 percent of the required curriculum at JMU.

#### Required Courses

##### Fundamentals: 15 credits total

MUS 240. Jazz Improvisation Laboratory I 2.00

MUS 356. History of Jazz in America 3.00

MUS 440. Jazz Improvisation Laboratory II 2.00 (repeat three times)

*Choose one four-credit option:*

MUS 140. Introduction to Music Theory and Aural Skills 4.00 or MUS 141.

Music Theory I 3.00 and

MUS 143. Aural Skills I 1.00

*Ensembles (choose from the following): 5 Credit Hours*

MUAP 347. Jazz Ensemble 2.00

MUAP 348. Jazz Band 1.00

MUAP 355. Jazz Chamber Ensemble 1.00

**Total: 20 Credit Hours**

## Music Industry Minor

Open to all JMU undergraduate students, the music industry minor provides students majoring in other disciplines with a foundation for exploring career opportunities in the entertainment industry. The minor requires successful completion of MUI 221. Survey of Music Industry; MUI 231. Legal Aspects of Music Industry and of an additional 12 elective credit hours. Students must earn 50 percent of the required curriculum at JMU.

#### Required Courses

MUI 221. Survey of Music Industry 3.00

MUI 231. Legal Aspects of Music Industry 3.00

MUI 250. Portfolio Review 0.00

##### Electives - Any MUI course may count in this category: 12 Credit Hours

MUI 324. Introduction to Audio Devices 3.00

MUI 330. Music Publishing 3.00

MUI 400. Multitrack Rec Tech I 3.00

MUI 405. Logic Pro 3.00

MUI 315. Songwriting 3.00

MUI 411. Audio Postproduction 3.00

MUI 422. Concert Production & Promotion 3.00

MUI 430. Artist Management 3.00

MUI 435. Marketing of Recorded Music 3.00

MUI 440. Entrepreneurship in Music Industry 3.00

MUI 492. Internship in Mus Ind 3.00 - 6.00

**Total: 18 Credit Hours**

# School of Nursing

Melody Easton, **Interim Director**

Dr. Joseph Tacy, **Associate Director**

Phone: (540) 568-6314

Location: Health and Behavioral Studies Building, Room 4092

Website: <http://www.nursing.jmu.edu>

## Professors

M. deValpine, M. Eaton, J. Garber, L. Hulton

## Associate Professors

C. Argenbright, S. Annan, A. Knopp, E. Lewis, E. Metzler-Sawin, J. Strunk

## Assistant Professors

H. Buchanan, M. Choshi, L. Donovan, D. Elkins, A. Graham, B. Houlahan, K. Jagiello, T. Kiser, C. Lam, J. Robinson, D. Schminkey, J. Southerland, J. Tacy

## Instructors

C. Atkinson, C. Brown, L. Carmines, S. Condra, M. Defibaugh, C. Fasching-Maphis, L. Mullen, J. Gandy, J. Haynes, B. Landes, M. Leisen, N. Puffenbarger, J. Secrist, H. Soper, K. Weeks

## Lecturers

L. Childers, B. Landes

## Mission

We engage students, faculty and communities through dynamic and innovative nursing education, practice and scholarship to influence health in our world.

## Vision

To be a SON nationally recognized for academic excellence and innovative contributions to health care.

## Values

We are committed to:

- **Integrity:** being honest, sincere and just in all of our endeavors
- **Caring:** sharing compassion, kindness and authenticity with those we encounter
- **Excellence:** pursuing the highest quality in teaching, learning, scholarship and service
- **Collaboration:** cultivating partnerships built on respect, trust and commitment
- **Advocacy:** providing a voice for those we serve and promoting policies that improve healthcare for all
- **Inclusivity:** honoring the richness that diverse perspectives bring to our world
- **Resilience:** achieving inner strength and wisdom by adapting to life's challenges

## Career Opportunities and Marketable Skills

- Preparation as a professional nurse leading to a Bachelor of Science in Nursing (B.S.N.) degree.
- Eligibility to take the National Certification and Licensure (NCLEX) Exam to become a registered nurse (R.N.).
- Preparation for entry-level positions in a wide range of health care settings.
- Upon completion of the R.N. - B.S.N. program of study, students may be eligible for leadership positions in a wide range of health care settings.
- Preparation for graduate study in nursing.

## Co-curricular Activities and Organizations

- JMU Chapter of the Virginia Nursing Student Association
- Omega Zeta of Sigma Theta Tau International Nursing Honor Society
- B.S.N. Student Advisory Council
- Nursing Students without Borders

## Accreditation

The JMU Bachelor of Science in Nursing program is approved by the Virginia Board of Nursing. The baccalaureate and master's programs at James Madison University are accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, (202) 463-6930.

## Program Options

The School of Nursing offers two program options. The traditional B.S.N. program is designed to prepare undergraduate students to practice at the baccalaureate level of professional nursing. The R.N. to B.S.N. program provides flexible learning opportunities at the baccalaureate level for students who are graduates of community college or diploma schools and are licensed registered nurses (R.N.).

## Special Admission and Retention Requirements

### Traditional B.S.N. Program

Admission to the nursing program is limited and competitive. Each semester 90 students are admitted into junior level nursing courses. All students, including transfer students, must complete the B.S.N. Admission application following admission to the university. B.S.N. admission applications are available on the nursing school website.

A completed B.S.N. admission application must be received by December 1 to be considered for the following fall semester and by July 1 to be considered for admission for the spring semester of the following year. Students not admitted to the program must reapply to be considered in the applicant pool for the following admission cycle.

To be considered for admission to the nursing major, students must:

- Be currently enrolled as a JMU student as a declared nursing major.
- Transfer students must complete one semester as a full-time student at JMU prior to applying the B.S.N. program.
- Have earned a minimum JMU cumulative GPA of 3.00 as verified by the academic record (Admission is competitive, based on cumulative GPA and nursing prerequisite course grades and limited to a set number of qualified students).
- Have completed and/or enrolled in 36 academic credits at the time of application.
- Complete the following nursing prerequisite courses (or approved equivalents) with a grade of "C-" or higher: CHEM 120, MATH 220 and at least two of the required biology courses (BIO 270, BIO 280 or BIO 290) by the end of the fall semester of the sophomore year (to be considered for the following fall) or by the end of spring semester (to be considered for the following fall).

considered for the following spring).

- Students may elect to repeat up to two courses during their enrollment at JMU on a repeat/forgive basis following university policy. For repeat credit courses specifically, Biology, Chemistry and Statistics at JMU or other institutions which apply to the calculation for admission, the nursing program will average the grade of the repeated course for a final grade used in the admission metric calculation.

In order to begin the nursing program, at time of entry to the first full semester, students must:

- Have completed all required nursing prerequisite courses (CHEM 120, MATH 220, PSYC 160, NUTR 280, BIO 270, BIO 280 and BIO 290).
- Have completed JMU General Education requirements.
- Maintain a GPA of at least 3.00 or higher.
- Meet the department's technical standards.

Admission criteria are available online. Students must meet the school's technical standards for nursing practice. Technical standards are basic physical, cognitive and psychosocial skills and abilities that are required for nursing practice. The technical standards are posted on the nursing website.

The nursing curriculum is designed as a full time program. The Associate Director for Undergraduate Programs must approve any deviation from the full time enrollment pattern as outlined in the catalog. Once fully admitted to the program, the student must earn a minimum grade of "C-" or "Pass" in each required nursing course to remain in good standing in the nursing program. A grade of "D", "F" or "Fail" is considered a failure. A student who for the first time receives a failure in a nursing course may, with school approval, repeat the course. A student who receives a failure in a second nursing course will not be permitted to continue in the program.

Other academic and related policies in effect for students in the nursing program are outlined on the school website.

## R.N. to B.S.N. Program

The R.N. to B.S.N. program provides flexible online learning opportunity for students who are graduates of community college or diploma schools and are licensed registered nurses (R.N.). Classes are offered online to allow students to maintain employment while completing the B.S.N. degree. The program provides a foundation for professional practice and will equip students for further opportunities afforded through graduate study and advance practice.

JMU will award nurses up to 37 portfolio credits for their prior learning and work experience, as well as 40 transfer credits toward the General Education requirements for a B.S.N.

Thirteen additional general education credits will be required but may be taken concurrently at a local community college and transferred to JMU for credit. Students will complete 30 credits in the R.N. to B.S.N. program in three semesters of full time study or five semesters of part-time study, thus completing a total of 120 semester hours for the baccalaureate degree. Nurses can apply for admission to the R.N. to B.S.N. program once all prerequisite courses have been completed and this has been documented through an academic transcript submission/review process. Additional program eligibility criteria include:

- Associate Degree or Diploma in Nursing from an accredited college/university.
- Completion of the General Education courses required for the Bachelor of Science. May be taken concurrently with nursing course work but must be completed prior to graduation.
- Cumulative GPA of 2.5 or better on a 4-point scale.
- TOEFL scores greater than 570 for international applicants.
- Completion of all prerequisite courses with a grade of "C-" or better.
- Current unrestricted R.N. license in any state, Washington, D.C., or a U.S. possession or territory or an equivalent credential in another country.
- Employment as an R.N. for a minimum of four months and/or plans to practice concurrently with course work.
- Graduates of foreign nursing schools, who are licensed outside of the United States, are required to pass the Qualifying Exam of the Commission on Graduates of Foreign Nursing Schools (CGFNS) prior to application and include the exam report with their application materials.
- Ability to meet the school's technical standards for nursing practice (posted on the nursing website).
- Interested applicants must complete the transcript review process prior to submitting an application. The R.N./B.S.N. program admissions coordinator can be contacted to begin the transcript review process.

Admission to the program is contingent on admission to the university. An electronic application is sent to the applicant for completion once the official transcript review mentioned above is completed satisfactorily

Once fully admitted to the program, the student must earn a minimum grade of "C-" or "Pass" in each required nursing course to remain in good standing in the nursing program. A grade of "D", "F" or "Fail" is considered a failure. A student who for the first time receives a failure in a nursing course may, with school approval, repeat the course. A student who receives a failure in a second nursing course will not be permitted to continue in the program.

## Special Expenses

A differential tuition of \$90 per credit hour is added to the standard charge for courses carrying the NSG prefix. This charge applies to all students, both in-state and out-of-state, at the undergraduate and graduate levels, with exception of students enrolled in the R.N. to B.S.N. program.

## Nursing, B.S.N.

### Degree and Major Requirements

#### Generic B.S.N. Degree Requirements

- General Education, prerequisite and elective courses *59 Credit Hours*<sup>1</sup>
- Nursing courses (including nursing electives) *61 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### General Education and Nursing Prerequisite Requirements

The following are course prerequisites required for the Nursing major. Courses must be completed with "C-" or higher.

#### Prerequisites

- |  |   |
|--|---|
| PSYC 160. Life Span Human Development [C5SD] 3.00 <sup>2</sup> | BIO 290. Human Anatomy (3, 3) 4.00                        |
| CHEM 120. Concepts of Chemistry [C3PP] 3.00 <sup>1</sup>       | BIO 270. Human Physiology (3, 2) [C3NS] 4.00 <sup>1</sup> |
| MATH 220. Elementary Statistics [C3QR] 3.00 <sup>1</sup>       | NUTR 280. Nutrition for Wellness 3.00                     |

#### Footnotes

<sup>1</sup> Contained in General Education Cluster Three. <sup>2</sup> Contained in General Education Cluster Five.

## Total: 24 Credit Hours

### Required Courses

NSG 350. Foundations of Nursing 2.00  
NSG 351. Health Assessment 3.00  
NSG 352. Clinical Applications & Reasoning in Nursing Care I 4.00  
NSG 352L. Clinical Applications & Reasoning in Nursing Care I Clinical 2.00  
NSG 353. Pathophysiology & Pharmacology 4.00  
NSG 354. The Art and Science of Nursing 2.00  
NSG 355. Women's Health 3.00  
NSG 355L. Women's Health Clinical 1.00  
NSG 356. Clinical Applications & Reasoning in Nursing Care II 4.00  
NSG 356L. Clinical Applications & Reasoning in Nursing Care II Clinical 2.00  
NSG 357. Psychiatric Mental Health Nursing 3.00  
NSG 357L. Psychiatric Mental Health Nursing Clinical 1.00

NSG 450. Nursing Inquiry and Research Methods 3.00  
NSG 451. Child Health 3.00  
NSG 451L. Child Health Clinical 1.00  
NSG 452. Clinical Applications and Reasoning in Nursing Care III 4.00  
NSG 452L. Clinical Applications & Reasoning III Clinical 2.00  
NSG 453. Population-Centered Care in the Community 3.00  
NSG 453L. Population-Centered Care in the Community Clinical 2.00  
NSG 454. Transition to Practice 3.00  
NSG 455. Nursing Informatics 2.00  
NSG 456. Capstone 5.00  
Nursing Electives 2 Credit Hours

## Total: 61 Credit Hours

### Additional Information

Students can seek fall or spring admission to the program. Students must complete 36 credit hours before they will be considered for admission to the program. Cluster One normally is completed during the first year. General Education courses in clusters two, three, four and five can be scheduled as desired by the student across the first and second years.

Most students can complete general education and prerequisite courses in four semesters, but some students find it necessary to enroll in summer school or an additional year to complete the work satisfactorily.

### Recommended Schedule and Major Requirements

Additional information regarding the nursing curriculum can be found on the nursing website.

#### Junior/Senior Year

Can be taken anytime during junior or senior year.

Nursing Electives 2 Credit Hours

#### First Semester

NSG 350. Foundations of Nursing 2.00  
NSG 351. Health Assessment 3.00  
NSG 352. Clinical Applications & Reasoning in Nursing Care I 4.00  
NSG 352L. Clinical Applications & Reasoning in Nursing Care I Clinical 2.00  
NSG 353. Pathophysiology & Pharmacology 4.00

#### Total: 15 Credit Hours

#### Second Semester

NSG 354. The Art and Science of Nursing 2.00  
NSG 355. Women's Health 3.00  
NSG 355L. Women's Health Clinical 1.00  
NSG 356. Clinical Applications & Reasoning in Nursing Care II 4.00  
NSG 356L. Clinical Applications & Reasoning in Nursing Care II Clinical 2.00  
NSG 357. Psychiatric Mental Health Nursing 3.00

NSG 357L. Psychiatric Mental Health Nursing Clinical 1.00

#### Total: 16 Credit Hours

#### Third Semester

NSG 450. Nursing Inquiry and Research Methods 3.00  
NSG 451. Child Health 3.00  
NSG 451L. Child Health Clinical 1.00  
NSG 452. Clinical Applications and Reasoning in Nursing Care III 4.00  
NSG 452L. Clinical Applications & Reasoning III Clinical 2.00

#### Total: 13 Credit Hours

#### Fourth Semester

NSG 453. Population-Centered Care in the Community 3.00  
NSG 453L. Population-Centered Care in the Community Clinical 2.00  
NSG 454. Transition to Practice 3.00  
NSG 455. Nursing Informatics 2.00  
NSG 456. Capstone 5.00

#### Total: 15 Credit Hours

## Nursing, R.N. to B.S.N.

### Degree and Major Requirements

#### R.N. to B.S.N. Degree Requirements

- General Education courses <sup>1</sup>
- Cluster Two: Arts and Humanities 9 Credit Hours
- Cluster Four: Social and Cultural Processes 4 Credit Hours
- PHIL 000 (ethics) and SOCI 101 6 Credit Hours
- Nursing courses 30 Credit Hours
- Portfolio Credit given for R.N. qualifications (up to) 37 Credit Hours
- Credit for Associate Degree and prerequisites 34 Credit Hours <sup>2</sup>

## Total: 120 Credit Hours

### Footnotes

<sup>1</sup> General Education (at JMU or as VCCS equivalents) and nursing prerequisite requirements. <sup>2</sup> Prerequisite courses include the following JMU or VCCS equivalents: WRTC 100 ; WRTC 103; BIO 270 and BIO 290; PSYC 160; BIO 280 or CHEM 120.

### Recommended Schedule and Major Requirements

Additional information regarding the nursing curriculum can be found on the School of Nursing website.

### Full-Time Sequence of Classes

#### First Year

##### Fall Semester

NSG 325. Concepts in Aging 3.00  
NSG 333. Health Assessment 3.00  
NSG 462. Issues in Contemporary Nursing Practice 3.00  
NSG 463. Professional Role Transition 3.00

#### Total: 13 Credit Hours

#### Spring Semester

NSG 460. Healthcare Informatics 3.00  
NSG 461. Pathophysiology and Pharmacology 3.00  
NSG 464. Introduction to Nursing Research 3.00  
NSG 471. Leadership and Management in Health Care 3.00

#### Total: 12 Credit Hours

#### Summer Session

NSG 466. Community Health Practicum *1.00*  
NSG 469. Caring for the Public's Health: Community Health Nursing *4.00*

**Total: 5 Credit Hours**

**Footnote**

<sup>1</sup> NSG 324, R.N./B.S.N. Strategies for Success is required during the first semester of enrollment in the program.

**Part-Time Sequence of Classes**

**First Year**

**Fall Semester**

NSG 333. Health Assessment *3.00*  
NSG 462. Issues in Contemporary Nursing Practice *3.00*

**Total: 7 Credit Hours**

**Spring Semester**

NSG 461. Pathophysiology and Pharmacology *3.00*  
NSG 464. Introduction to Nursing Research *3.00*

**Total: 6 Credit Hours**

**Summer Session**

NSG 466. Community Health Practicum *1.00*

NSG 469. Caring for the Public's Health: Community Health Nursing *4.00*

**Total: 5 Credit Hours**

**Second Year**

**Fall Semester**

NSG 325. Concepts in Aging *3.00*  
NSG 463. Professional Role Transition *3.00*

**Total: 6 Credit Hours**

**Spring Semester**

NSG 460. Healthcare Informatics *3.00*  
NSG 471. Leadership and Management in Health Care *3.00*

**Total: 6 Credit Hours**

**Footnotes**

<sup>2</sup> NSG 324, R.N./B.S.N. Strategies for Success is required during the first semester of enrollment in the program.



# Department of Philosophy and Religion

Dr. Frances Flannery, **Interim Department Head**

**Phone:** (540) 568-6394

**Email:** [flannef@jmu.edu](mailto:flannef@jmu.edu)

**Location:** Cleveland Hall, Room 112

**Website:** <http://www.jmu.edu/philrel>

## Professors

C. Bolyard, R. Brown, F. Flannery, J. Goodman, W. Hawk, S. Hoeltzel, A. Kirk, T. Luper, S. Mittal, W. O'Meara, A. Veltman, A. Wiles

## Associate Professors

T. Adajian, P. Fleming, W. Knorpp, A. Levinovitz, M. Piper, A. van Leeuwen

## Assistant Professors

R. Fischbach, E. Gravett, C. Kilby, D. Kirkpatrick

## Mission

Both philosophy and the academic study of religion prepare students to meet a rapidly changing world. Students completing a philosophy and religion major will be able to think critically, rigorously analyze arguments, listen carefully to the viewpoints of others, construct views that are based on sound reasoning and evidence, and communicate clearly and persuasively in writing and in speaking. They will grapple with the insights of some of the greatest figures in history as they learn to contextualize texts, issues and phenomena to arrive at well-informed and enlightened interpretations.

The department awards a combined major in Philosophy and Religion, with students choosing one of four possible concentrations: philosophy (B.A. or B.S.), religion (B.A. only), interdisciplinary philosophy (B.A. or B.S.) or interdisciplinary religion (B.A. only).

## Emphases of the Philosophy Program

Philosophy is a discipline that explores fundamental questions about the meaning of life, the nature of knowledge and the mind, what actions are moral and what exists. Students completing a major with a concentration in philosophy or interdisciplinary philosophy will become versed in the major movements, problems, writings and concepts in the history of Western philosophy. The program concentrates on contemporary movements such as analytic philosophy, existentialism, American philosophy and feminist philosophy, as well as on the major subdivisions of philosophy, including logic, ethics, metaphysics, epistemology, aesthetics, philosophy and law, philosophy of science and philosophy of religion.

## Emphases of the Religion Program

The religion program ensures that students gain both breadth, through exposure to an issues-oriented and world religions approach (e.g., Hinduism, Buddhism, Judaism, Christianity, Islam), as well as depth, with specialized knowledge in at least one religious tradition or area of issues-oriented study. Students completing a major with a concentration in religion or interdisciplinary religion will also gain experience in a range of disciplinary approaches used in the academic study of religion (anthropology, sociology, literary studies, history, aesthetics, linguistics, archaeology, environmental history, etc.) as well as in critical methodologies (e.g. ritual studies, feminist theories, postcolonial theories, to name but a few). Students completing these concentrations should be able to:

- Apply the approaches of the academic study of religion to texts, rituals and other phenomena while weighing and exploring various cultural and religious perspectives.
- Analyze historical and contemporary expressions of religions in their relevant social, political and cultural contexts.
- Construct informed interpretations of sacred texts by integrating skills in critical reading, critical thinking and contextualization.
- Conduct cogent analyses of historical or contemporary challenges facing one or more religious traditions.
- Pose increasingly sophisticated questions regarding both "solvable" problems as well as "unanswerable" questions about the construction of ultimate reality.
- Immerse oneself in the perspective of persons holding another worldview, stemming from differences in background, religion, heritage, historical period, geographical location, embodiment and/or life experiences.
- Demonstrate proficient written and oral communication in a variety of settings for different audiences, formulating reasonable arguments based on evidence.
- Apply problem solving and critical thinking skills by conducting research or designing projects, exhibiting rigorous inquiry and weighing evidence.
- Practice sound information literacy through verifying the reliability and value of sources, including detecting bias.

## Career Opportunities and Marketable Skills

The Philosophy and Religion programs greatly enhance students' ability to navigate a dynamic and changing world by fostering nimbleness of mind, religious and philosophical literacy, a grounding in ethics, a habit of logical thinking, structured and disciplined argumentation, and practices in rigorous analysis. Our programs also equip students with solid skills in analysis, research, writing, speaking and presentations. As a result, our majors find rewarding and meaningful work in a wide variety of career fields. Many students of philosophy and religion find careers in intelligence analysis, government contracting, public health, business, public service, the non-profit sector, the technology sector, education, counseling, university administration or communications. Others have opened their own businesses, and many have attended seminary, graduate school, medical school or law school. Throughout their time in the programs, majors are guided along their career paths with the help of the department as well as the office of Career and Academic Planning. While not requiring a second major, the interdisciplinary philosophy and religion concentrations certainly make it possible to combine this major with many others, which may also enhance students' future employment opportunities.

## Student Activities and Organizations in Philosophy and Religion

The department has excellent opportunities for building student community, engaging in student social activities and fostering intellectual development outside of the classroom, including a student-led Religion and Philosophy Society, a philosophy honor society (Phi Sigma Tau), and a religion honor society (Theta Alpha Kappa).

## Preparation for Law School

**Coordinator:** Dr. William Hawk

**Email:** [hawkwi@jmu.edu](mailto:hawkwi@jmu.edu)

**Phone:** (540) 568-4088

Students who plan to attend law school should seriously consider philosophy and religion as an undergraduate major, with a concentration in philosophy or interdisciplinary philosophy. Philosophy majors have historically scored among the highest on the LSAT, GRE and GMAT. Philosophy courses emphasize the kinds of skills that prepare students for the LSAT and the law school curriculum: reading, comprehending and analyzing complex texts; organizing and synthesizing information and drawing reasonable inferences from it; analyzing and evaluating the reasoning and arguments of others; and researching and writing essays and papers.

Law schools recommend that students choose an undergraduate major that challenges them and provides them with an understanding of what shapes human experience. Philosophy does an outstanding job on both counts. The requirements of the major leave students plenty of opportunity to acquire a broad education by exploring other areas.

## Preparation for Theological Studies

**Coordinator:** Dr. Robert Brown

**Email:** [brownre@jmu.edu](mailto:brownre@jmu.edu)

**Phone:** (540) 568-5415

Students join the pre-theology program to prepare for careers in the service of religious communities. Usually, these careers—such as ministry, religious education, counseling and chaplaincy—require specialized training and graduate degrees from theological seminaries, rabbinical schools or university divinity schools. The pre-theology adviser guides students

toward courses and experiential learning at JMU that provides an academic foundation for graduate studies in theology and an opportunity to develop their practical skills or vocational gifts. Students in this program may major in any field, although the Association for Theological Schools recommends substantial pre-professional training in philosophy and religion. In the Department of Philosophy and Religion, pre-theology students will find a robust offering of courses ranging from the interpretation of religious texts to theology and ethics, and from the histories of particular religious traditions to cross-cultural topics in global religion. Class assignments develop students' skills in critical thinking, ethical reasoning, scriptural hermeneutics, and written and oral communication, all of which theological schools highly value. The pre-theology adviser may direct students to relevant courses in foreign languages, social work, non-profit studies, humanitarian affairs, education or justice studies to complement their academic training in religion. Qualified students are encouraged to undertake independent studies or write honors theses in order to explore in greater depth the theological topics most important to them.

The department also offers students the opportunity to receive academic credit for practical supervised field work with social agencies and religious organizations in order to help students explore the particular forms of religious service they would like to pursue. Making connections with faith leaders within their own traditions helps students access larger networks of tradition-specific resources and contacts as they reflect on their goals and decide where to apply for further study in theology. We encourage students to visit various theological schools during the application season and to meet with representatives that the department invites to campus to discuss theology programs with students.

## ***Philosophy and Religion, Bachelor of Arts (B.A.)***

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *26-43 Credit Hours*
- Major requirements (listed below) *33-36 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language's placement test.

## ***Philosophy and Religion, Bachelor of Science (B.S.)***

This option is designed for students who want to concentrate in philosophy but also apply philosophical ideas to work in other departments. Part of the requirements for this concentration is a cognate of nine credit hours from a different but related discipline.

### **Degree and Major Requirements**

#### **Degree Requirements**

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement (in addition to General Education courses) *3 Credit Hours*
- Scientific literacy requirement (in addition to General Education courses) *3-4 Credit Hours*
- Major in Philosophy concentration *33 Credit Hours*
- Electives *40-41 Credit Hours*

**Total: 120 Credit Hours**

#### **Footnotes**

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## **Philosophy and Religion, Interdisciplinary Philosophy Concentration, B.A.**

This option is designed for students who want to concentrate in philosophy but also apply philosophical ideas to work in other departments. Part of the requirements for this concentration is a cognate of nine credit hours from a different but related discipline.

### **Major Requirements**

#### **Concentration Core Courses**

PHIL 250. Introduction to Symbolic Logic *3.00*

PHIL 330. Moral Theory *3.00*

PHIL 340. Ancient Greek Philosophy *3.00*

PHIL 341. Modern Philosophy *3.00*

*Choose one of the following Metaphysics/Epistemology courses: 3 Credit Hours*

Depending on the manner in which they are taught, these topics classes may be counted toward the metaphysics/epistemology requirement, if approved by petition to the academic unit head: PHIL 390, PHIL 391 and PHIL 475.

REL 218. Philosophy of Religion *3.00* or PHIL 218. Philosophy of Religion *3.00*

PHIL 300. Knowledge & Belief *3.00*

PHIL 311. Metaphysics *3.00*

PHIL 392. Philosophy of Mind *3.00*

PHIL 394. Self and Identity *3.00*

PHIL 396. Philosophy of Physics *3.00*

PHIL 397. Philosophy of Space and Time *3.00*

PHIL 398. Philosophy of Quantum Theory *3.00*

PHIL 410. Philosophy of Science *3.00*

PHIL 420. Philosophy of Language *3.00*

*Philosophy electives (nine credits at the 300 level or above): 12 Credit Hours*

If the student takes PHIL 101 as part of Cluster Two in the General

Education program it can double count as one course of this elective section.

Neither PHIL 120 nor PHIL 150 can be used as an elective.

*Cognate of three courses from one or more disciplinary areas outside of philosophy: 9 Credit Hours*

**Total: 36 Credit Hours**

### **Recommended Schedule for Majors**

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

#### **First Year**

Introductory courses in major *6 Credit Hours*

B.A. or B.S. Requirements *6-8 Credit Hours*

General Education courses *6-18 Credit Hours*<sup>1</sup>

Total: *30 Credit Hours*

#### **Second Year**

Required courses in major *6 Credit Hours*

B.A. or B.S. Requirements or Electives *6 Credit Hours*

General Education courses *18 Credit Hours*

**Total: 30 Credit Hours**

#### **Third Year**

Requirements and electives in philosophy or religion *12 Credit Hours*

Electives (may be outside of major) *12 Credit Hours*

**Footnotes**

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

**Philosophy and Religion, Interdisciplinary Philosophy Concentration, B.S.**

This option is designed for students who want to concentrate in philosophy but also apply philosophical ideas to work in other departments. Part of the requirements for this concentration is a cognate of nine credit hours from a different but related discipline.

**Major Requirements****Concentration Core Courses**

PHIL 250. Introduction to Symbolic Logic *3.00*

PHIL 330. Moral Theory *3.00*

PHIL 340. Ancient Greek Philosophy *3.00*

PHIL 341. Modern Philosophy *3.00*

Choose one *Metaphysics/Epistemology* courses: *3 Credit Hours*

Depending on the manner in which they are taught, these topics classes may be counted toward the metaphysics/epistemology requirement, if approved by petition to the academic unit head: PHIL 390, PHIL 391 and PHIL 475.

REL 218. Philosophy of Religion *3.00* or PHIL 218. Philosophy of Religion *3.00*

PHIL 300. Knowledge & Belief *3.00*

PHIL 311. Metaphysics *3.00*

PHIL 392. Philosophy of Mind *3.00*

PHIL 394. Self and Identity *3.00*

PHIL 396. Philosophy of Physics *3.00*

PHIL 397. Philosophy of Space and Time *3.00*

PHIL 398. Philosophy of Quantum Theory *3.00*

PHIL 410. Philosophy of Science *3.00*

PHIL 420. Philosophy of Language *3.00*

*Philosophy electives (nine credits must be at the 300 level or above): 12 Credit Hours*

If the student takes PHIL 101 as part of Cluster Two in the General Education program it can double count as one course of this elective section. Neither PHIL 120 nor PHIL 150 can be used as an elective.

*Cognate of three courses from one or more disciplinary areas outside of philosophy: 9 Credit Hours*

**Total: 36 Credit Hours**

**Recommended Schedule for Majors**

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

**First Year**

Introductory courses in major *6 Credit Hours*

B.A. or B.S. Requirements *6-8 Credit Hours*

General Education courses *6-18 Credit Hours*<sup>1</sup>

**Total: 30 Credit Hours**

**Second Year**

Required courses in major *6 Credit Hours*

B.A. or B.S. Requirements or Electives *6 Credit Hours*

General Education courses *18 Credit Hours*

**Total: 30 Credit Hours**

**Third Year**

Requirements and electives in philosophy or religion *12 Credit Hours*

Electives (may be outside of major) *12 Credit Hours*

General Education courses *6 Credit Hours*

**Total: 30 Credit Hours**

**Footnotes**

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

**Philosophy and Religion, Interdisciplinary Religion Concentration, B.A.**

This option is designed for students who want to concentrate in religion but also integrate their work in religion with work in another, complementary disciplinary area. A student electing this option will fulfill the requirements for the regular concentration in religion, with one change: nine credits from one or more disciplinary areas outside of religion (must be chosen in consultation with the adviser) will substitute for six of the religion electives credits required for the concentration in religion. Accordingly, the total required elective credits for the interdisciplinary concentration will be 18 (nine religion elective credits, nine interdisciplinary elective credits), giving a total of 36 credit hours to complete the program.

**Major Requirements****Concentration Core Courses**

REL 101. Religions of the World [C2HQC] *3.00*

REL 200. Exploring Religion *3.00*

*Capstone (choose one of the following courses): 3 Credit Hours*

REL 410. Dharma/Adharma: Hindu Ethical Reasoning *3.00*

REL 440. Topics in Religion in America *3.00*

REL 450. Religion and Society *3.00*

REL 460. Topics in Ancient Jewish and Early Christian Literature *3.00*

REL 488. Buddhism in the Modern World *3.00*

*Track Requirements: 12 Credit Hours*

Choose 4 courses from one track. This will be your home track.

*Breadth Requirements: 6 Credit Hours*

Choose two additional courses outside of your home track. These two courses cannot be from the same track and neither can they be cross-listed with a course in your home track.

*Interdisciplinary Requirements: 9 Credit Hours*

Choose three courses from other disciplines (in consultation with your adviser).

**Total: 36 Credit Hours**

**Track Courses****Track 1: Eastern Traditions**

HUM 252. Global Cultures [C2HQC] *3.00* (when topic is Gandhi, Non-violence and Global Transformation)

REL 288. Introduction to Buddhism *3.00*

REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism *3.00*

REL 313. Classical Chinese Thought *3.00*

REL 314. Gandhi and the Other 9/11 *3.00*

REL 317. Introduction to Daoism *3.00*

REL 323. Comparative Ethics East and West *3.00*

REL 386. Topics in Buddhist Studies *3.00*

REL 387. Buddhist Literature and Liberation *3.00*

REL 388. Tibetan Buddhism *3.00*

REL 410. Dharma/Adharma: Hindu Ethical Reasoning *3.00*

REL 488. Buddhism in the Modern World *3.00*

**Track 2: Western Traditions**

HUM 252. Global Cultures [C2HQC] *3.00* (when topic is Islamic Civilization)

REL 201. Introduction to Hebrew Bible/Old Testament *3.00*

REL 202. Introduction to the New Testament *3.00*

REL 210. Religion in America *3.00*

REL 240. Jesus and the Moral Life *3.00*

REL 250. Islamic Religious Traditions *3.00*

REL 306. Women and Gender in Islam *3.00*

REL 309. Jihad in Islamic Traditions *3.00*

REL 320. Judaism *3.00*

REL 323. Comparative Ethics East and West *3.00*

REL 324. Latin American Christianity *3.00*

REL 325. Catholicism in the Modern World *3.00*

REL 330. Religions of Africa and the African Diaspora *3.00*

REL 332. Born Again Religion *3.00*

REL 334. New Religious Movements *3.00*

REL 336. African-American Religion *3.00*

REL 340. Introduction to Christianity *3.00*

REL 342. The Historical Jesus Quest *3.00*

REL 343. Paul and the Origins of Christianity *3.00*

REL 348. Christianity in Global Context *3.00*

REL 350. Islamic Law and Society *3.00*

REL 360. History of Christian Thought *3.00*

REL 362. Introduction to U.S. Religious History *3.00* or HIST 362. Introduction to U.S. Religious History *3.00*

REL 363. Apocalypticism, Religious Terrorism and Peace *3.00*

REL 375. Nineteenth Century Philosophy and Theology *3.00* or PHIL 375. Nineteenth Century Philosophy and Theology *3.00*

REL 380. Contemporary Theologies *3.00*

REL 440. Topics in Religion in America *3.00*

REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00  
**Track 3: Biblical Studies and Theology**  
 REL 102. God, Meaning & Morality [C2HQCC] 3.00  
 REL 201. Introduction to Hebrew Bible/Old Testament 3.00  
 REL 202. Introduction to the New Testament 3.00  
 REL 218. Philosophy of Religion 3.00 or PHIL 218. Philosophy of Religion 3.00  
 REL 325. Catholicism in the Modern World 3.00  
 REL 333. The Other Bibles: Dead Sea Scrolls, Pseudepigrapha, and Apocrypha 3.00  
 REL 340. Introduction to Christianity 3.00  
 REL 341. Early Christian Gospels: Origins, History, and Conflict 3.00  
 REL 342. The Historical Jesus Quest 3.00  
 REL 343. Paul and the Origins of Christianity 3.00  
 REL 360. History of Christian Thought 3.00

REL 366. Religion, Animals and the Environment 3.00 or ENVT 366. Religion, Animals and the Environment 3.00  
 REL 375. Nineteenth Century Philosophy and Theology 3.00 or PHIL 375. Nineteenth Century Philosophy and Theology 3.00  
 REL 377. Hermeneutics 3.00 or PHIL 377. Hermeneutics 3.00  
 REL 380. Contemporary Theologies 3.00  
 REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00  
**Track 4: Religion and Society**  
 HUM 252. Global Cultures [C2HQCC] 3.00 (when topic is Gandhi, Non-violence and Global Transformation)  
 REL 210. Religion in America 3.00  
 REL 280. Religion and Science 3.00  
 REL 306. Women and Gender in Islam 3.00  
 REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00  
 REL 315. Women and Religion 3.00

REL 322. Sociology of Religion 3.00 or SOCI 322. Sociology of Religion 3.00  
 REL 324. Latin American Christianity 3.00  
 REL 330. Religions of Africa and the African Diaspora 3.00  
 REL 332. Born Again Religion 3.00  
 REL 334. New Religious Movements 3.00  
 REL 336. African-American Religion 3.00  
 REL 348. Christianity in Global Context 3.00  
 REL 363. Apocalypticism, Religious Terrorism and Peace 3.00 or IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
 REL 450. Religion and Society 3.00  
 REL 365. Religion and Film 3.00  
 REL 366. Religion, Animals and the Environment 3.00  
 REL 383. The Global Refugee Crisis and Religion 3.00  
 REL 388. Tibetan Buddhism 3.00  
 REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00  
 REL 488. Buddhism in the Modern World 3.00

## Recommended Schedule for Majors

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

### First Year

Introductory courses in major 6 Credit Hours  
 B.A. or B.S. Requirements 6-8 Credit Hours  
 General Education courses 6-18 Credit Hours <sup>1</sup>

**Total: 30 Credit Hours**

### Second Year

Required courses in major 6 Credit Hours  
 B.A. or B.S. Requirements or Electives 6 Credit Hours

General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

### Third Year

Requirements and electives in philosophy or religion 12 Credit Hours  
 Electives (may be outside of major) 12 Credit Hours  
 General Education courses 6 Credit Hours

**Total: 30 Credit Hours**

## Footnotes

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

## Philosophy and Religion, Philosophy Concentration, B.A.

### Major Requirements

#### Concentration Core Courses

PHIL 250. Introduction to Symbolic Logic 3.00  
 PHIL 330. Moral Theory 3.00  
 PHIL 340. Ancient Greek Philosophy 3.00  
 PHIL 341. Modern Philosophy 3.00

Choose one History of Philosophy courses: 3 Credit Hours

Depending on the manner in which they are taught, the following topics classes may be counted toward the history requirement if they are approved by petition to the academic unit head: PHIL 390, PHIL 391, PHIL 460, PHIL 465, PHIL 470 and PHIL 475.

PHIL 342. Medieval Philosophy 3.00  
 PHIL 343. Stoics, Sceptics and Epicureans 3.00  
 PHIL 344. Existentialism 3.00  
 PHIL 370. American Philosophy 3.00  
 PHIL 375. Nineteenth Century Philosophy and Theology 3.00 or REL 375. Nineteenth Century Philosophy and Theology 3.00  
 PHIL 376. Nietzsche 3.00  
 PHIL 377. Hermeneutics 3.00 or REL 377. Hermeneutics 3.00  
 PHIL 430. Analytic Philosophy 3.00  
 PHIL 466. Kant 3.00

PHIL 468. Phenomenology 3.00

Choose one Metaphysics/Epistemology courses: 3 Credit Hours

Depending on the manner in which they are taught, the following topics classes may be counted toward the metaphysics/epistemology requirement if they are approved by petition to the academic unit head: PHIL 390, PHIL 391 and PHIL 475.

PHIL 218. Philosophy of Religion 3.00 or REL 218. Philosophy of Religion 3.00  
 PHIL 300. Knowledge & Belief 3.00  
 PHIL 311. Metaphysics 3.00  
 PHIL 392. Philosophy of Mind 3.00  
 PHIL 394. Self and Identity 3.00  
 PHIL 396. Philosophy of Physics 3.00  
 PHIL 397. Philosophy of Space and Time 3.00  
 PHIL 398. Philosophy of Quantum Theory 3.00  
 PHIL 410. Philosophy of Science 3.00  
 PHIL 420. Philosophy of Language 3.00

Philosophy electives (nine credits at the 300 level or above): 15 Credit Hours

If the student takes PHIL 101 as part of Cluster Two in the General Education program it can double count as one course of this elective section. Neither PHIL 120 nor PHIL 150 can be used as an elective.

**Total: 33 Credit Hours**

## Recommended Schedule for Majors

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

### First Year

Introductory courses in major 6 Credit Hours  
 B.A. or B.S. Requirements 6-8 Credit Hours  
 General Education courses 6-18 Credit Hours <sup>1</sup>

**Total: 30 Credit Hours**

### Second Year

Required courses in major 6 Credit Hours  
 B.A. or B.S. Requirements or Electives 6 Credit Hours  
 General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

### Third Year

Requirements and electives in philosophy or religion 12 Credit Hours  
 Electives (may be outside of major) 12 Credit Hours  
 General Education courses 6 Credit Hours

**Total: 30 Credit Hours**

## Footnotes

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

## Philosophy and Religion, Philosophy Concentration, B.S.

### Major Requirements

#### Concentration Core Courses

PHIL 250. Introduction to Symbolic Logic 3.00

PHIL 330. Moral Theory 3.00

PHIL 340. Ancient Greek Philosophy 3.00

PHIL 341. Modern Philosophy 3.00

*Choose one History of Philosophy courses: 3 Credit Hours*

Depending on the manner in which they are taught, the following topics classes

may be counted toward the history requirement if they are approved by

petition to the academic unit head: PHIL 390, PHIL 391, PHIL 460, PHIL 465,  
PHIL 470 and PHIL 475.

PHIL 342. Medieval Philosophy 3.00

PHIL 343. Stoics, Skeptics and Epicureans 3.00

PHIL 344. Existentialism 3.00

PHIL 370. American Philosophy 3.00

PHIL 375. Nineteenth Century Philosophy and Theology 3.00 or

REL 375. Nineteenth Century Philosophy and Theology 3.00

PHIL 376. Nietzsche 3.00

PHIL 377. Hermeneutics 3.00 or REL 377. Hermeneutics 3.00

PHIL 430. Analytic Philosophy 3.00

PHIL 466. Kant 3.00

PHIL 468. Phenomenology 3.00

*Choose one Metaphysics/Epistemology courses: 3 Credit Hours*

Depending on the manner in which they are taught, the following topics classes

may be counted toward the metaphysics/epistemology requirement if they are  
approved by petition to the academic unit head: PHIL 390, PHIL 391 and PHIL  
475.

PHIL 218. Philosophy of Religion 3.00 or REL 218. Philosophy of Religion 3.00

PHIL 300. Knowledge & Belief 3.00

PHIL 311. Metaphysics 3.00

PHIL 392. Philosophy of Mind 3.00

PHIL 394. Self and Identity 3.00

PHIL 396. Philosophy of Physics 3.00

PHIL 397. Philosophy of Space and Time 3.00

PHIL 398. Philosophy of Quantum Theory 3.00

PHIL 410. Philosophy of Science 3.00

PHIL 420. Philosophy of Language 3.00

*Philosophy electives (nine credits must be at the 300 level or above): 15 Credit Hours*

If the student takes PHIL 101 as part of Cluster Two in the General

Education program it can double count as one course of this elective section.

Neither PHIL 120 nor PHIL 150 can be used as an elective.

**Total: 33 Credit Hours**

### Recommended Schedule for Majors

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

#### First Year

Introductory courses in major 6 Credit Hours

B.A. or B.S. Requirements 6-8 Credit Hours

General Education courses 6-18 Credit Hours <sup>1</sup>

**Total: 30 Credit Hours**

#### Second Year

Required courses in major 6 Credit Hours

B.A. or B.S. Requirements or Electives 6 Credit Hours

General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

#### Third Year

Requirements and electives in philosophy or religion 12 Credit Hours

Electives (may be outside of major) 12 Credit Hours

General Education courses 6 Credit Hours

**Total: 30 Credit Hours**

## Footnotes

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

## Philosophy and Religion, Religion Concentration, B.A.

### Major Requirements

#### Concentration Core Courses

REL 101. Religions of the World [C2HQC] 3.00

REL 200. Exploring Religion 3.00

*Capstone (choose one of the following): 3 Credit Hours*

REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00

REL 440. Topics in Religion in America 3.00

REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00

REL 450. Religion and Society 3.00

REL 488. Buddhism in the Modern World 3.00

*Track Requirements: 12 Credit Hours*

Choose 4 courses from one track. This will be your home track.

*Breadth Requirements: 12 Credit Hours*

Choose 4 additional courses: one from each of the other tracks and one more  
from any of the three other tracks. None of these can be cross-listed in your  
home track.

**Total: 33 Credit Hours**

### Track Courses

#### Track 1: Eastern Traditions

HUM 252. Global Cultures [C2HQC] 3.00 (when

topic is Gandhi, Non-violence and Global  
Transformation)

REL 288. Introduction to Buddhism 3.00.

REL 310. (Re)thinking Order and Chaos: An

Introduction to Hinduism 3.00

REL 313. Classical Chinese Thought 3.00

REL 314. Gandhi and the Other 9/11 3.00

REL 317. Introduction to Daoism 3.00

REL 323. Comparative Ethics East and West 3.00

REL 386. Topics in Buddhist Studies 3.00

REL 387. Buddhist Literature and Liberation 3.00

REL 388. Tibetan Buddhism 3.00

REL 410. Dharma/Adharma: Hindu Ethical

Reasoning 3.00

REL 488. Buddhism in the Modern World 3.00

#### Track 2: Western Traditions

HUM 252. Global Cultures [C2HQC] 3.00 (when

topic is Islamic Civilization)

REL 201. Introduction to Hebrew Bible/Old  
Testament 3.00

REL 202. Introduction to the New Testament  
3.00

REL 210. Religion in America 3.00

REL 240. Jesus and the Moral Life 3.00

REL 250. Islamic Religious Traditions 3.00

REL 306. Women and Gender in Islam 3.00

REL 309. Jihad in Islamic Traditions 3.00

REL 320. Judaism 3.00

REL 323. Comparative Ethics East and West 3.00

REL 324. Latin American Christianity 3.00

REL 325. Catholicism in the Modern World 3.00

REL 330. Religions of Africa and the African

Diaspora 3.00

REL 332. Born Again Religion 3.00

REL 334. New Religious Movements 3.00

REL 336. African-American Religion 3.00

REL 340. Introduction to Christianity 3.00

REL 342. The Historical Jesus Quest 3.00

REL 343. Paul and the Origins of Christianity  
3.00

REL 348. Christianity in Global Context 3.00

REL 350. Islamic Law and Society 3.00

REL 360. History of Christian Thought 3.00

REL 362. Introduction to U.S. Religious History

3.00 or HIST 362. Introduction to U.S.

Religious History 3.00

REL 363. Apocalypticism, Religious Terrorism  
and Peace 3.00

REL 375. Nineteenth Century Philosophy and

Theology 3.00 or PHIL 375. Nineteenth

Century Philosophy and Theology 3.00

REL 380. Contemporary Theologies 3.00

REL 440. Topics in Religion in America 3.00

REL 460. Topics in Ancient Jewish and Early

Christian Literature 3.00

#### Track 3: Biblical Studies and Theology

REL 102. God, Meaning & Morality [C2HQC]

3.00

REL 201. Introduction to Hebrew Bible/Old Testament 3.00  
 REL 202. Introduction to the New Testament 3.00  
 REL 218. Philosophy of Religion 3.00 or PHIL 218. Philosophy of Religion 3.00  
 REL 325. Catholicism in the Modern World 3.00  
 REL 333. The Other Bibles: Dead Sea Scrolls, Pseudepigrapha, and Apocrypha 3.00  
 REL 340. Introduction to Christianity 3.00  
 REL 341. Early Christian Gospels: Origins, History, and Conflict 3.00  
 REL 342. The Historical Jesus Quest 3.00  
 REL 343. Paul and the Origins of Christianity 3.00  
 REL 360. History of Christian Thought 3.00  
 REL 366. Religion, Animals and the Environment 3.00 or ENVT 366. Religion, Animals and the Environment 3.00

REL 375. Nineteenth Century Philosophy and Theology 3.00 or PHIL 375. Nineteenth Century Philosophy and Theology 3.00  
 REL 377. Hermeneutics 3.00 or PHIL 377. Hermeneutics 3.00  
 REL 380. Contemporary Theologies 3.00  
 REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00  
*Track 4: Religion and Society*  
 HUM 252. Global Cultures [C2HQC] 3.00 (when topic is Gandhi, Non-violence and Global Transformation)  
 REL 210. Religion in America 3.00  
 REL 280. Religion and Science 3.00  
 REL 306. Women and Gender in Islam 3.00  
 REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00  
 REL 315. Women and Religion 3.00  
 REL 322. Sociology of Religion 3.00 or SOCI 322. Sociology of Religion 3.00  
 REL 324. Latin American Christianity 3.00

REL 330. Religions of Africa and the African Diaspora 3.00  
 REL 332. Born Again Religion 3.00  
 REL 334. New Religious Movements 3.00  
 REL 336. African-American Religion 3.00  
 REL 348. Christianity in Global Context 3.00  
 REL 363. Apocalypticism, Religious Terrorism and Peace 3.00 or IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
 REL 450. Religion and Society 3.00  
 REL 365. Religion and Film 3.00  
 REL 366. Religion, Animals and the Environment 3.00  
 REL 383. The Global Refugee Crisis and Religion 3.00  
 REL 388. Tibetan Buddhism 3.00  
 REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00  
 REL 488. Buddhism in the Modern World 3.00

## Recommended Schedule for Majors

The following outline is a sample four-year program. The actual courses and sequence a student takes may vary.

### First Year

Introductory courses in major 6 Credit Hours  
 B.A. or B.S. Requirements 6-8 Credit Hours  
 General Education courses 6-18 Credit Hours <sup>1</sup>

**Total: 30 Credit Hours**

### Second Year

Required courses in major 6 Credit Hours  
 B.A. or B.S. Requirements or Electives 6 Credit Hours

General Education courses 18 Credit Hours

**Total: 30 Credit Hours**

### Third Year

Requirements and electives in philosophy or religion 12 Credit Hours  
 Electives (may be outside of major) 12 Credit Hours

General Education courses 6 Credit Hours

**Total: 30 Credit Hours**

### Footnotes

<sup>1</sup> Students should adjust General Education and foreign language load to achieve 30 hours total.

## Minors

### Philosophy Minor

#### Required Course

PHIL 101. Introduction to Philosophy [C2HQC] 3.00

Choose two of the following: 6 Credit Hours

PHIL 340. Ancient Greek Philosophy 3.00

PHIL 341. Modern Philosophy 3.00

PHIL 342. Medieval Philosophy 3.00

PHIL 375. Nineteenth Century Philosophy and Theology 3.00

Three electives: 9 Credit Hours

At least two of which must be above PHIL 300 <sup>1</sup>

**Total: 18 Credit Hours**

### Footnotes

<sup>1</sup> Neither PHIL 120 nor PHIL 150 can be used as electives.

### Religion Minor

#### Foundational Course

REL 101. Religions of the World [C2HQC] 3.00

Choose one course in each track: 12 Credit Hours

(At least one of these must be 300 or 400 level)

Choose one REL elective: 3 Credit Hours

**Total: 18 Credit Hours**

### Christian Studies Minor

This minor is designed to provide students with a systematic and comprehensive understanding of the nature and history of Christianity as a religion of global significance. Students begin their studies by exploring the history, beliefs and practices of diverse Christian traditions, from the ancient to the modern. Additional courses address the complex relationship between Christianity and various facets of the contemporary world, such as politics, culture, religious pluralism, terrorism and race.

#### Required Courses

REL 202. Introduction to the New Testament 3.00

REL 340. Introduction to Christianity 3.00

REL 348. Christianity in Global Context 3.00

Choose three courses from the following, at least two of which must be at the 300- or 400-level: 9 Credit Hours

REL 201. Introduction to Hebrew Bible/Old Testament 3.00

REL 218. Philosophy of Religion 3.00

REL 240. Jesus and the Moral Life 3.00

REL 280. Religion and Science 3.00

REL 324. Latin American Christianity 3.00

REL 325. Catholicism in the Modern World 3.00

REL 332. Born Again Religion 3.00

REL 336. African-American Religion 3.00

REL 360. History of Christian Thought 3.00

REL 363. Apocalypticism, Religious Terrorism and Peace 3.00

REL 380. Contemporary Theologies 3.00

REL 450. Religion and Society 3.00

REL 460. Topics in Ancient Jewish and Early Christian Literature 3.00

**Total: 18 Credit Hours**

### Ethics Minor

The 18 hour minor in ethics offers students an opportunity for deeper study into respected ethical thinkers and how ethical theory from philosophy and religion can be used to understand our individual and social lives. Students are to choose six courses total from either of the lists below. At least one of the six must be from the philosophy list, and at least one of the six must be from the religion list. Philosophy or religion majors may double count two courses (6 credits) from their major toward the minor.

Other courses with a sufficiently ethical focus from philosophy, religion, or another department may be able to count towards the minor with the approval of the ethics minor coordinator.

#### Required Courses

##### Philosophy

PHIL 262. Problems in Applied Ethics 3.00  
PHIL 330. Moral Theory 3.00  
PHIL 335. The Individual, the State, and Justice 3.00  
PHIL 350. The Philosophy of Feminism 3.00 or WGSS 350. The Philosophy of Feminism 3.00  
PHIL 367. Topics of Philosophy of Law 3.00  
PHIL 440. Advanced Moral Philosophy 3.00

##### Religion

REL 240. Jesus and the Moral Life 3.00  
REL 306. Women and Gender in Islam 3.00  
REL 309. Jihad in Islamic Traditions 3.00  
REL 315. Women and Religion 3.00  
REL 350. Islamic Law and Society 3.00  
REL 363. Apocalypticism, Religious Terrorism and Peace 3.00 or IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
REL 410. Dharma/Adharma: Hindu Ethical Reasoning 3.00  
REL 450. Religion and Society 3.00

#### Global Religion and Global Issues Minor

The minor is intended for students who want to better understand the role played by religion in contemporary global events: from religious terrorism to nonviolence, from the suppression of women to the advocacy of civil rights. In this minor, students will study major global religions and their impact on real-world social and political issues. The minor may be of particular interest to students in the social sciences but all students with an interest in the subject are welcome.

#### Required Courses

REL 101. Religions of the World [C2HQC] 3.00  
*One Global Religious Traditions course 3 Credit Hours*  
*One Religion and Social/Political Engagement course 3 Credit Hours*  
*Three electives chosen from either group 9 Credit Hours*  
Total: 18 Credit Hours

##### Global Religious Traditions

REL 250. Islamic Religious Traditions 3.00  
REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism 3.00  
REL 320. Judaism 3.00  
REL 330. Religions of Africa and the African Diaspora 3.00  
REL 348. Christianity in Global Context 3.00  
REL 388. Tibetan Buddhism 3.00

##### Religion and Social/Political Engagement

REL 306. Women and Gender in Islam 3.00  
REL 309. Jihad in Islamic Traditions 3.00  
REL 314. Gandhi and the Other 9/11 3.00  
REL 315. Women and Religion 3.00  
REL 350. Islamic Law and Society 3.00  
REL 363. Apocalypticism, Religious Terrorism and Peace 3.00 or IA 363. Apocalypticism, Religious Terrorism and Peace 3.00  
REL 366. Religion, Animals and the Environment 3.00  
REL 380. Contemporary Theologies 3.00  
REL 450. Religion and Society 3.00  
REL 488. Buddhism in the Modern World 3.00

# Department of Physics and Astronomy

Dr. W. Christopher Hughes, **Department Head**

**Phone:** (540) 568-6109

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**Location:** Physics/Chemistry Building, Suite 2186 **Website:** <http://csma31.csm.jmu.edu/physics>

## Professors

K. Giovanetti, W. C. Hughes, B. Newcomer, G. Niculescu, I. Niculescu, S. Scully

## Associate Professors

G. Albright, A. Banu, H. Butner, A. Constantin, C. Constantin, K. Feitosa, K. Fukumura, M. Mattson, G. Scarel

## Assistant Professors

T. Finch, M. Kaveh-Baghdadorani, I. Melnikov, S. Pendleton, K. Weaver

## Instructors

L. Lucatorto, J. Sterlace

## Mission

The mission of the Department of Physics and Astronomy is the preparation of scientifically enlightened citizens. Science literacy is promoted by the production of teachers, researchers, technical professionals and knowledgeable individuals through the integration of classroom and experiential learning.

## Vision

We strive to be a leading undergraduate physics and astronomy department by building a research-active, student-centered community.

## Values

Excellence, integrity and mutual respect are the core values that define our department. The vigorous pursuit of research with undergraduates is central to extending our understanding of nature and the engagement of students directly in the practice of physics and astronomy.

Service to the university, the public and the profession is essential for continued vitality of science education and research.

## Goals

To help students:

- Develop competence in using computers for computation, data acquisition, numerical control, device development, and information acquisition and processing.
- Appreciate the role of science in society and the historical development of physics in the ongoing quest to discover the structure of the universe.
- Gain an understanding of the basic principles and the experimental basis of the various fields of physics and the logical relationships of the various fields.
- Become capable problem solvers using techniques that require mathematical skills, conceptual and mathematical models, order-of-magnitude estimates, and an understanding of limiting cases.
- Develop competence in designing, constructing, and using laboratory instruments, and to draw valid conclusions from experimental data.
- Improve written and oral technical communication skills.

## Co-Curricular and Organizations

- Society of Physics Students

## *Physics, Bachelor of Science, B.S.*

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement (in addition to General Education) *3 Credit Hours*
- Scientific Literacy requirement (in addition to General Education) *3-4 Credit Hours*
- University electives *0-19 Credit Hours*
- Major core requirements (listed below) *50 Credit Hours*<sup>2</sup>
- Major program concentration requirements *13-36 Credit Hours*

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> Some major core courses simultaneously satisfy degree and some General Education requirements so that a student need not take more than 120 credit hours to satisfy graduation requirements.

## Major Core Requirements

Shared Core Requirements for All B. S. Physics Majors. Includes the Physics Required Introductory, Laboratory, 200 Level and above, as well as Cognate Required Courses.

### Required Courses

PHYS 105. Foundations of Physics *1.00*

PHYS 247. Data Acquisition and Analysis Techniques II *1.00*

PHYS 260. University Physics III *3.00*

PHYS 270. Modern Physics I *4.00*

PHYS 340. Mechanics *3.00*

PHYS 344. Advanced Physics Laboratory I *1.00*

PHYS 345. Advanced Physics Laboratory II *1.00*

PHYS 350. Electricity & Magnetism *3.00*

PHYS 391. Seminar *0.00*

PHYS 392. Seminar *1.00*

*Choose one of the following pair of introductory courses: 6 Credit Hours*

PHYS 140. College Physics I [C3PP] *3.00* and

PHYS 150. College Physics II *3.00* or PHYS 240. University Physics I [C3PP]

*3.00* and PHYS 250. University Physics II *3.00*

*Choose one of the following pair of laboratory courses: 2 Credit Hours*

PHYS 140L. General Physics Laboratory [C3PP] *1.00* and PHYS 150L. General

Physics Laboratory *1.00* or PHYS 240L. University Physics Laboratory I

[C3PP] *1.00* and PHYS 250L. University Physics Laboratory II *1.00*

### Cognate Disciplines

Courses in related fields required of all B. S. Physics Majors.

CHEM 131. General Chemistry I [C3PP] *3.00*

CHEM 131L. General Chemistry Laboratory [C3PP] *1.00*

CHEM 132. General Chemistry II *3.00*

CHEM 132L. General Chemistry Laboratory *1.00*

MATH 235. Calculus I [C3QR] *4.00*

MATH 236. Calculus II *4.00*

MATH 237. Calculus III *4.00*

MATH 238. Linear Algebra with Differential Equations *4.00*

**Total: 50 Credit Hours**



## Program Concentrations

Each student, in consultation with his/her faculty adviser, will choose a program concentration.

### Recommended Schedule for Physics Majors, B.S.

#### First Year

CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132. General Chemistry II 3.00  
CHEM 132L. General Chemistry Laboratory 1.00  
General Education, Cluster One: Skills for the 21st Century 9-12 Credit Hours  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
PHYS 105. Foundations of Physics 1.00  
*Choose one of the following pair of courses: 6 Credit Hours*  
Introductory Physics Courses for Majors.  
PHYS 140. College Physics I [C3PP] 3.00 and  
PHYS 150. College Physics II 3.00 or PHYS 240. University Physics I [C3PP] 3.00 and  
PHYS 250. University Physics II 3.00  
*Choose one of the following pair of laboratory courses: 2 Credit Hours*  
The corresponding laboratory courses associated with either PHYS 240/PHYS 250 or PHYS 140/PHYS 150.  
PHYS 140L. General Physics Laboratory [C3PP] 1.00 and

PHYS 150L. General Physics Laboratory 1.00 or PHYS 240L. University Physics Laboratory I [C3PP] 1.00 and  
PHYS 250L. University Physics Laboratory II 1.00

**Total: 34-37 Credit Hours**

#### Second Year

MATH 237. Calculus III 4.00  
MATH 238. Linear Algebra with Differential Equations 4.00  
PHYS 247. Data Acquisition and Analysis Techniques II 1.00  
PHYS 260. University Physics III 3.00  
PHYS 270. Modern Physics I 4.00  
General Education courses 11.00-15.00 Credit Hours  
and recommended for Physics B.S. Majors NOT doing the Physics Education Program  
MATH 248. Computers & Numerical Algorithms 4.00

**Total: 31-35 Credit Hours**

#### Third and Fourth Years

During their junior and senior years, students will select courses to complete the specific program concentration which they are following. These course selections will be made with the assistance of a faculty adviser.

## Applied Physics Concentration

The applied physics concentration is designed to prepare students for careers in a wide variety of scientific areas including laboratory and industrial settings. Students are strongly encouraged to complete at least one of six areas of interest for completion of degree requirements: applied nuclear physics, computational physics, materials physics, electronics and instrumentation, geophysics and biophysics.

All students in the applied physics concentration must complete the following courses:

#### Required Courses (in addition to core requirements)

PHYS 346. Advanced Physics Laboratory III 1.00  
PHYS 491-492. Physics Assessment and Seminar 0.00 - 1.00  
*Additional courses approved by the head of the Department of Physics and Astronomy: 9 Credit Hours*  
*Choose one of the following: 2-6 Credit Hours*  
PHYS 398. Independent Study in Physics or Astronomy 1.00 - 3.00 OR ASTR 398. Independent Study in Physics or Astronomy 1.00 - 3.00, repeatable to 4

credits OR PHYS 498R. Undergraduate Research in Physics or Astronomy 1.00 - 4.00 OR ASTR 498R. Undergraduate Research in Physics or Astronomy 1.00 - 4.00, repeatable to 6 credits OR ISCI 450A,B,C. Interscience Research 1.00 - 4.00, repeatable to 6 credits OR PHYS 499. Honors 1.00 - 3.00, repeatable<sup>1</sup>

**Total: 13-17 Credit Hours**

#### Footnotes

<sup>1</sup> Students completing honors theses should take PHYS 499 in both the fall and spring semesters of their senior year for a total of 6 credit hours.

#### Suggested Areas of Interest

To satisfy the requirement of at least 9 additional credit hours approved by the department head, students are strongly encouraged to pursue a coherent set of courses to round out their academic experience. Below are suggested areas of interest.

#### Applied Nuclear Physics Courses

PHYS 339. Introductory Nuclear Science 4.00  
PHYS 460. Quantum Mechanics 3.00  
*Choose one of the following:*  
PHYS 333. Introduction to Particle Physics 3.00

PHYS 338. Nuclear Physics 3.00  
CHEM 450. Nuclear and Radiation Chemistry 3.00  
**Total: 10 Credit Hours**

#### Electronics and Instrumentation Courses

PHYS 360. Analog Electronics 4.00  
PHYS 371. Digital Electronics 2.00  
PHYS 372. Microcontrollers and Their Applications (2, 4) 2.00  
*Choose among these courses: 3-4 Credit Hours*  
PHYS 295. Laboratory Apparatus Design and Construction 1.00  
PHYS 380. Thermodynamics and Statistical Mechanics 3.00

PHYS 386. Robots: Structure and Theory 3.00  
PHYS 387. Theory and Basic Principles of Mobile Robot Construction and Control 3.00  
PHYS 388. Robots for Humanity 3.00  
**Total: 11-12 Credit Hours**

#### Material Physics Courses

PHYS 337. Solid State Physics 3.00  
*and one of the following:*  
PHYS 375. An Introduction to Materials Science 3.00 OR MATS 375. An Introduction to Materials Science 3.00 OR CHEM 375. An Introduction to Materials Science 3.00  
*Choose one of the following: 3 Credit Hours*

PHYS 381. Materials Characterization (Lecture/Lab) 3.00  
PHYS 420. Modern Optics 3.00  
PHYS 455. Lasers and Their Applications to Physical Sciences 3.00 OR CHEM 455. Lasers and Their Applications to Physical Sciences 3.00  
PHYS 485. Science of the Small 4.00 OR CHEM 485. Science of the Small 4.00  
**Total: 9 Credit Hours**

#### Computational Physics Courses

Students pursuing this area of interest should declare a minor in mathematics.

PHYS 380. Thermodynamics and Statistical Mechanics 3.00  
PHYS 390. Computer Applications in Physics 3.00  
*Choose one of the following courses: 3-4 Credit Hours*  
PHYS 341. Non-Linear Dynamics and Chaos 3.00

PHYS 364. Introduction to Fluid Mechanics 4.00 OR MATH 364. Introduction to Fluid Mechanics 4.00  
MATH 367. Introduction to Acoustics 3.00 or PHYS 367. Introduction to Acoustics 3.00  
**Total: 9-10 Credit Hours**

## Geophysics Courses

Choose one of the following: 3-4 Credit Hours

Any 300- or 400-level GEOL or PHYS course not listed below (with adviser's approval) 3.00

PHYS 381. Materials Characterization (Lecture/Lab) 3.00

GEOL 110. Physical Geology [C3NS] 3.00

GEOL 210. Applied Physical Geology [C3NS] 3.00

Choose one of the following: 3-4 Credit Hours

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars 3.00

GEOL 272. Planetary Geology (2, 2) 3.00

GEOL 365. Structural Geology 4.00

GEOL 440. Geophysics (3, 2) 4.00

At least three credits from a field- or geographic-based course: 3-6 Credit Hours

#### Biophysics Courses

PHYS 326. Biophysics 3.00

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 242L. Organic Chemistry Laboratory 2.00

BIO 361. Biochemistry I (3, 0) 3.00 OR CHEM 361. Biochemistry I 3.00

Students pursuing the Applied Physics Concentration are encouraged to consider the following minors as being particularly effective at augmenting a degree in physics:

- Astronomy Minor
- General Business Minor
- Computer Science Minor
- Geophysics Minor
- Materials Science Minor
- Robotics Minor
- Writing, Rhetoric and Technical Communication Minor encouraged to take WRTC 316 and WRTC 350)

### Fundamental Studies Concentration

The fundamental studies concentration is designed to prepare students for immediate post-baccalaureate employment or for entrance to advanced study in physics or related areas.

#### Required Courses (in addition to core requirements)

PHYS 346. Advanced Physics Laboratory III 1.00

PHYS 360. Analog Electronics 4.00

PHYS 380. Thermodynamics and Statistical Mechanics 3.00

PHYS 460. Quantum Mechanics 3.00

PHYS 491-492. Physics Assessment and Seminar 0.00 - 1.00

Choose among the following electives (if not enrolled in PHYS 499): 3-4 Credit Hours

PHYS 330. Relativity 4.00 or ASTR 330. Relativity 4.00

PHYS 333. Introduction to Particle Physics 3.00

PHYS 337. Solid State Physics 3.00

PHYS 338. Nuclear Physics 3.00

PHYS 420. Modern Optics 3.00

GEOG 215. Introduction to Geographic Information Science and Cartography 3.00

GEOG 216. Earth Observation and GPS 3.00

GEOL 399. Field Geology 6.00

GEOL 442. Field Geophysics 3.00

At least six credits from the following: 6 Credit Hours

GEOL 280. Mineralogy (3, 2) 4.00

GEOL 300. Introduction to Petrology (3, 3) 4.00

GEOL 460. Hydrogeology (2, 2) 3.00

At least three credits from the following: 3-4 Credit hours

PHYS 337. Solid State Physics 3.00

PHYS 360. Analog Electronics 4.00

**Total: 24-26 Credit Hours**

BIO 490. Mechanics of Animal Movement (3, 3) 4.00

Choose one of the following: 3-4 Credit Hours

PHYS 364. Introduction to Fluid Mechanics 4.00

PHYS 380. Thermodynamics and Statistical Mechanics 3.00

PHYS 390. Computer Applications in Physics 3.00

**Total: 29-30 Credit Hours**

- Writing, Rhetoric and Technical Communication Minor encouraged to take WRTC 316 and WRTC 350)

#### Footnotes

<sup>1</sup> Students completing honors theses should take PHYS 499 in both the fall and spring semesters of their senior year for a total of 6 credit hours.

### Physics and Engineering Combined Program Concentration, B.S.

This dual degree program makes it possible for the student to earn a B.S. degree in physics from JMU and a Master of Engineering degree from the University of Virginia. The engineering areas available under this program include biomedical, environmental, transportation, materials science, systems engineering and engineering physics.

During the first three years at JMU, the student must complete 96 credit hours including all JMU General Education requirements, the physics core requirements, differential equations and at least eight additional credit hours in physics courses designated by the JMU Department of Physics and Astronomy with at least a "B+" average. In general, these eight additional hours will be chosen from those recommended for the applied physics concentration, but substitutions may be approved by the program adviser, Dr. Sean Scully.

During the fourth year of study (when the student will be in residence at the University of Virginia), the student will take further courses approved by the JMU Department of Physics and Astronomy for credit toward the Bachelor of Science degree in physics. A total of 24 credit hours of physics or other physics-related courses taken at either school will be required for the JMU Bachelor of Science degree in physics. For further information, consult the head of the Department of Physics and Astronomy.

### Physics, Bachelor of Arts, (B.A.)

#### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours
- University electives 23-37 Credit Hours
- Major core requirements 39 Credit Hours <sup>3</sup>
- Major concentration requirements 26-39 Credit Hours <sup>3</sup>

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level (typically 232) of the student's chosen language or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test. <sup>3</sup> Some of the courses required for the major complete Cluster Three of General Education. PHIL 101 is part of Cluster Two.

### Major Core Requirements

## Courses

PHYS 105. Foundations of Physics 1.00  
PHYS 247. Data Acquisition and Analysis Techniques II 1.00  
PHYS 260. University Physics III 3.00  
PHYS 270. Modern Physics I 4.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
MATH 237. Calculus III 4.00  
CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
PHYS 391. Seminar 0.00  
PHYS 392. Seminar 1.00  
PHYS 491-492. Physics Assessment and Seminar 0.00 - 1.00

Choose one of the following pairs of introductory courses: 6 Credit Hours  
PHYS 140. College Physics I [C3PP] 3.00 and PHYS 150. College Physics II 3.00 or PHYS 240. University Physics I [C3PP] 3.00 and PHYS 250. University Physics II 3.00

Choose one of the following pairs of lab courses: 2 Credit Hours  
PHYS 140L. General Physics Laboratory [C3PP] 1.00 and PHYS 150L. General Physics Laboratory 1.00 or PHYS 240L. University Physics Laboratory I [C3PP] 1.00 and PHYS 250L. University Physics Laboratory II 1.00

Choose one of the following: 4 Credit Hours  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
GEOL 110. Physical Geology [C3NS] 3.00

**Total: 39 Credit Hours**

## Program Concentrations

### Individual Option Concentration

The individual option is a course of studies chosen specifically to match the interest and career plans of the student. This option will allow custom designed cross disciplinary majors such as chemical physics, as well as majors designed for students whose educational and career goals are not met by the existing concentrations in the major.

A student electing the individual option must complete the core requirements for the B.S. in physics and will select a program consisting of a coherent collection of a minimum of 25 additional credits of physics courses numbered above 270, astronomy courses numbered above 301 and courses in related fields.

This individualized program must be selected in consultation with a faculty adviser in the department, and must be approved by that adviser, the department head and one other faculty member in the department. **The student needs to declare this concentration at least three semesters prior to graduation.**

The individualized program, as approved by the department and accepted by the student, becomes the major requirements for that student.

Students are expected to review progress toward completion of the selected program of study with their faculty adviser.

### Professional

Students in this concentration must complete the following courses in addition to core requirements:

#### Required Courses

MATH 238. Linear Algebra with Differential Equations 4.00  
PHYS 340. Mechanics 3.00  
PHYS 350. Electricity & Magnetism 3.00

Three credits chosen from PHYS courses at the 265-level or higher 3 Credit Hours

#### Additional Information

Students are expected to review progress toward completion of the selected program of study with their faculty adviser.

### Pre-Medical Preparation Track

Students pursuing the B.A. in physics and astronomy with a professional concentration may complete a track in pre-medical preparation. In addition to degree and General Education requirements, students complete the following courses.

#### First Year Courses

PHYS 105. Foundations of Physics 1.00  
PHYS 240. University Physics I [C3PP] 3.00  
PHYS 250. University Physics II 3.00  
MATH 235. Calculus I [C3QR] 4.00  
MATH 236. Calculus II 4.00  
CHEM 131. General Chemistry I [C3PP] 3.00  
CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
CHEM 132. General Chemistry II 3.00  
CHEM 132L. General Chemistry Laboratory 1.00

#### Second Year Courses

PHYS 247. Data Acquisition and Analysis Techniques II 1.00

PHYS 260. University Physics III 3.00  
PHYS 270. Modern Physics I 4.00  
MATH 237. Calculus III 4.00  
MATH 238. Linear Algebra with Differential Equations 4.00  
CHEM 241. Organic Chemistry I 3.00  
CHEM 242. Organic Chemistry II 3.00  
CHEM 242L. Organic Chemistry Laboratory 2.00

#### Third Year Courses

PHYS 340. Mechanics 3.00  
PHYS 350. Electricity & Magnetism 3.00  
PHYS 391. Seminar 0.00  
PHYS 392. Seminar 1.00

PHYS elective 265 or higher (PHYS 326 recommended)  
CHEM 361. Biochemistry I 3.00  
BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
BIO 150. Foundations of Biology II (3,3) 4.00

#### Fourth Year Courses

Two PHYS electives 265 or higher  
PHYS 491-492. Physics Assessment and Seminar 0.00 - 1.00  
Additional courses suggested by the Pre-professional Health program

## Astronomy Minor

### Minor Requirements

The minimum requirement for a minor in astronomy is 21 credit hours selected as follows:

#### Astronomy Minor Electives

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars 3.00  
ASTR 221. General Astronomy II: Star Systems, the Interstellar Medium, and Cosmology 4.00  
ASTR 320. Astronomical Techniques 3.00  
ASTR 330. Relativity 4.00 or PHYS 330. Relativity 4.00

#### Choose one of the following: 6 Credit Hours

PHYS 140. College Physics I [C3PP] 3.00 and PHYS 150. College Physics II 3.00  
PHYS 240. University Physics I [C3PP] 3.00 and PHYS 250. University Physics II 3.00

Choose one of the following: 2 Credit Hours

PHYS 140L. General Physics Laboratory [C3PP] 1.00 and

PHYS 150L. General Physics Laboratory 1.00 or PHYS 240L. University Physics Laboratory I [C3PP] 1.00 and PHYS 250L. University Physics Laboratory II 1.00

One course selected from the following: 3 Credit Hours

GEOL 272. Planetary Geology (2, 2) 3.00

ASTR 480. Astrophysics 3.00

HON 300Z. Life Beyond Earth

PHYS 297. Topics in Physics 1.00 - 4.00 or (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)

PHYS 397. Topics in Physics 1.00 - 4.00 or (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)

PHYS 497. Topics in Physics *1.00 - 4.00* (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)

ASTR 297. Topics in Astronomy *1.00 - 4.00* or (Appropriate topics could include the relativity, cosmology, cosmic rays or other astronomy-related topics with approval of minor adviser.)

**Total: 21 Credit Hours**

## ***Physics Minor***

### **Minor Requirements**

The minimum requirement for a minor in physics is 22 credit hours selected as follows:

#### *Physics Minor Electives*

PHYS 260. University Physics III *3.00*

*Choose one of the following: 6 Credit Hours*

PHYS 140. College Physics I [C3PP] *3.00* and

PHYS 150. College Physics II *3.00* or PHYS 240. University Physics I [C3PP]

*3.00* and PHYS 250. University Physics II *3.00*

*Choose one of the following: 2 Credit Hours*

PHYS 140L. General Physics Laboratory [C3PP] *1.00* and

PHYS 150L. General Physics Laboratory *1.00* or PHYS 240L. University Physics Laboratory I [C3PP] *1.00* and PHYS 250L. University Physics Laboratory II *1.00*

*Ten credits selected from the following: 10 Credit Hours*

Physics courses numbered above 260

ASTR 320. Astronomical Techniques *3.00*

ASTR 480. Astrophysics *3.00*

**Total: 22 Credit Hours**

### ***Physics Minor for Engineers***

Dr. Ioana Niculescu, **Coordinator**

**Phone:** (540) 568-2980 **Email:** niculemi@jmu.edu

The minor in physics for engineering students is a program that enables JMU undergraduate students majoring in engineering to take a minor in physics. Interested students will take courses in upper-level physics to explore physical phenomena related to their professional development as an engineer.

#### *Physics Minor for Engineers Electives*

PHYS 270. Modern Physics I *4.00*

PHYS course at the 300-level or above <sup>1</sup>

*Choose one of the following: 6 Credit Hours*

PHYS 140. College Physics I [C3PP] *3.00* and

PHYS 150. College Physics II *3.00* or PHYS 240. University Physics I [C3PP]

*3.00* and PHYS 250. University Physics II *3.00*

*Choose one of the following: 2 Credit Hours*

PHYS 140L. General Physics Laboratory [C3PP] *1.00* and

PHYS 150L. General Physics Laboratory *1.00* or PHYS 240L. University Physics Laboratory I [C3PP] *1.00* and

PHYS 250L. University Physics Laboratory II *1.00*

*Choose one of the following: 4 Credit Hours*

ENGR 313. Circuits and Instrumentation *4.00*

PHYS 360. Analog Electronics *4.00*

**Total: 19-20 Credit Hours**

### **Footnotes**

<sup>1</sup> May not include PHYS 360

# Department of Political Science

Dr. Jonathan W. Keller, **Department Head**

Phone: (540) 568-6149

Email: [kelle2jw@jmu.edu](mailto:kelle2jw@jmu.edu)

Location: Miller Hall, Room 2120

Website: <http://www.jmu.edu/polisci>

## Professors

M. Adams, J. Adolino, C. Blake, A. Broscheid, J. Byrne, J. Chen, K. Ferraiolo, S. Hammond, D. Jones, B. Kausler, J. Keller, H. Lubert, R. Roberts, K. Rutherford, J. Scherpereel, V. Sulfaro, Y. Yang

## Associate Professors

R. Alexander, M. Cohen, K. Crawford, J. Hulse, M. Jamal, T. LaPira, H. Lee, F. Mayhew, L. Peaslee, N. Swartz, A. Teye, K. Wylie

## Assistant Professors

K. Grant, J. Park, M. Richardson, J. Taylor

## Lecturer

E. Chisek

## Mission Statement

The Department of Political Science offers strong major and minor programs sharing a focus on public concerns. We are committed to providing our students with the tools and competence to succeed in their lives, their graduate education and their careers by instilling academic rigor, information access and research skills, dedication to life-long learning and respect for diversity in cultures, nations and institutions of democracy.

## Goals

To carry out the above mission, the Department of Political Science seeks to:

- Offer strong major programs: the B.A. in political science, the B.S. in public policy and administration and the B.A. in international affairs (cross disciplinary).
- Offer strong minor programs: political science, public policy & administration and political communication (cross disciplinary).
- Enhance critical thinking, communication and information gathering skills.
- Foster active learning through research, simulations and internships.

## Career Opportunities

The political science department offers programs that lead students to careers in the following fields:

- Administration and management
- Federal, state and local government
- International organizations
- Law
- Not-for-profit organizations
- Politics
- Private sector

To enhance the marketability of its students, the political science department supports career-related internships. For information contact the political science office, Miller Hall, Room 2120, (540)568-6149 or contact the internship coordinator, Dr. Jennifer Taylor ([taylo2ja@jmu.edu](mailto:taylo2ja@jmu.edu)).

## Co-curricular Activities and Organizations

- Pi Alpha Alpha: public administration honor society
- Pi Sigma Alpha: political science honor society
- Pre-Law Society
- Sigma Iota Rho: international affairs honor society
- PASO: JMU Public Affairs Student Organization

## Majors in the Department of Political Science

The Department of Political Science offers the B. A. degree with a major in political science, the B.S. degree with a major in public policy and administration and the B.A. degree with a major in international affairs.

### *Political Science, B.A.*

## Majors in the Department of Political Science

The Department of Political Science offers the B. A. degree with a major in political science, the B.S. degree with a major in public policy and administration and the B.A. degree with a major in international affairs.

**Coordinator:** Dr. Scott Hammond

**Location:** Miller Hall, Room 2127

**Email:** [hammonsj@jmu.edu](mailto:hammonsj@jmu.edu)

**Phone:** (540) 568-6313

For a major in political science, the student must satisfactorily complete a minimum of 39 credit hours, including:

- A 17-hour core introducing students to the conduct of political inquiry in the major areas of the discipline, an awareness of global issues and cultural diversity, and the techniques of original research.
- An 18-hour depth requirement in which students take at least one course from three of the major areas of political inquiry and acquire additional experience in the application of research techniques.
- A four-hour capstone experience designed to bring together knowledge gained in different courses into a coherent whole, to foster a capacity for lifelong learning, to connect the major to experiences outside the university and to provide the opportunity to work individually with a faculty member.

## Degree and Major Requirements

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *25-36 Credit Hours*
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 credit hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language's placement test.

## Major Requirements

### Core Requirements

- POSC 225. U.S. Government [C4AE] 4.00  
POSC 201. Introduction to Western Political Theory 3.00

- POSC 295. Research Methods 4.00 <sup>1</sup>  
POSC 230. International Relations 3.00  
POSC 240. Comparative Politics 3.00

### Footnotes

<sup>1</sup> MATH 220, POSC 225 and either POSC 230 or PPA 265 are prerequisites for POSC 295.

## Electives

In addition to the core requirements, political science majors must elect 18 hours of approved courses as shown, including at least one upper-level course from each of the three major areas of political inquiry. Students are encouraged to complete the core requirements before taking elective courses. A political science major may seek permission to count a completed Senior Honors Project as a three-credit elective within the major. Students must consult with the political science program coordinator prior to conducting an honors project to clarify the specific nature of its potential applicability to the major's elective options.

### Choose one course from each of the four areas: 12 Credit Hours

#### *Comparative Politics*

- POSC 340. Politics of Development 3.00  
POSC 341. Social Movements in the U.S. and Abroad 3.00  
POSC 344. Politics of the European Union 3.00  
POSC 345. Politics of Western Europe 3.00  
POSC 346. Politics of Central and Eastern Europe 3.00  
POSC 347. Comparative Public Policy 3.00  
POSC 348. The Politics of Cultural Pluralism 3.00  
POSC 350. Latin American Politics 3.00  
POSC 353. African Politics 3.00  
POSC 354. Politics of the Middle East 3.00  
POSC 355. East Asian Politics 3.00  
POSC 356. Politics of China 3.00  
POSC 371. Topics in Comparative Politics 3.00  
POSC 383. Women and Politics in Comparative Perspective 3.00 or WGSS 383.  
Women and Politics in Comparative Perspective 3.00  
POSC 440. Post-Conflict Societies 3.00  
POSC 457. Comparative Empires 3.00 or HIST 457. Comparative Empires 3.00

#### *International Relations*

- POSC 331. Human Rights in Theory and Practice 3.00 or JUST 331. Human  
Rights in Theory and Practice 3.00  
POSC 361. Topics in International Relations 3.00  
POSC 370. U.S. Foreign Policy 3.00  
POSC 372. Ethics and International Politics 3.00 or JUST 372. Ethics and  
International Politics 3.00  
POSC 392. Peace Studies 3.00 or JUST 392. Peace Studies 3.00  
POSC 393. Human Security 3.00  
POSC 394. International Conflict 3.00  
POSC 395. International Law 3.00  
POSC 396. International Organizations 3.00  
POSC 397. The Politics of International Economic Relations 3.00  
POSC 430. International Security and Conflict Management 3.00  
POSC 435. International Terrorism 3.00  
POSC 458. International Political Analysis 3.00

#### *Political Theory*

- POSC 310. Political Theory: Ancient to Early Modern 3.00  
POSC 315. Political Theory: Early Modern to the 19th Century 3.00  
POSC 316. Contemporary Political Theory 3.00  
POSC 321. Political Theory and Ideology 3.00  
POSC 330. American Political Thought 3.00

- POSC 333. American Political Thought II: Civil War to the Present 3.00  
POSC 334. Political Thought of James Madison 3.00  
POSC 381. Topics in Political Theory 3.00

#### *American Government*

- POSC 302. State & Local Gov 3.00  
POSC 325. Constitutional Law 3.00  
POSC 326. Civil Rights 3.00  
POSC 351. Topics in American Politics 3.00  
POSC 362. Political Behavior 3.00  
POSC 364. Political Parties in America 3.00  
POSC 365. American Political Campaigning 3.00  
POSC 367. U.S. Immigration Politics and Policy 3.00  
POSC 368. Interest Groups, Lobbying and Public Policy 3.00  
POSC 369. Elections and Voting Behavior 3.00  
POSC 380. The U.S. Presidency 3.00  
POSC 382. The Role of Religion in American Politics 3.00  
POSC 384. Minority Group Politics 3.00  
POSC 385. The U.S. Congress 3.00  
POSC 386. The U.S. Judiciary 3.00  
POSC 387. The Appellate Process and Practice 3.00  
POSC 472. Media and Politics 3.00

#### *Two additional electives chosen from the 300 or 400 level: 6 Credit Hours*

For three of these six credit hours, students may also take one of the following courses:

- POSC 200. Global Politics [C4GE] 3.00  
POSC 300. Politics and Film 3.00  
POSC 301W. The Washington Semester Experience 3.00  
POSC 391. Topics in Public Policy 3.00  
POSC 398. Simulations 3.00  
POSC 493. Political Communication Internship 4.00  
POSC 493W. Political Communication Internship in Washington 6.00  
POSC 495. Internship in Political Science 4.00  
POSC 495W. Washington Semester Internship in Political Science 6.00  
PPA 200. Introduction to Public Policy 3.00  
PPA 265. Public Administration 3.00

#### *Senior Capstone*

Students should fulfill the senior capstone requirement for each major and minor separately. This means that senior experiences completed for one major or minor cannot normally be counted for another. Students who have questions about a particular situation should see the academic unit head or appropriate academic unit coordinator for clarification.

- POSC 492. Senior Seminar in Political Science 4.00 <sup>2</sup>

### Footnotes

<sup>2</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

## ***Public Policy and Administration, Bachelor of Science, B.S.***

The major in public policy and administration provides students with a general foundation in the nature of public policy, the public workplace and its political, legal and managerial environments. This major prepares students for professional employment and leadership in government and nonprofit organizations. The program consists of a core of courses offering general knowledge essential for understanding and working in the public arena. This core provides students with an appreciation of the political culture and economic environment of public work, measurement techniques and a basic understanding of the policy process.

Students are offered a choice between two concentration options: public policy or public management.

In addition, courses in both concentrations heighten students' critical, analytical and communication skills through case studies, exercises and the intensive writing requirement. The public policy concentration requires a senior seminar experience that seeks to bring policy theory and analytical skills to bear on a practical issue of public policy. Public management students must complete the dual capstone requirements of a public management seminar and an internship, requiring an integration of knowledge from both general studies and major studies by focusing students on specific cases and workplace applications.

Because the public policy and administration major develops techniques and skills applicable to varied career paths in public service, students are encouraged to choose a complementary minor with a narrower, substantive focus. The minors recommended for students' consideration include criminal justice, environmental information systems, environmental management, environmental studies, family studies, gerontology, health information systems, nonprofit studies, political communication, substance abuse intervention,

telecommunications, urban and regional studies, communication studies, conflict analysis and intervention, sociology, technical and scientific communication, economics, human resource development, computer science, public health and integrated science and technology.

Interested students may apply to participate in the Fifth Year Master of Public Administration degree program, which allows qualified students to earn an M.P.A. degree with one additional year of study. Students should apply for this program in their sophomore year. See the Graduate Catalog for more information.

## Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Quantitative requirement *3 Credit Hours*<sup>2,3</sup>
- Scientific Literacy requirement *3 Credit Hours*<sup>2</sup>
- University electives *34 Credit Hours*
- Major requirements (listed below) *39 Credit Hours*

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirements.

<sup>3</sup> For this requirement, public policy and administration majors should take MATH 220, the prerequisite for POSC 295, a required core course in the major. Total: 120 Credit Hours

## Major Requirements

### Core Requirements

POSC 225. U.S. Government [C4AE] *4.00*  
ECON 200. Introduction to Macroeconomics [C4GE] *3.00*  
PPA 200. Introduction to Public Policy *3.00*

PPA 265. Public Administration *3.00*  
POSC 295. Research Methods *4.00*<sup>1</sup>

**Total: 17 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

## Public Management Concentration

In the public policy concentration students acquire knowledge of the nature, dynamics, implementation and substance of public policy and its analysis. Courses address:

- Policy processes.
- Techniques for analyzing policy options.
- Dynamics and substance of particular policy issues.

The public management concentration emphasizes management and management-related skills. Courses address:

- The legal environment of public work.
- Organization theories.
- Management theories and applications.
- Management best practices.

### Core Requirements: 17 Credit Hours

*Required Concentration Courses: 12 Credit Hours*

ACTG 244. Accounting for Non-Business Majors *3.00*  
MGT 365. Fundamentals of Human Resource Management *3.00*  
PPA 381. Budgetary Process *3.00*  
PPA 415. Legal Environment of Public Administration *3.00*  
*Process, Issue and Application course (choose one): 3 Credit Hours*  
GEOG 215. Introduction to Geographic Information Science and Cartography *3.00*  
GEOG 216. Earth Observation and GPS *3.00*  
GEOG 344. Globalization and Development *3.00*  
GEOG 345. Geography of Poverty *3.00*  
NPS 300. Introduction to Nonprofits *3.00*

PPA 460. Regionalism and Urban Management *3.00*  
PPA 461. Education and Social Policy *3.00*  
PPA 462. Social Welfare and Local Government Policy *3.00*  
PPA 470. Nonprofit Management and Leadership *3.00*  
PPA 472. Contract Management *3.00*  
PPA 483. Special Topics in Public Management *3.00*  
PPA 484. Environmental Regulatory Policy and Politics *3.00*  
SCOM 350. Organizational Communication *3.00*  
Approved WRTC course (Consult the PPA coordinator.)  
Required Capstone Courses: 7 Credit Hours  
PPA 420. Public Management *3.00*<sup>1</sup>  
PPA 496. Internship in Public Management *4.00*<sup>2</sup>

### Footnotes

<sup>1</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>2</sup> Students may substitute PPA 496W for either PPA 494 or PPA 496 with the approval of the PPA coordinator.

## Public Policy Concentration, B.S.

**Coordinator:** Dr. Liliokanaio Peaslee

**Location:** Miller Hall, Room 2167

**Email:** [peaslee@jmu.edu](mailto:peaslee@jmu.edu)

**Phone:** (540) 568-5829

In the public policy concentration students acquire knowledge of the nature, dynamics, implementation and substance of public policy and its analysis. Courses address:

- Policy processes.
- Techniques for analyzing policy options.
- The dynamics and substance of particular policy issues.

The public management concentration emphasizes management and management-related skills. Courses address:

- The legal environment of public work.
- Organization theories.
- Management theories and applications.
- Management best practices.

## Public Policy Concentration Requirements

### Core Requirements: 17 Credit Hours

*Required Course: 3 credits*

PPA 359. Policy Analysis *3.00*  
*Choose two of the following: 6 Credit Hours*  
POSC 302. State & Local Gov *3.00*  
POSC 351. Topics in American Politics *3.00*  
POSC 368. Interest Groups, Lobbying and Public Policy *3.00*  
POSC 380. The U.S. Presidency *3.00*  
POSC 385. The U.S. Congress *3.00*  
POSC 386. The U.S. Judiciary *3.00*  
PPA 412. Seminar in Intergovernmental Relations *3.00*  
*Choose three substantive policy electives from the following: 9-10 Credit Hours*  
POSC 347. Comparative Public Policy *3.00*

POSC 367. U.S. Immigration Politics and Policy *3.00*  
POSC 391. Topics in Public Policy *3.00*  
POSC 397. The Politics of International Economic Relations *3.00*  
PPA 460. Regionalism and Urban Management *3.00*  
PPA 461. Education and Social Policy *3.00*  
PPA 462. Social Welfare and Local Government Policy *3.00*  
PPA 482. Special Topics in Public Policy *3.00*  
PPA 484. Environmental Regulatory Policy and Politics *3.00*  
Approved ISAT course (Consult the PPA coordinator)  
*Senior Capstone: 4 Credit Hours*  
PPA 492. Senior Seminar in Public Policy *4.00*<sup>3,4</sup>

### Footnotes

<sup>3</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>4</sup> Students should fulfill the senior capstone requirement for each major and minor separately. This means that senior experiences completed for one major or minor cannot normally be counted for another. Students who have questions about a particular situation should see the department head or appropriate department coordinator for clarification.

Total: 39–40 Credit Hours

### ***Political Science Minor***

A student may minor in political science by completing 19 credit hours of approved courses from the following list. Check with the department office for department availability of the minor.

#### **Courses**

POSC 201. Introduction to Western Political Theory 3.00

POSC 225. U.S. Government [C4AE] 4.00

**Choose one upper-level American government course: 3 Credit Hours**

POSC 300. Politics and Film 3.00

POSC 301W. The Washington Semester Experience 3.00

POSC 302. State & Local Gov 3.00

POSC 325. Constitutional Law 3.00

POSC 326. Civil Rights 3.00

POSC 351. Topics in American Politics 3.00

POSC 362. Political Behavior 3.00

POSC 364. Political Parties in America 3.00

POSC 365. American Political Campaigning 3.00

POSC 367. U.S. Immigration Politics and Policy 3.00

POSC 368. Interest Groups, Lobbying and Public Policy 3.00

POSC 369. Elections and Voting Behavior 3.00

POSC 380. The U.S. Presidency 3.00

POSC 382. The Role of Religion in American Politics 3.00

POSC 384. Minority Group Politics 3.00

POSC 385. The U.S. Congress 3.00

POSC 386. The U.S. Judiciary 3.00

POSC 387. The Appellate Process and Practice 3.00

POSC 472. Media and Politics 3.00 or SCOM 472. Media and Politics 3.00 or SMAD 472. Media and Politics 3.00

**Elective chosen from 300 level courses listed above or from the following: 3 Credit Hours**

PPA 200. Introduction to Public Policy 3.00

PPA 265. Public Administration 3.00

POSC 200. Global Politics [C4GE] 3.00

POSC 310. Political Theory: Ancient to Early Modern 3.00

POSC 315. Political Theory: Early Modern to the 19th Century 3.00

POSC 316. Contemporary Political Theory 3.00

POSC 321. Political Theory and Ideology 3.00

POSC 330. American Political Thought 3.00

POSC 333. American Political Thought II: Civil War to the Present 3.00

POSC 334. Political Thought of James Madison 3.00

POSC 381. Topics in Political Theory 3.00

POSC 391. Topics in Public Policy 3.00

#### **Choose Option One or Option Two: 6 Credit Hours**

*Option One:*

POSC 230. International Relations 3.00

*Choose one of the following:*

POSC 331. Human Rights in Theory and Practice 3.00 or JUST 331. Human Rights in Theory and Practice 3.00

POSC 361. Topics in International Relations 3.00

POSC 370. U.S. Foreign Policy 3.00

POSC 372. Ethics and International Politics 3.00 or JUST 372. Ethics and International Politics 3.00

POSC 392. Peace Studies 3.00 or JUST 392. Peace Studies 3.00

POSC 393. Human Security 3.00

POSC 395. International Law 3.00

POSC 396. International Organizations 3.00

POSC 397. The Politics of International Economic Relations 3.00

POSC 430. International Security and Conflict Management 3.00

POSC 435. International Terrorism 3.00

POSC 458. International Political Analysis 3.00

*Option Two:*

POSC 240. Comparative Politics 3.00

*Choose one of the following:*

POSC 340. Politics of Development 3.00

POSC 341. Social Movements in the U.S. and Abroad 3.00

POSC 344. Politics of the European Union 3.00

POSC 345. Politics of Western Europe 3.00

POSC 346. Politics of Central and Eastern Europe 3.00

POSC 347. Comparative Public Policy 3.00

POSC 348. The Politics of Cultural Pluralism 3.00

POSC 350. Latin American Politics 3.00

POSC 353. African Politics 3.00

POSC 354. Politics of the Middle East 3.00

POSC 355. East Asian Politics 3.00

POSC 356. Politics of China 3.00

POSC 371. Topics in Comparative Politics 3.00

POSC 383. Women and Politics in Comparative Perspective 3.00 or WGSS 383. Women and Politics in Comparative Perspective 3.00

POSC 440. Post-Conflict Societies 3.00

**Total: 19 Credit Hours**

### ***Public Policy and Administration Minor***

The minor in public policy and administration seeks to give students a foundation in the nature and practice of public policy and public administration. Students get exposure to the application of policy and administration by doing an internship capstone course. The minor in public policy and administration requires 20 credit hours of course work.

#### **Courses**

POSC 225. U.S. Government [C4AE] 4.00

PPA 200. Introduction to Public Policy 3.00

PPA 265. Public Administration 3.00

**Public Policy: 3 Credit Hours**

*Choose one:*

POSC 367. U.S. Immigration Politics and Policy 3.00

PPA 460. Regionalism and Urban Management 3.00

PPA 461. Education and Social Policy 3.00

PPA 462. Social Welfare and Local Government Policy 3.00

PPA 483. Special Topics in Public Management 3.00 Emerging Issues in Public Administration <sup>1</sup>

PPA 484. Environmental Regulatory Policy and Politics 3.00

**Public Administration: 3 Credit Hours**

*Choose one of the following:*

MGT 365. Fundamentals of Human Resource Management 3.00

PPA 381. Budgetary Process 3.00

PPA 415. Legal Environment of Public Administration 3.00

PPA 420. Public Management 3.00

PPA 483. Special Topics in Public Management 3.00 Emerging Issues in Public Administration <sup>2</sup>

*Required Capstone: 4 Credit Hours*

PPA 496. Internship in Public Management 4.00

**Total: 20 Credit Hours**

#### **Footnotes**

<sup>1</sup> When PPA 483 is a policy-related course. <sup>2</sup> When PPA 483 is an administration-related course.



# Pre-Professional Health Advising

Dr. Sharon Babcock, **Director**

**Phone:** (540) 568-6652 **Email:** pph@jmu.edu

**Website:** <http://www.jmu.edu/pph>

Pre-professional health (PPH) advisory programs outline recommended courses, activities and competencies for students who are preparing for careers in health professions that require masters or doctoral education. PPH programs are advisory; they are not undergraduate majors, minors, concentrations or tracks.

Health profession schools are most concerned with the overall scope and quality of an applicant's undergraduate performance. Students are encouraged to select a major based on interests and aptitudes. Regardless of baccalaureate degree program, competitive applicants must demonstrate excellence in academic accomplishments, prerequisite course work, career exploration, health-related experience, community service and standardized admission tests, as well as intra- and inter-personal competencies. Students are encouraged to establish mentoring relationships with faculty, clinical mentors and supervisors. Pre-professional health advisers are available to assist students in making academic and career-related decisions. Planning and evaluation services are available for students and alumni during the application process to health profession schools.

Service in the community and experience in health-care settings are highly recommended to students considering a professional health career. Requirements for these types of activities vary among programs; students should inquire with their respective program adviser for guidance. Student organizations provide venues to participate in community service and to interact with health professionals; thus, students are encouraged to become involved in the American Medical Student Association, Pre-Dental Society, Pre-Med Association, Pre-Occupational Therapy Association, Pre-Optometry Club, Pre-Pharmacy Society, Pre-Physical Therapy Society, Pre-Physician Assistant Club, Pre-Vet Society, International Service Learning Club, The Huber Connection and The Institute for Healthcare Improvement.

Pre-professional health course work recommendations are intended as guidelines. The courses outlined below fulfill the admission requirements of many, but not all, professional programs. Since professional schools have unique requirements, students must inquire with schools of interest for definitive admissions requirements.

## Pre-Dentistry

Pre-professional health advisory programs do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

### Additional Information

Requirements for the pre-dentistry program are based on the prerequisite courses of 16 dental schools in 10 states (CT, GA, MA, MD, NC, NY, OH, PA, SC and VA) and the District of Columbia. Students should review individual dental schools' prerequisites to assure completion of all prerequisite course work.

#### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 242L. Organic Chemistry Laboratory 2.00

CHEM 361. Biochemistry I 3.00

PHYS 140. College Physics I [C3PP] 3.00

PHYS 140L. General Physics Laboratory [C3PP] 1.00

PHYS 150. College Physics II 3.00

PHYS 150L. General Physics Laboratory 1.00

*Intermediate and advanced BIO coursework: 16 Credit Hours*

Recommend choosing from:

BIO 240. Genetics (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00

BIO 290. Human Anatomy (3, 3) 4.00

BIO 370. Animal Physiology (3, 3) 4.00

BIO 482. Human Histology (3, 3) 4.00

*English: 6 Credit Hours*

Composition and Literature (WRTC 103, and any ENG or HUM 200)

*Mathematics: 6 Credit Hours*

*Recommend one course in statistics and one course in calculus*

*Behavioral (PSYC) or social science (SOC): 3 Credit Hours*

## Pre-Medicine

### Special Admission Requirements

The pre-medicine program at JMU outlines a set of courses, activities and competencies that commonly serve as prerequisites for admission to doctoral-level programs in medicine (M.D. and D.O.). Strong candidates for medical school must demonstrate excellence in the sciences, thinking and reasoning skills, intrapersonal and interpersonal competencies, and involvement in meaningful extracurricular activities related to medicine.

For pre-medicine students, excellence in academic preparation encompasses completion of requirements for a selected major program of study, a strong foundation in the sciences (biology, chemistry, physics, psychology and sociology) and mathematics, as well as success in advanced course work. With basic science preparation, students in any major are equally prepared for acceptance to medical school. Access to timely information and appropriate guidance is an increasingly important element of a pre-med student's academic preparation and development.

### Declaring Pre-Medicine

Incoming first year and transfer students can declare pre-medicine without verification from Pre-Professional Health Advising. Current students will need to submit a declaration request form to Pre-Professional Health Advising. Declaration requests from current students who have completed 13 or more credit hours in biology, chemistry, physics and math at JMU will be approved only if the student's overall GPA and science GPA (biology, chemistry, physics and math) are 3.00 or above.

### Access to Pre-Medicine Advising

Declared pre-medicine students have access to pre-medicine advising. Once students complete 13 or more credit hours in biology, chemistry, physics and/or math course work at JMU, they will be subject to performance queries twice a year. Students who achieve and/or maintain an overall GPA and a science GPA (biology, chemistry, physics and math) of 3.00 or above retain access to advising with emphasis on excellence in advanced course work, intrapersonal and interpersonal competencies, leadership, research, service, and health-related experience.

Students whose performance queries reveal an overall GPA < 3.00 and/or a BCPM GPA < 3.00 are at very high risk of not being admitted to medical school. Targeted advising will focus on developing academic skills and career exploration. Those who are unable to attain or maintain an overall GPA and a BCPM GPA of 3.00 or above will have the pre-medicine declaration administratively dropped. Since the pre-medicine program is not a major this action will have no impact on a student's degree program.

Students who wish to re-enter the pre-medicine program may re-declare if their overall GPA and BCPM GPA are both above 3.00. This standard will apply to students who either requested to drop the pre-medicine program voluntarily or were dropped administratively.

### Additional Information

Requirements for the pre-medicine minor are based on the MCAT, successful medical applicant profiles and regional scans of medical schools' prerequisites. Students should review individual medical schools' prerequisites to assure completion of all prerequisite course work.

#### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00  
 CHEM 241. Organic Chemistry I 3.00  
 CHEM 242. Organic Chemistry II 3.00  
 CHEM 242L. Organic Chemistry Laboratory 2.00  
 CHEM 361. Biochemistry I 3.00  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00  
 PHYS 150L. General Physics Laboratory 1.00  
*Intermediate and advanced BIO course work: 12 Credit Hours*  
 Recommend choosing from:  
 BIO 240. Genetics (3,3) 4.00  
 BIO 245. General Microbiology (3, 3) 4.00  
 BIO 370. Animal Physiology (3, 3) 4.00  
 and cell biology  
*English: 6 Credit Hours*  
 Composition and Literature (WRTC 103 and any ENG or HUM 200)

### ***Pre-Occupational Therapy***

Pre-professional health advisory programs do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

#### **Additional Information**

Requirements for the Pre-Occupational Therapy (OT) Program based on pre-requisite courses of 52 OT schools in 8 states (CT, MA, MD, NC, NJ, NY, PA, and VA) and the District of Columbia. Students should review individual OT schools' pre-requisites to assure completion of all pre-requisite coursework.

##### **Courses**

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
 BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00  
 CHEM 120. Concepts of Chemistry [C3PP] 3.00 or CHEM 131. General Chemistry I [C3PP] 3.00 and CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 HTH 210. Medical Terminology 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PSYC 101. General Psychology [C5SD] 3.00  
 PSYC 160. Life Span Human Development [C5SD] 3.00  
 PSYC 250. Introduction to Abnormal Psychology 3.00  
*Social science: 3 Credit Hours*

*Calculus: 3-4 Credit Hours*

Choose from:

MATH 205. Introductory Calculus I [C3QR] 3.00  
 MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 235. Calculus I [C3QR] 4.00  
*Behavioral (PSYC) and social science (SOC): 9 Credit Hours*  
 Choose from:  
 PSYC 101. General Psychology [C5SD] 3.00  
 PSYC 160. Life Span Human Development [C5SD] 3.00  
 PSYC 308. Health Psychology 3.00  
 SOCI 110. Social Issues in a Global Context [C4GE] 3.00  
 SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00  
 SOCI 375. Medical Sociology 3.00  
 SOCI 385. Madness and Society: the Sociology of Mental Health and Illness 3.00  
 ANTH 360. Medical Anthropology 3.00 (C)  
*Recommended elective (not required):*  
 PHIL 120. Critical Thinking [C1CT] 3.00

Choose from:

SOCI 110. Social Issues in a Global Context [C4GE] 3.00  
 SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00  
*Recommended electives (not required):*  
*Introductory biology: 3-4 Credit Hours*  
 BIO 103. Contemporary Biology (3, 0) [C3NS] 3.00  
 BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
*Ethics: One Course*  
 HTH 423. Ethics and Critical Thinking in Health 3.00  
 IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00  
 NSG 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach 1.00  
 PHIL 150. Ethical Reasoning [C1CT] 3.00

### ***Pre-Optometry***

Pre-professional health advisory programs do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

#### **Additional Information**

Requirements for the Pre-Optometry Program are based on the American Optometric Association's Directory of Accredited Programs to review pre-requisite courses listed as each accredited program's website. Students should review individual optometry schools' pre-requisites to assure completion of all pre-requisite coursework.

##### **Courses**

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
 BIO 150. Foundations of Biology II (3,3) 4.00  
 BIO 245. General Microbiology (3, 3) 4.00  
 BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00  
 CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 CHEM 241. Organic Chemistry I 3.00  
 CHEM 242. Organic Chemistry II 3.00  
 CHEM 242L. Organic Chemistry Laboratory 2.00  
 CHEM 361. Biochemistry I 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00

PHYS 150L. General Physics Laboratory 1.00

PSYC 101. General Psychology [C5SD] 3.00

English, Literature and Writing Coursework (WRTC 103, ENG or HUM 200) 6  
*Credit Hours*

Intermediate or advanced BIO coursework: 4 Credit Hours

Recommend choosing from:

BIO 240. Genetics (3,3) 4.00  
 BIO 343. Immunology (3, 0) 3.00  
 BIO 482. Human Histology (3, 3) 4.00  
 and cell biology  
 Calculus: 3-4 Credit Hours  
 Choose from:  
 MATH 205. Introductory Calculus I [C3QR] 3.00  
 MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 235. Calculus I [C3QR] 4.00

### ***Pre-Pharmacy***

Pre-professional health advisory programs do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

##### **Courses**

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00

BIO 270. Human Physiology (3, 2) [C3NS] 4.00  
 BIO 290. Human Anatomy (3, 3) 4.00  
 CHEM 131. General Chemistry I [C3PP] 3.00  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00  
 CHEM 132. General Chemistry II 3.00  
 CHEM 132L. General Chemistry Laboratory 1.00  
 CHEM 241. Organic Chemistry I 3.00  
 CHEM 242. Organic Chemistry II 3.00  
 CHEM 242L. Organic Chemistry Laboratory 2.00  
 CHEM 361. Biochemistry I 3.00  
 MATH 220. Elementary Statistics [C3QR] 3.00  
 PHYS 140. College Physics I [C3PP] 3.00  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00  
 PHYS 150. College Physics II 3.00  
 PHYS 150L. General Physics Laboratory 1.00  
*Intermediate or advanced BIO coursework: 4 Credit Hours*  
 Recommend choosing from:  
 BIO 240. Genetics (3,3) 4.00  
 BIO 343. Immunology (3, 0) 3.00  
 BIO 480. Advanced Molecular Biology (2, 5) 4.00  
 and cell biology  
*Calculus: 3-4 Credit Hours*  
 Choose from:  
 MATH 205. Introductory Calculus I [C3QR] 3.00

MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 235. Calculus I [C3QR] 4.00  
*Public speaking: 3 Credit Hours*  
 Choose from:  
 SCOM 121. Fundamental Human Communication: Presentations [C1HC] 3.00  
 SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] 3.00  
*English:*  
 Literature and Writing Coursework (WRTC 103, ENG or HUM 200) 6 Credit Hours  
*Behavioral science: 3 Credit Hours*  
 Choose from:  
 PSYC 101. General Psychology [C5SD] 3.00  
 PSYC 160. Life Span Human Development [C5SD] 3.00  
*Social science: 3 Credit Hours*  
 Choose from:  
 SOCI 110. Social Issues in a Global Context [C4GE] 3.00  
 SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00  
*Economics: 3 Credit Hours*  
 Choose from:  
 ECON 201. Introduction to Microeconomics 3.00  
 ECON 200. Introduction to Macroeconomics [C4GE] 3.00  
*Recommended elective (not required):*  
 CHEM 366L. Biochemistry Laboratory 2.00

## Pre-Physical Therapy

Pre-professional health programs do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

### Declaring Pre-Physical Therapy

Incoming freshmen and transfer students can declare pre-PT without verification from PPH Advising. Neither group will be subject to monitoring until they have completed 10 hours of the defined prerequisite courses. AP, dual enrollment and transfer credit hours are not included in the progression standards.

Current JMU students can request declaration of pre-PT but will need approval for the request to be granted. If the student has completed fewer than 10 hours of the prerequisite credits the request will be granted after verification of course work. If the student has completed 10 hours or more of the prerequisite credits, the request will be granted only if the cumulative GPA is 3.0 or greater and the prerequisite GPA is 2.7 or greater.

### Access to Pre-Physical Therapy Advising

Students who progress successfully will have access to advising as they move through their program. Entry level advising is targeted for students who have not yet completed 10 hours of the prerequisite list (indicated below) and will be done mainly in group settings or via group electronic communication. Once students have completed 10 hours of the prerequisite list, they become subject to twice yearly review of their academic progress. Performance queries will be conducted after summer and fall semester grades are posted. If the review indicates successful progress, they will be invited to benchmark advising activities. These events target students who are progressing but are not yet at the point of preparing an application. Topics include learning about different PT programs, deciding where to apply and discussing fulfillment of non-academic requirements/recommendations (shadowing, volunteering). Assuming continued progress, students will reach the applicant stage (typically spring of the junior year), during which they will be invited to participate in an application workshop.

Pre-PT students who fall below the standard of a 3.0 cumulative GPA and a 2.7 prerequisite GPA are at high risk of not being admitted to a PT program. Targeted advising for these students focuses on improving/developing academic skills as well as career exploration. Once they have participated in such advising, it will be incumbent upon them to improve their performance such that they attain and maintain the GPA standard. If students fall below the standard in a subsequent performance review, their pre-PT designation will be administratively dropped. This action will not impede a student from applying to PT programs, nor will it have any impact on a student's degree program as the pre-PT designation is not a major.

Students who wish to re-enter the pre-PT program can do so as long as they meet the GPA standard (3.0 or greater cumulative GPA and 2.7 or greater prerequisite GPA). This applies to students who may have voluntarily dropped the pre-PT designation as well as to those who were administratively dropped.

### Additional Information

Requirements for the Pre-Physical Therapy (PT) Program are based on the Physical Therapy Centralized Application Service (PTCAS) program prerequisite summary. Students should review individual physical therapy schools' pre-requisites to assure completion of all pre-requisite coursework.

#### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
 BIO 150. Foundations of Biology II (3,3) 4.00  
 BIO 270. Human Physiology (3, 2) [C3NS] 4.00<sup>1</sup>  
 BIO 290. Human Anatomy (3, 3) 4.00<sup>1</sup>  
 CHEM 131. General Chemistry I [C3PP] 3.00<sup>1</sup>  
 CHEM 131L. General Chemistry Laboratory [C3PP] 1.00<sup>1</sup>  
 CHEM 132. General Chemistry II 3.00<sup>1</sup>  
 CHEM 132L. General Chemistry Laboratory 1.00<sup>1</sup>  
 MATH 220. Elementary Statistics [C3QR] 3.00<sup>1</sup>  
 PHYS 140. College Physics I [C3PP] 3.00<sup>1</sup>  
 PHYS 140L. General Physics Laboratory [C3PP] 1.00<sup>1</sup>  
 PHYS 150. College Physics II 3.00<sup>1</sup>  
 PHYS 150L. General Physics Laboratory 1.00<sup>1</sup>  
 English, Literature and Writing Coursework (WRTC 103, ENG or HUM 200) 6  
*Credit Hours*<sup>1</sup>  
*Behavioral science: 6 Credit Hours*  
 Complete at least two of the following:

PSYC 101. General Psychology [C5SD] 3.00<sup>2</sup>  
 PSYC 160. Life Span Human Development [C5SD] 3.00<sup>2</sup>  
 PSYC 250. Introduction to Abnormal Psychology 3.00<sup>2</sup>  
*Required elective: 3-4 credit hours*  
 Complete at least one of the following:  
 HTH 210. Medical Terminology 3.00  
 KIN 302. Exercise Physiology 3.00  
 HTH 441. Biomechanics for the Healthcare Professional 3.00 or KIN 407.  
 Rehabilitative Biomechanics 3.00  
 KIN 306. Human Biomechanics 3.00  
 BIO 490. Mechanics of Animal Movement (3, 3) 4.00  
*Recommended Electives (not required):*  
 SOCI 110. Social Issues in a Global Context [C4GE] 3.00  
*Calculus: 3-4 Credit Hours*  
 Choose from:  
 MATH 205. Introductory Calculus I [C3QR] 3.00  
 MATH 231. Calculus with Functions I [C3QR] 3.00  
 MATH 235. Calculus I [C3QR] 4.00

## Footnotes

<sup>1</sup> Course grade used for progression standards. <sup>2</sup> Course grade in one PSYC course used for progression standards.

## Pre-Physician Assistant

Pre-professional health minors do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

### Declaring Pre-Physician Assistant

Incoming first year and transfer students can declare the pre-physician assistant minor without verification from PPH Advising. Current students can request declaration but will need approval. If the student has completed fewer than 12 credit hours in biology and chemistry at JMU, the request will be granted after verification of course work. If the student has completed 12 or more credit hours in biology and chemistry at JMU, the request will be approved only if the student's overall GPA is 3.00 or greater and the BC (biology, chemistry) GPA is 2.70 or greater.

### Access to Pre-Physician Assistant Advising

Students who progress successfully will have access to advising as they move through the minor. Entry-level advising is targeted for students who have not yet completed 12 hours of biology and chemistry course work and will be done mainly in group settings and via electronic communication. Students who have completed 12 or more credit hours in biology and chemistry course work are subject to twice yearly review of their academic progress. Performance queries will be conducted after summer and fall semester grades are posted.

Students who maintain an overall GPA of 3.00 or above and a BC GPA of 2.70 or above retain access to advising with emphasis on excellence in advanced course work, intrapersonal and interpersonal competencies, leadership, research, service and health-related experience.

Students whose performance falls below the standard of a 3.00 overall GPA and BC GPA are at high risk of not being admitted to PA school. Targeted advising for these students focuses on improving academic skills and career exploration. If a student falls below the standard in subsequent performance reviews, the pre-physician assistant minor will be administratively dropped.

Students who wish to re-enter the pre-PA minor can do so as long as they meet the GPA standards (3.00 or above overall GPA and 2.70 or above BC GPA). This applies to students who dropped voluntarily as well as those who were dropped administratively.

### Additional Information

Requirements for the Pre-Physician Assistant (PA) Program are based on pre-requisite courses of 76 PA schools in 8 states (CT, MA, MD, NC, NJ, NY, PA, and VA) and the District of Columbia. Students should review individual physician assistant schools' pre-requisites to assure completion of all pre-requisite coursework.

#### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00

BIO 270. Human Physiology (3, 2) [C3NS] 4.00

BIO 290. Human Anatomy (3, 3) 4.00

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00

CHEM 241. Organic Chemistry I 3.00

HTH 210. Medical Terminology 3.00

MATH 220. Elementary Statistics [C3QR] 3.00

**Intermediate or advanced BIO course work: 4 Credit Hours**

Recommend choosing from:

BIO 240. Genetics (3,3) 4.00

BIO 343. Immunology (3, 0) 3.00

BIO 482. Human Histology (3, 3) 4.00

and cell biology

*Biochemistry lecture: 3 Credit Hours*

CHEM 260. Concepts of Biochemistry 3.00

CHEM 361. Biochemistry I 3.00

*At least two credit hours of laboratory in organic chemistry and/or biochemistry*

Select from:

CHEM 241L. Concepts of Organic Chemistry Laboratory 1.00

CHEM 242L. Organic Chemistry Laboratory 2.00

CHEM 260L. Concepts of Biochemistry Laboratory 1.00

CHEM 366L. Biochemistry Laboratory 2.00

*Behavioral science (PSYC): 6 Credit Hours*

Recommend choosing from:

PSYC 101. General Psychology [C5SD] 3.00

PSYC 160. Life Span Human Development [C5SD] 3.00

PSYC 250. Introduction to Abnormal Psychology 3.00

*Recommended electives (not required):*

3 credit hours of MATH

## Pre-Veterinary Medicine

Pre-professional health minors do not ensure that all prerequisites for admission to health professions schools are met. Students should inquire with schools of interest, including JMU, to confirm details of admission requirements.

### Additional Information

Requirements for the Pre-Veterinary Medicine Program are based on the American Veterinary Medical Association's Accredited Veterinary Colleges to review pre-requisite courses listed at each accredited program's website. Students should review individual veterinary schools' pre-requisites to assure completion of all pre-requisite coursework.

#### Courses

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00

BIO 150. Foundations of Biology II (3,3) 4.00

BIO 240. Genetics (3,3) 4.00

BIO 245. General Microbiology (3, 3) 4.00

CHEM 131. General Chemistry I [C3PP] 3.00

CHEM 131L. General Chemistry Laboratory [C3PP] 1.00

CHEM 132. General Chemistry II 3.00

CHEM 132L. General Chemistry Laboratory 1.00

CHEM 241. Organic Chemistry I 3.00

CHEM 242. Organic Chemistry II 3.00

CHEM 242L. Organic Chemistry Laboratory 2.00

CHEM 361. Biochemistry I 3.00

MATH 220. Elementary Statistics [C3QR] 3.00

PHYS 140. College Physics I [C3PP] 3.00

PHYS 140L. General Physics Laboratory [C3PP] 1.00

PHYS 150. College Physics II 3.00

PHYS 150L. General Physics Laboratory 1.00

English, Literature and Writing course work (WRTC 103, ENG or HUM 200) 6

*Credit Hours*

*Intermediate and advanced BIO course work: 13 Credit Hours*

Recommend choosing from:

BIO 320. Comparative Anatomy of Vertebrates (2, 4) 4.00

BIO 343. Immunology (3, 0) 3.00

BIO 370. Animal Physiology (3, 3) 4.00

BIO 420. Medical Parasitology (3, 0) 3.00

BIO 480. Advanced Molecular Biology (2, 5) 4.00

BIO 482. Human Histology (3, 3) 4.00

*Calculus: 3-4 Credit Hours*

Choose from:

MATH 205. Introductory Calculus I [C3QR] 3.00

MATH 231. Calculus with Functions I [C3QR] 3.00

MATH 235. Calculus I [C3QR] 4.00

*Recommended electives (not required):*

CHEM 366L. Biochemistry Laboratory 2.00

PSYC 101. General Psychology [C5SD] 3.00

*Public speaking: 3 Credit Hours*

Choose from:  
SCOM 121. Fundamental Human Communication: Presentations [C1HC] 3.00  
SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC] 3.00

SCOM 123. Fundamental Human Communication: Group Presentations [C1HC] 3.00

## ***Pre-Forensic Studies***

Forensic scientists apply the knowledge and techniques of science to the purposes of law. Forensic studies incorporate a wide array of disciplines and can be vital to enforcing criminal laws and government regulations, settling civil disputes, and to protecting public health. Preparation guidelines are outlined for three common areas of graduate study in forensic studies:

### **Forensic Biology**

A biology or chemistry major is recommended with the following:

BIO 140. Foundations of Biology I (3,3) [C3NS] 4.00  
BIO 150. Foundations of Biology II (3,3) 4.00  
BIO 240. Genetics (3,3) 4.00  
BIO 324. Human Genetics (3, 0) 3.00  
BIO 343. Immunology (3, 0) 3.00  
BIO 361. Biochemistry I (3, 0) 3.00 or CHEM 361. Biochemistry I 3.00  
CRJU 215. Introduction to Criminal Justice 3.00

### **Forensic Chemistry**

A biology or chemistry major is recommended with the following:  
CHEM 375. An Introduction to Materials Science 3.00 or MATS 375. An Introduction to Materials Science 3.00 or PHYS 375. An Introduction to Materials Science 3.00  
CHEM 331. Physical Chemistry I 3.00  
CHEM 351. Analytical Chemistry 4.00  
CHEM 361. Biochemistry I 3.00 or BIO 361. Biochemistry I (3, 0) 3.00  
CRJU 215. Introduction to Criminal Justice 3.00

### **Forensic Anthropology**

An anthropology (biological anthropology concentration) or biology major is recommended with the following:  
ANTH 196. Biological Anthropology [C3NS] 3.00  
BIO 270. Human Physiology (3, 2) [C3NS] 4.00 or BIO 370. Animal Physiology (3, 3) 4.00  
BIO 290. Human Anatomy (3, 3) 4.00  
BIO 426. Topics in Biology 1.00 - 4.00 (when topic is Forensic Anatomy) or ANTH 395. Special Topics in Anthropology 3.00 (*May be A,B, or C*) (when topic is Forensic Anatomy)  
Choose two of the following: 6 Credit Hours  
MATH 321. Analysis of Variance and Experimental Design 3.00  
MATH 324. Applied Nonparametric Statistics 3.00  
MATH 421. Applied Multivariate Statistical Analysis 3.00  
**Additional Information**  
Students are encouraged to take advanced course work in BIO 410. Advanced Human Anatomy (1, 6) and ANTH 319. Human Osteology.

## ***Pre-Law***

Dr. Melinda Adams, **Coordinator**                      **Phone:** (540) 568-3377                      **Email:** adams2mj@jmu.edu

Students who plan to apply to law school may select their major from a wide range of fields, depending upon their interests. The scope of the law is broad and offers room for individuals of varied educational and intellectual backgrounds. Students should choose courses that provide them with broad informational and cultural preparation and develop their reasoning abilities.

Especially valuable to a pre-law program are courses in:

- Communication, including composition, language and speech, which enable students to express themselves well.
- The humanities and social sciences, which help students to appreciate and perform effectively in their culture and society.
- Logic, mathematics and the natural sciences, which develop skills of fact discrimination, analysis and synthesis.
- Accounting and economics.

Also important to the pre-law program is Phi Alpha Delta, a student organization that organizes law-related activities.

## ***Pre-Theology***

Dr. Robert E. Brown, **Coordinator**                      **Phone:** 540-568-5418                      **Email:** brownre@jmu.edu

The pre-theology program prepares students to enter professional schools of religion (divinity schools, seminaries, theological schools). These professional schools prepare the student for a variety of careers, such as ministry, religious education and religious work with youth and others. The program at JMU will provide excellent preparation not only for acceptance at these schools but also for enriched professional training.

A student in this program may major in any field he/she chooses, although the American Association for Theological Schools recommends substantial pre-professional training in philosophy and religion. This professional accrediting agency also recommends a broad background in English language and literature; history (American and European); both the physical and the life sciences; the social sciences (particularly psychology, anthropology and sociology); and interdisciplinary studies on the relationship between the "political" and religion(s) (variously defined); biblical and classical (Greek and Latin) languages and, of course, religion, including the sacred scriptures, history of religious traditions and theology.

# Department of Psychology

Dr. Kevin J. Apple, **Department Head**

Phone: (540) 568-6114

Email: [appleki@jmu.edu](mailto:appleki@jmu.edu)

Location: Miller Hall, Room 1120

Website: <http://www.psyc.jmu.edu/undergraduate>

## Professors

J. Andre, K. Apple, S. Baker, K. Barron, D. Daniel, J. Dyche, W. Evans, P. Gibson, M. Hall, J. Irons, N. Kerr, S. Lovell, C. Lyons, M. Reis-Bergan, B. Saville, M. Stoloff, T. Zinn

## Associate Professors

K. Fogler, D. Holt, K. Jakobsen, J. Kurtz, M. Shoup-Knox, D. Szewo

## Assistant Professors

B. Blankenship, R. Kondrad, K. Melchiori, J. Taft-Young, S. Upadhyay

## Lecturer

K. DuVall

## Mission Statement

The mission of the Department of Psychology is to educate students in, and contribute to, the science of psychology.

## Goals

The vision of the Department of Psychology is to sustain and advance a nationally recognized department focused on promoting scientific proficiency within the cross disciplinary field of psychology. To that end, the curriculum is designed to provide students with a strong foundation in psychological science that reflects multiple perspectives within the discipline.

The hallmarks of our program are learning opportunities that promote the skills necessary to conduct and evaluate research and to interpret findings. The department trains our students to be responsive to emerging trends and apply their knowledge of psychological science as responsible global citizens.

The Department of Psychology is a dynamic contributor to the General Education program and the university community through the delivery of high quality courses and other educational experiences emphasizing psychological science. We also contribute to the M.A. program in psychological science. Our faculty strive to create and implement creative and effective pedagogy, embracing the dual role of teacher/scholar. The department will foster a collegial and collaborative environment within which divergent opinions as well as cultural diversity are respected, valued and promoted.

## Co-curricular Activities and Organizations

- Active Minds. This organization promotes mental health, awareness and education and works to reduce the stigma of mental illness.
- Psi Chi. The local chapter of the national honor society in psychology is open to students with a strong interest in psychology and an exceptional academic record.
- Psychology Club. This club is open to all students with an interest in psychology.
- Psychology Service Organization. This organization strives to meet the needs of the JMU and local communities by sponsoring and participating in service projects.

## Special Admission Requirements

Students interested in completing the intermediate and advanced courses required for the psychology major must meet the department's progression standards and be fully admitted to the major.

Students who meet all of the following criteria will be allowed to change their status from declared to fully admitted and will be permitted to make progress in the psychology major beyond a few preliminary courses. Equivalent courses completed at another university for which the student has earned JMU approved transfer credit are acceptable.

- Complete PSYC 101. General Psychology [C5SD], with a grade of "C-" or better. Equivalent courses completed at other institutions that transfer to JMU are acceptable.
- Complete MATH 220, MATH 205, MATH 231, MATH 235 or another acceptable math course (<http://psyc.jmu.edu/ug/mathchart.html>) with a grade of "C-" or better. Equivalent courses completed at other institutions that transfer to JMU are acceptable.
- Complete any General Education Psychology course (PSYC 101, PSYC 122 or PSYC 160) with a grade of "B" or higher. Earning a 4 on the AP Psychology exam meets this requirement. With departmental approval, grades from other institutions can fulfill this requirement.
- Complete an online orientation and application, available from the Department of Psychology website.

Students can declare at any time and should apply for fully admitted status when they are enrolled in (or have completed) the admissions requirements above. Admission decisions are made at the end of each semester and during the summer. Students not admitted to the major may reapply the following semester.

## Retention

All psychology courses taken must carry a grade of "C-" or better to apply to the major. A psychology course completed with a grade of "D" may be credited toward graduation requirements but may not be included in courses credited toward the psychology major.

## Prerequisites

Psychology majors must complete PSYC 101 and two statistics and research methodology courses (PSYC 210-PSYC 211 or PSYC 212-PSYC 213) before enrolling in courses numbered 330 and above. The prerequisites for PSYC 210 and PSYC 212 are any mathematics course numbered 205 or above and PSYC 101. Most psychology courses numbered 330 and above have specific prerequisites. See course listings for details. Non-psychology students may enroll in the 300- and 400-level courses only if they have fulfilled course prerequisites.

## Registration and Assessment

During registration, psychology majors will be given priority for course selection. Graduating majors must participate in assessment activities. Assessment information helps the faculty modify the curriculum to meet student needs.

## *Psychology, B.A.*

## Degree and Major Requirements

A student must complete a minimum of 44 PSYC credits and at least 60 non-PSYC credits.

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*
- Philosophy course(s) (in addition to General Education courses) *3 Credit Hours*

- Major requirements (listed below) *44 Credit Hours*
- Electives *18-32 Credit Hours*

## Total: 120 Credit Hours

### Major Requirements

The courses listed below are required of all students pursuing a Bachelor of Arts degree, regardless of whether psychology is their first or second major.

PSYC 101. General Psychology [C5SD] *3.00*

*Methodology Core: 8 Credit Hours*

PSYC 210 and PSYC 211 are offered every semester; PSYC 212 is offered only during the fall semester; PSYC 213 is offered only during the spring semester.

Choose one of the following sequences:

PSYC 210. Psychological Measurement and Statistics *4.00* and

PSYC 211. Psychological Research Methods *4.00*

PSYC 212. Psychological Research Design and Data Analysis I *4.00* and

PSYC 213. Psychological Research Design and Data Analysis II *4.00*

SS Content Core - Psychology as a Social Science: *9 Credit Hours*

Choose at least three of the following:

PSYC 330. Psychology of Personality *3.00*

PSYC 335. Abnormal Psychology *3.00*

PSYC 345. Social Psychology *3.00*

PSYC 365. Developmental Psychology *3.00*

NS Content Core - Psychology as a Natural Science: *9 Credit Hours*

Choose at least three of the following:

PSYC/BIO 375. Sensation and Perception *3.00*

PSYC 380. Cognitive Psychology *3.00*

PSYC 385. Biopsychology *3.00* or BIO 385. Biopsychology *3.00*

PSYC 390. Psychology of Learning *3.00*

PSYC 395. Comparative Animal Behavior *3.00* or BIO 395. Comparative Animal Behavior (3, 0) *3.00*

*Upper Level Specialty Content Courses: 3 Credit Hours*

Choose at least one of the following:

PSYC 400. Advanced Topics in Psychology *1.00 - 3.00*

PSYC 410. Psychology of the Workplace *3.00*

PSYC 415. Forensic Psychology *3.00*

PSYC 420. Advanced Psychological Statistics *3.00*

PSYC 425. School Psychology *3.00*

PSYC 427. Tests and Measurements *3.00*

PSYC 428. Educational Psychology *3.00*

PSYC 430. Clinical Psychology *3.00*

PSYC 435. Community Psychology *3.00*

PSYC 450. Psychology of Child Abuse and Neglect *3.00*

PSYC 452. Child Psychopathology *3.00*

PSYC 460. Community Psychology Within Developing Societies *3.00*

PSYC 475. Psychology of Adulthood *3.00*

PSYC 480. Applied Behavior Analysis *3.00*

*Psychology electives: 9 Credit Hours*

At least three hours must be at the 400 level

*Capstone course: 3 Credit Hours*

Departmental approval is required for students to enroll in more than one psychology capstone course.

Choose one of the following:

PSYC 492. History of Psychology *3.00*

PSYC 493. Laboratory in Psychology *3.00*

PSYC 495. Field Placement in Psychology *4.00*

PSYC 497. Senior Seminar *3.00*<sup>2</sup>

PSYC 499A. Honors *2.00*<sup>2</sup> and PSYC 499B. Honors *2.00*<sup>2</sup> and PSYC 499C. Honors *2.00*<sup>2</sup>

*Sociocultural Competency: 0 Credit Hours*

Choose one of the following:

PSYC 220. Psychology and Culture *3.00*

PSYC 308. Health Psychology *3.00*

PSYC 310. The Psychology of Women and Gender *3.00*

PSYC 320. Diversity Issues in Psychology *3.00*

PSYC 325. Counseling Psychology *3.00*

PSYC 410. Psychology of the Workplace *3.00*

PSYC 460. Community Psychology Within Developing Societies *3.00*

Other course sections that meet the sociocultural competency requirement

**Total: 44 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> Some sections of this course may meet the sociocultural awareness requirement depending on the content; when this course does meet the requirement it will be listed in the notes section of the course listing in MyMadison.

### Recommended Schedule for Majors

The following program sample is intended as a guide. Courses must be taken in the sequence outlined; however, the semester during which a particular course is taken depends on a number of factors, including readiness to take 200-level math, the semester the psychology major is started and other majors or minors the student is completing.

Students are encouraged to meet regularly with their psychology academic adviser to plan their personal course schedule. Because of course sequencing requirements, even with the most compressed program, a minimum of five semesters (or four semesters and summer school) is required to complete the psychology major.

#### First Year

##### First Semester

MATH 220. Elementary Statistics [C3QR] *3.00*<sup>1</sup>

PSYC 101. General Psychology [C5SD] *3.00*

General Education courses *9 Credit Hours*

**Total: 15 Credit Hours**

##### Second Semester

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate and/or minor program courses *15 Credit Hours*

**Total: 15 Credit Hours**

#### Second Year

##### First Semester

PSYC 210. Psychological Measurement and Statistics *4.00*<sup>2</sup> or PSYC 212.

Psychological Research Design and Data Analysis I *4.00*<sup>2</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate, minor program and/or Psychology elective courses *11 Credit Hours*

**Total: 15 Credit Hours**

##### Second Semester

PSYC 211. Psychological Research Methods *4.00* or PSYC 213. Psychological Research Design and Data Analysis II *4.00*<sup>4</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate, minor program and/or Psychology elective courses *11 Credit Hours*

**Total: 15 Credit Hours**

##### Third Year

SS content core courses *9 Credit Hours*

NS content core courses *9 Credit Hours*

Minor program courses or electives *12 Credit Hours*

**Total: 30 Credit Hours**

##### Fourth Year

Psychology Upper level Specialty Content Course *3 Credit Hours*

Psychology 400 level elective *3 Credit Hours*

Psychology capstone course *3 Credit Hours*

Psychology, minor program or elective courses *21 Credit Hours*

**Total: 30 Credit Hours**

### Footnotes

<sup>1</sup> A preliminary math course may be suggested after placement examinations. If suggested, the preliminary course should be taken first semester and MATH 220 second semester. Other 200-level mathematics courses may be substituted for MATH 220. Any MATH course numbered 205 or above is an acceptable prerequisite for the psychology major. <sup>2</sup> Any MATH course numbered 205 or above is a prerequisite for PSYC 210 and PSYC 212. MATH 220 is recommended.

<sup>3</sup> PSYC 210 is a prerequisite for PSYC 211. <sup>4</sup> PSYC 212 is a prerequisite for PSYC 213.

### Recommended Courses

The following courses are recommended for all psychology majors especially those who plan to pursue advanced study at the graduate level after earning their bachelor's degrees.

**Participate in experiential learning, such as:**

PSYC 203. Directed Research in Psychology 1.00 - 3.00  
PSYC 402. Independent Study in Psychology 1.00 - 4.00  
PSYC 403. Independent Research in Psychology 1.00 - 4.00  
PSYC 495. Field Placement in Psychology 4.00

PSYC 499A. Honors 2.00 and  
PSYC 499B. Honors 2.00 and  
PSYC 499C. Honors 2.00

**Taking an advanced statistics course is highly recommended. Consider the following:**

MATH 309. SAS Programming and Data Management 3.00  
MATH 321. Analysis of Variance and Experimental Design 3.00  
MATH 322. Applied Linear Regression 3.00

MATH 324. Applied Nonparametric Statistics 3.00  
MATH 325. Survey Sampling Methods 3.00  
MATH 327. Categorical Data Analysis 3.00

### Additional Information

A minor or a selection of courses from other departments that complements the psychology major for the professional field you are pursuing might be helpful. Discuss your professional goals with your faculty adviser and ask for recommendations. Consider taking courses that emphasize writing skills, quantitative skills, critical thinking and analysis and/or oral communication.

Students should discuss their career aspirations with their academic adviser throughout their academic program. Students interested in applying to graduate school should discuss the necessary preparation with their adviser early in their academic program. Students are encouraged to visit the department's Peer Advising Office in Miller Hall where materials are available about career and graduate school opportunities.

## Psychology, B.S.

### Degree and Major Requirements

A student must complete a minimum of 44 PSYC credits and at least 60 non-PSYC credits.

#### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement (in addition to General Education) 3 Credit Hours
- Scientific Literacy requirement (in addition to General Education) 3-4 Credit Hours
- Major requirements (including cognate, listed below) 47-51 Credit Hours
- Electives 18-32 Credit Hours

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

### Major Requirements

The courses and cognate described below are required of all students pursuing a Bachelor of Science degree, regardless of whether psychology is their first or second major.

PSYC 101. General Psychology [C5SD] 3.00

*Choose one of the following sequences: 8 Credit Hours*

PSYC 210. Psychological Measurement and Statistics 4.00 and PSYC 211.

Psychological Research Methods 4.00 or PSYC 212. Psychological Research Design and Data Analysis I 4.00 and PSYC 213. Psychological Research Design and Data Analysis II 4.00

*SS Content Core - Psychology as a Social Science: 9 Credit Hours*

Choose at least three of the following:

PSYC 330. Psychology of Personality 3.00

PSYC 335. Abnormal Psychology 3.00

PSYC 345. Social Psychology 3.00

PSYC 365. Developmental Psychology 3.00

*NS Content Core - Psychology as a Natural Science: 6 Credit Hours*

Choose at least two of the following:

PSYC 375. Sensation & Perception 3.00 or BIO 375. Sensation and Perception 3.00

PSYC 380. Cognitive Psychology 3.00

PSYC 390. Psychology of Learning 3.00

PSYC 395. Comparative Animal Behavior 3.00 or BIO 395. Comparative Animal Behavior (3, 0) 3.00

*Biopsychology: 3 Credit Hours*

PSYC 385. Biopsychology 3.00 or BIO 385. Biopsychology 3.00

*Upper Level Specialty Content Courses: 3 Credit Hours*

Choose at least one of the following:

PSYC 400. Advanced Topics in Psychology 1.00 - 3.00 <sup>2</sup>

PSYC 410. Psychology of the Workplace 3.00

PSYC 415. Forensic Psychology 3.00

PSYC 420. Advanced Psychological Statistics 3.00

PSYC 425. School Psychology 3.00

PSYC 427. Tests and Measurements 3.00

PSYC 428. Educational Psychology 3.00

PSYC 430. Clinical Psychology 3.00

PSYC 435. Community Psychology 3.00

PSYC 450. Psychology of Child Abuse and Neglect 3.00

PSYC 452. Child Psychopathology 3.00

PSYC 460. Community Psychology Within Developing Societies 3.00

PSYC 475. Psychology of Adulthood 3.00

PSYC 480. Applied Behavior Analysis 3.00

*Psychology electives: 9 Credit Hours*

At least three hours must be at the 400 level

*Capstone course: 3 Credit Hours*

Departmental approval is required for students to enroll in more than one capstone course.

Choose one of the following:

PSYC 492. History of Psychology 3.00

PSYC 493. Laboratory in Psychology 3.00

PSYC 495. Field Placement in Psychology 4.00

PSYC 497. Senior Seminar 3.00 <sup>2</sup>

PSYC 499A. Honors 2.00 <sup>2</sup> and

PSYC 499B. Honors 2.00 <sup>2</sup> and

PSYC 499C. Honors 2.00 <sup>2</sup>

*Sociocultural Competency: 0 Credit Hours*

Choose one of the following:

PSYC 220. Psychology and Culture 3.00

PSYC 308. Health Psychology 3.00

PSYC 310. The Psychology of Women and Gender 3.00

PSYC 320. Diversity Issues in Psychology 3.00

PSYC 325. Counseling Psychology 3.00

PSYC 410. Psychology of the Workplace 3.00

PSYC 460. Community Psychology Within Developing Societies 3.00

**Total: 44 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> Some sections of this course may meet the sociocultural awareness requirement depending on the content; when this course does meet the requirement, it will be listed in the notes section of the course listing in MyMadison.

### Cognate Requirements

*Quantitative Competency: 6-9 Credit Hours*

(This may include credit hours that count toward General Education and degree requirements.)



Choose one of the following:

Two 200-level MATH courses or One 200-level MATH course and six credits of additional MATH courses at any level

*Scientific Literacy: 6 Credit Hours*

(These courses are taken in addition to the General Education requirement. They may count toward the B.S. degree requirement, second major and/or minor requirements.)

Choose at least two courses from the list of courses meeting B.S. degree scientific literacy requirements.

## Recommended Schedule for Majors

The following program sample is intended as a guide. Courses must be taken in the sequence outlined; however, the semester during which a particular course is taken depends on a number of factors, including readiness to take 200-level math, the semester the psychology major is started and other majors or minors the student is completing.

Students are encouraged to meet regularly with their psychology academic adviser to plan their personal course schedule. Because of course sequencing requirements, even with the most compressed program, a minimum of five semesters (or four semesters and summer school) is required to complete the psychology major.

### First Year

#### First Semester

MATH 220. Elementary Statistics [C3QR] 3.00 <sup>1</sup>

PSYC 101. General Psychology [C5SD] 3.00

General Education courses 9 Credit Hours

**Total: 15 Credit Hours**

#### Second Semester

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate

and/or minor program courses 15 Credit Hours

**Total: 15 Credit Hours**

### Second Year

#### First Semester

PSYC 210. Psychological Measurement and Statistics 4.00 <sup>2</sup> or PSYC 212.

Psychological Research Design and Data Analysis I 4.00 <sup>2</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate,

minor program and/or Psychology elective courses 11 Credit Hours

**Total: 15 Credit Hours**

### Second Semester

PSYC 211. Psychological Research Methods 4.00 or PSYC 213. Psychological Research Design and Data Analysis II 4.00 <sup>4</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate, minor program and/or Psychology elective courses 11 Credit Hours

**Total: 15 Credit Hours**

### Third Year

SS content core courses 9 Credit Hours

NS content core courses 9 Credit Hours

Minor program courses or electives 12 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Psychology Upper level Specialty Content Course 3 Credit Hours

Psychology 400 level elective 3 Credit Hours

Psychology capstone course 3 Credit Hours

Psychology, minor program or elective courses 21 Credit Hours

**Total: 30 Credit Hours**

## Footnotes

<sup>1</sup> A preliminary math course may be suggested after placement examinations. If suggested, the preliminary course should be taken first semester and MATH 220 second semester. Other 200-level mathematics courses may be substituted for MATH 220. Any MATH course numbered 205 or above is an acceptable prerequisite for the psychology major. <sup>2</sup> Any MATH course numbered 205 or above is a prerequisite for PSYC 210 and PSYC 212. MATH 220 is recommended.

<sup>3</sup> PSYC 210 is a prerequisite for PSYC 211. <sup>4</sup> PSYC 212 is a prerequisite for PSYC 213.

## Recommended Courses

The following courses are recommended for all psychology majors especially those who plan to pursue advanced study at the graduate level after earning their bachelor's degrees.

### Participate in experiential learning, such as:

PSYC 203. Directed Research in Psychology 1.00 - 3.00

PSYC 402. Independent Study in Psychology 1.00 - 4.00

PSYC 403. Independent Research in Psychology 1.00 - 4.00

PSYC 495. Field Placement in Psychology 4.00

PSYC 499A. Honors 2.00 and

PSYC 499B. Honors 2.00 and

PSYC 499C. Honors 2.00

### Taking an advanced statistics course is highly recommended. Consider the following:

MATH 309. SAS Programming and Data Management 3.00

MATH 321. Analysis of Variance and Experimental Design 3.00

MATH 322. Applied Linear Regression 3.00

MATH 324. Applied Nonparametric Statistics 3.00

MATH 325. Survey Sampling Methods 3.00

MATH 327. Categorical Data Analysis 3.00

## Additional Information

A minor or a selection of courses from other departments that complements the psychology major for the professional field you are pursuing might be helpful. Discuss your professional goals with your faculty adviser and ask for recommendations. Consider taking courses that emphasize writing skills, quantitative skills, critical thinking and analysis and/or oral communication.

Students should discuss their career aspirations with their academic adviser throughout their academic program. Students interested in applying to graduate school should discuss the necessary preparation with their adviser early in their academic program. Students are encouraged to visit the department's Peer Advising Office in Miller Hall where materials are available about career and graduate school opportunities.

## Behavior Analysis Concentration

A student must complete a minimum of 44 PSYC credits and at least 60 non-PSYC credits.

This concentration prepares students for employment with agencies that provide behavior analytic services and/or for pursuing a graduate degree in behavior analysis. This course sequence includes the course work requirements necessary to sit for the Board Certified Associate Behavior Analysis (BCABA®) national certification examination. These courses can count toward the psychology major.

## Behavior Analysis Concentration

This concentration prepares students for employment with agencies that provide behavior analytic services and/or for pursuing a graduate degree in behavior analysis. This course sequence includes the course work requirements necessary to sit for the Board Certified Associate Behavior Analysis (BCABA®) national certification examination.

### Required Courses

PSYC 180. Introduction to Behavior Analysis 3.00

PSYC 390. Psychology of Learning 3.00

PSYC 480. Applied Behavior Analysis 3.00

Choose one of the following: 3 Credit Hours

PSYC 402. Independent Study in Psychology 1.00 - 4.00 Behavior Analysis <sup>1,2</sup>

PSYC 403. Independent Research in Psychology 1.00 - 4.00 Behavior Analysis <sup>1</sup>

PSYC 402. Independent Study: Readings - Behavior Analysis 1

PSYC 402. Independent Study: Teaching - Behavior Analysis 1

Choose one of the following: 3-6 Credit Hours

PSYC 493. Laboratory in Psychology 3.00 <sup>1</sup>

PSYC 497. Senior Seminar 3.00 <sup>1</sup>

PSYC 499A. Honors 2.00 <sup>1</sup> and PSYC 499B. Honors 2.00 <sup>1</sup> and PSYC 499C.

Honors 2.00 <sup>1</sup>

**Total: 15-18 Credit Hours**

## Footnotes

<sup>1</sup> Only certain sections will qualify; consult with the concentration coordinator before enrolling. <sup>2</sup> This course will count toward the experience requirements for the Board Certified Associate Behavior Analysis (BCABA®) National Certification Examination.

## Recommended Schedule for Majors

The following program sample is intended as a guide. Courses must be taken in the sequence outlined; however, the semester during which a particular course is taken depends on a number of factors, including readiness to take 200-level math, the semester the psychology major is started and other majors or minors the student is completing.

Students are encouraged to meet regularly with their psychology academic adviser to plan their personal course schedule. Because of course sequencing requirements, even with the most compressed program, a minimum of five semesters (or four semesters and summer school) is required to complete the psychology major.

### First Year

#### First Semester

MATH 220. Elementary Statistics [C3QR] 3.00 <sup>1</sup>

PSYC 101. General Psychology [C5SD] 3.00

General Education courses 9 Credit Hours

**Total: 15 Credit Hours**

#### Second Semester

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate and/or minor program courses 15 Credit Hours

**Total: 15 Credit Hours**

### Second Year

#### First Semester

PSYC 210. Psychological Measurement and Statistics 4.00 <sup>2</sup> or PSYC 212.

Psychological Research Design and Data Analysis I 4.00 <sup>2</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate, minor program and/or Psychology elective courses 11 Credit Hours

**Total: 15 Credit Hours**

### Second Semester

PSYC 211. Psychological Research Methods 4.00 or PSYC 213. Psychological Research Design and Data Analysis II 4.00 <sup>4</sup>

General Education, B.A./B.S. degree requirement, B.S. Psychology Cognate, minor program and/or Psychology elective courses 11 Credit Hours

**Total: 15 Credit Hours**

### Third Year

SS content core courses 9 Credit Hours

NS content core courses 9 Credit Hours

Minor program courses or electives 12 Credit Hours

**Total: 30 Credit Hours**

### Fourth Year

Psychology Upper level Specialty Content Course 3 Credit Hours

Psychology 400 level elective 3 Credit Hours

Psychology capstone course 3 Credit Hours

Psychology, minor program or elective courses 21 Credit Hours

**Total: 30 Credit Hours**

### Footnotes

<sup>1</sup> A preliminary math course may be suggested after placement examinations. If suggested, the preliminary course should be taken first semester and MATH 220 second semester. Other 200-level mathematics courses may be substituted for MATH 220. Any MATH course numbered 205 or above is an acceptable prerequisite for the psychology major. <sup>2</sup> Any MATH course numbered 205 or above is a prerequisite for PSYC 210 and PSYC 212. MATH 220 is recommended. <sup>3</sup> PSYC 210 is a prerequisite for PSYC 211. <sup>4</sup> PSYC 212 is a prerequisite for PSYC 213.

## Recommended Courses

The following courses are recommended for all psychology majors especially those who plan to pursue advanced study at the graduate level after earning their bachelor's degrees.

### Participate in experiential learning, such as:

PSYC 203. Directed Research in Psychology 1.00 - 3.00

PSYC 402. Independent Study in Psychology 1.00 - 4.00

PSYC 403. Independent Research in Psychology 1.00 - 4.00

PSYC 495. Field Placement in Psychology 4.00

PSYC 499A. Honors 2.00 and

PSYC 499B. Honors 2.00 and

PSYC 499C. Honors 2.00

### Taking an advanced statistics course is highly recommended. Consider the following:

MATH 309. SAS Programming and Data Management 3.00

MATH 321. Analysis of Variance and Experimental Design 3.00

MATH 322. Applied Linear Regression 3.00

MATH 324. Applied Nonparametric Statistics 3.00

MATH 325. Survey Sampling Methods 3.00

MATH 327. Categorical Data Analysis 3.00

## Additional Information

A minor or a selection of courses from other departments that complements the psychology major for the professional field you are pursuing might be helpful. Discuss your professional goals with your faculty adviser and ask for recommendations. Consider taking courses that emphasize writing skills, quantitative skills, critical thinking and analysis and/or oral communication.

Students should discuss their career aspirations with their academic adviser throughout their academic program. Students interested in applying to graduate school should discuss the necessary preparation with their adviser early in their academic program. Students are encouraged to visit the department's Peer Advising Office in Miller Hall where materials are available about career and graduate school opportunities.

## Graduate Psychology Programs

The Department of Graduate Psychology at James Madison University offers the following graduate degree programs:

### Master of Arts

- Clinical Mental Health Counseling
- Psychological Sciences
- School Psychology

### Master of Education

- School Counseling
- College Student Personnel Administration

### Educational Specialist

- Counseling Psychology
- School Psychology

### Doctor of Philosophy

- Assessment and Measurement
- Counseling and Supervision

### Doctor of Psychology

- Combined/Integrated Program in Clinical and School Psychology

# Department of Social Work

Dr. Lisa E. McGuire, **Department Head**

**Phone:** (540) 568-6980

**Email:** [mcguirle@jmu.edu](mailto:mcguirle@jmu.edu)

**Location:** Health and Behavioral Studies Building, Room 2084 **Website:** <http://www.jmu.edu/socwork>

## Professors

B.J. Bryson, L. McGuire, H. Yeom

## Associate Professors

C. Hunter, N. Poe

## Assistant Professors

S. Isom, K. Myers, L. Trull

## Mission Statement

The Department of Social Work prepares generalist social workers committed to strengthening community life for diverse individuals, families and organizations and promoting social justice through advocacy and action. It offers a program, accredited by the Council on Social Work Education, which leads to the B.S.W. degree. In addition, the department offers minors in family studies, gerontology and nonprofit studies.

The Department of Social Work is committed to the following:

- Preparing students to work effectively in a broad spectrum of social service agencies by providing an environment geared to addressing poverty, multiple forms of oppression, social injustice and other human rights violations.
- Preparing students for advanced academic study by providing an environment geared toward achieving academic excellence.
- Advancing excellence and integrity through the development of high quality academic programs as well as contributions to professional knowledge and service.
- Responding to the professional and the university's service region by providing supportive services and continuing education opportunities.

## Career Opportunities and Marketable Skills

### Career Opportunities

- Aging services
- Child and adult day care centers
- Children and youth services
- Community action agencies
- Criminal justice agencies
- Domestic violence programs
- Family service agencies
- Homeless shelters
- Hospitals/home health programs/hospices
- Income maintenance programs
- Legal services agencies
- Behavioral and mental health services
- Services to people with developmental disabilities
- Nursing homes and residential communities
- Public child welfare/child protection services
- Residential treatment facilities
- School programs
- Substance abuse programs
- Vocational rehabilitation services

### Marketable Skills

- Advocacy
- Assessment
- Case management/brokering
- Communication
- Community outreach
- Crisis intervention
- Group facilitation
- Intake/referral
- Intervention/service planning
- Interviewing
- Networking
- Policy analysis
- Problem solving
- Program development/evaluation
- Recording/writing
- Relationship-building/interpersonal
- Research
- Service provision
- Team/group/collaborative

## Co-curricular Activities and Organizations

The Social Work Organization (SWO) offers the opportunity to socialize, meet professionals and volunteer in the community. Membership in SWO is open to any student interested in a career in the helping professions.

Phi Alpha Honor Society for Social Work's purpose is to promote academic excellence among social work students. Membership in Phi Alpha is by invitation to students with a minimum of nine credit hours in required social work course, holding a major grade point average (GPA) of 3.25 and a cumulative GPA of 3.0.

## Admission Requirements

Students may declare a major in social work at any time; however, they must apply for admission to the social work program the semester following completion of SOWK 287. Intro to Social Work and SOWK 288. Human Rights, Social, Economic and Environmental Justice. For unconditional admittance, students must have a cumulative GPA of 2.0 with no single grade lower than a "C" (2.0) in SOWK 287 and SOWK 288, and have completed the 20 hours of community service work required in SOWK 287. Students are evaluated on the basis of community service and life experiences, academic performance, communication skills, work related habits, ability to work with others, motivation, value orientation and career plans. Students must complete this process or admission to upper-level courses will be restricted. See the Social Work Handbook or the social work website for guidelines.

Applications are reviewed by two or more social work faculty members who make a recommendation to the head of the social work department. The student will be notified of the decision in writing. Decisions are to admit, to admit conditionally, not to admit or to defer decision. You will have one opportunity per semester to resubmit the application. If you fail to submit or resubmit a document that is still incorrect, you will be required to wait until the next semester deadline to resubmit. While this could potentially slow your progression in the major, it acknowledges your role of accountability in the process, a quality that will be essential for professional practice.

If admitted conditionally, the conditions for acceptance will be described. If the decision is deferred, the student will be notified in writing as to why. If not admitted, the student may appeal the decision to the head of the Department of Social Work.

## Field Practicum Application

Students admitted into the social work practicum are seniors who have completed the core social work requirements, with no grade lower than a "C" (2.0) in SOWK 287, SOWK 288, SOWK 305, SOWK 317, SOWK 320, SOWK 335, SOWK 465, SOWK 466, SOWK 467 and SOWK 493 have an overall GPA of 2.0, and who have completed 50 community service hours related to human services after SOWK 287, are eligible for field practicum.

During the field practicum, students spend four days a week for one semester completing a minimum of 472 hours of directed field practice. Students seeking admission to SOWK 481. Social Work Field Practicum I and SOWK 482. Social Work Field Practicum II must complete a field placement application and interview with the director of field placement. The field placement director, with the assistance of social work faculty members, will determine the acceptance and placement of students.

See the Social Work Student Handbook or the social work website for the field application, documentation of community service guidelines and guidelines for the placement process. Students must have no grade lower than a "C" (2.0) in SOWK 481, SOWK 482 and SOWK 494, which is taken concurrently with the field practicum.

## Social Work, B.S.W.

### Degree and Major Requirements

#### Degree Requirements

- General Education courses *41 Credit Hours*<sup>1</sup>
- Social Work core courses *44 Credit Hours*
- Social Work electives *6 Credit Hours*
- Electives *31-34 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary.

#### Major Requirements

##### Core Courses

SOWK 287. Intro to Social Work *3.00*  
 SOWK 305. Social Work Research Methods *3.00*  
 SOWK 320. Human Behavior in the Social Environment *3.00*  
 SOWK 335. Social Policy *3.00*  
 SOWK 465. Social Work Practice in Mezzo Systems *3.00*  
 SOWK 466. Social Work Practice in Micro Systems *3.00*  
 SOWK 467. Social Work Practice in Macro Systems *3.00*

SOWK 481. Social Work Field Practicum I *6.00*  
 SOWK 482. Social Work Field Practicum II *6.00*  
 SOWK 493. Professional Forum I: Preparation for Field *1.00*  
 SOWK 494. Professional Forum II: Transition to Professional Practice *3.00*  
 SOWK Electives: Elective courses are offered on a rotating basis. *6 Credit Hours*  
 IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach *1.00*

**Total: 50 Credit Hours**

#### Additional Information

The minimum requirement for the B.S.W. degree is completion of the General Education requirements, 44 credit hours of core social work courses, prerequisite courses as specified in course descriptions and elective hours, six of which must be in social work, for a total of 120 credit hours. If a grade of "C" (2.0) or above is not achieved the first time a social work course is taken, the student may repeat the course only once. All social work majors are expected to abide by the NASW Code of Ethics. Additionally, all majors participate in social work student outcome assessment measures.

#### Recommended Schedule for Majors

##### First Year

Cluster One: Skills for the 21st Century *9-12 Credit Hours*

General Education courses *18-21 Credit Hours*<sup>1</sup>

Total: *27-33 Credit Hours*

##### Second Year

SOWK 287. Intro to Social Work *3.00*

SOWK 288. Human Rights, Social, Economic and Environmental Justice *3.00*

Total: *27-33 Credit Hours*

##### Third Year

SOWK 305. Social Work Research Methods *3.00*<sup>2</sup>

SOWK 317. Skills for Generalist Social Work *3.00*

SOWK 320. Human Behavior in the Social Environment *3.00*<sup>2</sup>

SOWK 335. Social Policy *3.00*<sup>2</sup>

SOWK elective *3 Credit Hours*

Electives *15 Credit Hours*

Total: *30 Credit Hours*

##### Fourth Year

SOWK 465. Social Work Practice in Mezzo Systems *3.00*<sup>2</sup>

SOWK 466. Social Work Practice in Micro Systems *3.00*<sup>2</sup>

SOWK 467. Social Work Practice in Macro Systems *3.00*<sup>2</sup>

IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach *1.00*

SOWK 493. Professional Forum I: Preparation for Field *1.00*

SOWK elective *3 Credit Hours*

Elective *3 Credit Hours*

SOWK 481. Social Work Field Practicum I *6.00*<sup>2</sup>

SOWK 482. Social Work Field Practicum II *6.00*<sup>2</sup>

SOWK 494. Professional Forum II: Transition to Professional Practice *3.00*<sup>2</sup>

Total: *32 Credit Hours*

#### Footnotes

<sup>1</sup> Certain General Education courses may also meet prerequisite requirements for social work courses. Pay close attention to General Education requirements when selecting the following courses: MATH 220, Cluster 3; ANTH 195, POSC 225 and SOCI 110, Cluster 4; PSYC 101 or PSYC 160, Cluster 5. <sup>2</sup> Check prerequisite requirements.

# Department of Sociology and Anthropology

Dr. Liam Buckley, **Interim Department Head**

Phone: (540) 568-6213

Email: [bucklelm@jmu.edu](mailto:bucklelm@jmu.edu)

Location: Sheldon Hall, Room 123 Website: <http://www.jmu.edu/socanth>

## Sociology Program

Dr. Matthew Ezzell, **Coordinator**

Phone: (540) 568-6171

Email: [ezzellmb@jmu.edu](mailto:ezzellmb@jmu.edu)

Location: Sheldon Hall, Room 214

## Anthropology Program

Dr. Amy L. Paugh, **Coordinator**

Phone: (540) 568-6171

Email: [paughal@jmu.edu](mailto:paughal@jmu.edu)

Location: Sheldon Hall, Room 203

### Professors

B. Brewer, L. Buckley, B. Eck, J. Linder, A. Paugh, S. Poulson

### Associate Professors

D. Blanton, B. Bryson, C. Colocousis, K. Dobransky, M. Ezzell, R. Howes-Mischel, R. Lawler, M. Polanco, J. Solometo, J. Spear, K. Tanaka, M. Tracy, D. Trouille

### Assistant Professors

L. Porter, F. Tripodi

## Anthropology, Bachelor of Arts, B.A.

### General Program

The general program provides students with a holistic introduction to the breadth of anthropology highlighting experience in the subdisciplines of cultural, archaeological and biological anthropology, as well as introductory experiences in linguistics. The program is designed to provide students with a well-rounded understanding of the discipline in preparation for advanced graduate training or as an adjunct to their personal and professional aspirations.

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives (beyond major) *25-39 Credit Hours*
- Major requirements (listed below) *40-41 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

### Major Requirements

To earn a B.A. or B.S. degree in anthropology, students complete 40-41 credit hours in the major. Given the diverse opportunities the discipline provides, the major is designed to allow students the opportunity to work closely with their advisers to develop a curriculum appropriate to their personal and professional interests. Those students wishing to do so may elect to pursue a concentration in one of the three sub-disciplines of cultural, biological or archaeological anthropology.

The concentrations guide students in choosing courses to enhance opportunities for graduate school or allow them to pursue an area of personal interest within the larger discipline of anthropology. Up to two elective courses from a discipline outside of anthropology may be applied to the major. Elective courses from outside of the program must be approved by the student's adviser and must be at the 300- or 400-level. Students must receive at least a "C-" in a class to have it count toward the major.

#### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ANTH 196. Biological Anthropology [C3NS] 3.00

ANTH 197. Archaeology 3.00 (A,R)

ANTH 201. The Discipline of Anthropology 1.00 (R)

ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W)<sup>1</sup>

*One elective from each of the following: cultural anthropology, biological anthropology and archaeology 9 Credit Hours*

*Other electives 15 Credit Hours 2, 3*

*One course from the following: 3-4 Credit Hours*

ANTH 315. Human Evolution 3.00 (B)

ANTH 316. Human Evolutionary Psychology 3.00 (B)

ANTH 435. Ethnographic Genres and Methods 4.00 (C,F)

ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)

**Total: 40-41 Credit Hours**

### Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students may take up to two adviser approved electives at the 300 or 400 level from courses outside of the program. <sup>3</sup> Students should consider including ANTH 305. Language and Culture, as one of their electives.

### Archaeology Concentration

Archaeology is the study of the development and change of human societies from the prehistoric past to the present through the recovery, analysis and interpretation of material remains. Our program emphasizes an anthropological approach to archaeology and has close ties to anthropology's other subdisciplines. Archaeology has developed its own body of theories and methods for addressing the human story, many of which are focused on understanding what human material culture reveals about peoples' lives.

The archaeology concentration builds student expertise in a variety of areas of archaeological practice, including field methods, the analysis and interpretation of archaeological data, and an understanding of the culture histories of many world regions. Elective courses and independent projects allow students to explore a variety of facets of archaeological theory and practice, with an emphasis on hands-on experience and engagement with real world data and artifacts. Students work with faculty to determine what electives within and outside the program best serve their scholarly and professional interests. Archaeology concentrators can benefit from expertise gained in upper-level electives in history, the geographic sciences, geology, art history, and biology. Intensive training in field methods, though not required for the concentration, is strongly encouraged and is provided by a summer archaeological field school. Those interested in historical archaeology should consider the cross-disciplinary Historical Archaeology Minor.

#### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ANTH 196. Biological Anthropology [C3NS] 3.00

ANTH 197. Archaeology 3.00 (A,R)

ANTH 201. The Discipline of Anthropology 1.00 (R)

ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W)<sup>1</sup>

ANTH 410. Spatial Analysis for Anthropologists 4.00 (A,B and C)<sup>2</sup> or ANTH 490.

*Special Studies in Anthropology 1.00 - 3.00 (May be A, B or C)<sup>2</sup>*

ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)

*One upper division course in cultural and biological anthropology 6 Credit Hours*

*Electives 10-11 Credit Hours 3*

*One Regional Archaeology Course*

ANTH 250. Anthropology of the American Southwest 3.00 (A)

ANTH 325. Aztec, Maya & Their Predecessors 3.00 (A)

ANTH 327. Ancient North American Civilizations 3.00 (A)

ANTH 333. Celts, Viking and Tribal Europe: Art & Culture From 500 to 1100 AD 3.00 (A)

**Total: 40-41 Credit Hours**

## Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students electing to take ANTH 490. Special Studies in Anthropology to satisfy this requirement will complete a project that requires the analysis and interpretation of archaeological data. <sup>3</sup> Students may take up to two adviser-approved electives at the 300 or 400 level from courses outside of the program. GEOL 442. Field Geophysics, ARTH 396. Introduction to Public History/HIST 396. Introduction to Public History and ARTH 394. Introduction to Museum Work/HIST 394. Introduction to Museum Work are particularly recommended.

## Biological Anthropology Concentration

The focus of biological anthropology is the study of human biology from an evolutionary perspective. Biological anthropology is interested in understanding how and why the human species became what it is today. Thus, it involves the study of human evolution, human biology and its variation, human ecology (how humans interrelate with their environment) and primate behavior and biology (to place humans in the proper comparative context). Biological anthropologists also recognize that human culture, and learned behavior in general, are fundamentally important to understanding the human condition which leads them to emphasize a bio-cultural approach in which both biology and culture are integrated into a holistic understanding of humanity.

Students work closely with biological anthropology faculty to choose electives from both within and outside of the department to refine their own research and scholarly interests. Upper-level electives in biology, psychology and/or geographic sciences are recommended depending on the student's particular goals. Students might consider taking a minor or second major in these disciplines. Students are strongly encouraged to gain practical experience in biological anthropology through study abroad, internships or independent study with faculty.

### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ANTH 196. Biological Anthropology [C3NS] 3.00

ANTH 197. Archaeology 3.00 (A,R)

ANTH 201. The Discipline of Anthropology 1.00 (R)

ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W) <sup>1</sup>

One elective from each of the following: cultural anthropology, biological anthropology and archaeology 9 Credit Hours

Other electives 15 Credit Hours <sup>2,3</sup>

One course from the following: 3-4 Credit Hours

ANTH 315. Human Evolution 3.00 (B)

ANTH 316. Human Evolutionary Psychology 3.00 (B)

ANTH 435. Ethnographic Genres and Methods 4.00 (C,F)

ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)

**Total: 40-41 Credit Hours**

## Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students may take up to two adviser approved electives at the 300 or 400 level from courses outside of the program. <sup>3</sup> Students should consider including ANTH 305. Language and Culture, as one of their electives.

## Anthropology, Bachelor of Science, B.S.

### Major Requirements

To earn a B.A. or B.S. degree in anthropology, students complete 40-41 credit hours in the major. Given the diverse opportunities the discipline provides, the major is designed to allow students the opportunity to work closely with their advisers to develop a curriculum appropriate to their personal and professional interests. Those students wishing to do so may elect to pursue a concentration in one of the three sub-disciplines of cultural, biological or archaeological anthropology.

The concentrations guide students in choosing courses to enhance opportunities for graduate school or allow them to pursue an area of personal interest within the larger discipline of anthropology. Up to two elective courses from a discipline outside of anthropology may be applied to the major. Elective courses from outside of the program must be approved by the student's adviser and must be at the 300- or 400-level. Students must receive at least a "C-" in a class to have it count toward the major.

### General Program

The general program provides students with a holistic introduction to the breadth of anthropology highlighting experience in the subdisciplines of cultural, archaeological and biological anthropology, as well as introductory experiences in linguistics. The program is designed to provide students with a well-rounded understanding of the discipline in preparation for advanced graduate training or as an adjunct to their personal and professional aspirations.

### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Quantitative requirement 3 Credit Hours <sup>2</sup>
- Scientific Literacy requirement 3-4 Credit Hours <sup>2</sup>
- University electives 35-36 Credit Hours
- Major requirements (listed below) and electives 40-41 Credit Hours

### Total: 120 Credit Hours

## Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> MATH 220. Elementary Statistics [C3QR], is strongly recommended for those students who have not taken that course or an equivalent as part of their General Education.

### Major Requirements

To earn a B.A. or B.S. degree in anthropology, students complete 40-41 credit hours in the major. Given the diverse opportunities the discipline provides, the major is designed to allow students the opportunity to work closely with their advisers to develop a curriculum appropriate to their personal and professional interests. Those students wishing to do so may elect to pursue a concentration in one of the three sub-disciplines of cultural, biological or archaeological anthropology.

The concentrations guide students in choosing courses to enhance opportunities for graduate school or allow them to pursue an area of personal interest within the larger discipline of anthropology. Up to two elective courses from a discipline outside of anthropology may be applied to the major. Elective courses from outside of the program must be approved by the student's adviser and must be at the 300- or 400-level. Students must receive at least a "C-" in a class to have it count toward the major.

### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)

ANTH 196. Biological Anthropology [C3NS] 3.00

ANTH 197. Archaeology 3.00 (A,R)

ANTH 201. The Discipline of Anthropology 1.00 (R)

ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W) <sup>1</sup>

One elective from each of the following: cultural anthropology, biological anthropology and archaeology 9 Credit Hours

Other electives 15 Credit Hours 2, 3

One course from the following: 3-4 Credit Hours

ANTH 315. Human Evolution 3.00 (B)

ANTH 316. Human Evolutionary Psychology 3.00 (B)

ANTH 435. Ethnographic Genres and Methods 4.00 (C,F)

ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)

**Total: 40-41 Credit Hours**

## Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students may take up to two adviser approved electives at the 300 or 400 level from courses outside of the program. <sup>3</sup> Students should consider including ANTH 305. Language and Culture, as one of their electives.

## Archaeology Concentration

Archaeology is the study of the development and change of human societies from the prehistoric past to the present through the recovery, analysis and interpretation of material remains. Our program emphasizes an anthropological approach to archaeology and has close ties to anthropology's other subdisciplines. Archaeology has developed its own body of theories and methods for addressing the human story, many of which are focused on understanding what human material culture reveals about peoples' lives.

The archaeology concentration builds student expertise in a variety of areas of archaeological practice, including field methods, the analysis and interpretation of archaeological data, and an understanding of the culture histories of many world regions. Elective courses and independent projects allow students to explore a variety of facets of archaeological theory and practice, with an emphasis on hands-on experience and engagement with real world data and artifacts. Students work with faculty to determine what electives within and outside the program best serve their scholarly and professional interests. Archaeology concentrators can benefit from expertise gained in upper-level electives in history, the geographic sciences, geology, art history, and biology. Intensive training in field methods, though not required for the concentration, is strongly encouraged and is provided by a summer archaeological field school. Those interested in historical archaeology should consider the cross-disciplinary Historical Archaeology Minor.

### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
ANTH 196. Biological Anthropology [C3NS] 3.00  
ANTH 197. Archaeology 3.00 (A,R)  
ANTH 201. The Discipline of Anthropology 1.00 (R)  
ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W) <sup>1</sup>  
ANTH 410. Spatial Analysis for Anthropologists 4.00 (A,B and C) <sup>2</sup> or ANTH 490.  
Special Studies in Anthropology 1.00 - 3.00 (May be A, B or C) <sup>2</sup>  
ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)  
*One upper division course in cultural and biological anthropology 6 Credit Hours*

*Electives 10-11 Credit Hours 3*

One Regional Archaeology Course  
ANTH 250. Anthropology of the American Southwest 3.00 (A)  
ANTH 325. Aztec, Maya & Their Predecessors 3.00 (A)  
ANTH 327. Ancient North American Civilizations 3.00 (A)  
ANTH 333. Celts, Viking and Tribal Europe: Art & Culture From 500 to 1100 AD  
3.00 (A)

**Total: 40-41 Credit Hours**

### Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students electing to take ANTH 490. Special Studies in Anthropology to satisfy this requirement will complete a project that requires the analysis and interpretation of archaeological data. <sup>3</sup> Students may take up to two adviser-approved electives at the 300 or 400 level from courses outside of the program. GEOL 442. Field Geophysics, ARTH 396. Introduction to Public History/HIST 396. Introduction to Public History and ARTH 394. Introduction to Museum Work/HIST 394. Introduction to Museum Work are particularly recommended.

## Biological Anthropology Concentration

The focus of biological anthropology is the study of human biology from an evolutionary perspective. Biological anthropology is interested in understanding how and why the human species became what it is today. Thus, it involves the study of human evolution, human biology and its variation, human ecology (how humans interrelate with their environment) and primate behavior and biology (to place humans in the proper comparative context). Biological anthropologists also recognize that human culture, and learned behavior in general, are fundamentally important to understanding the human condition which leads them to emphasize a bio-cultural approach in which both biology and culture are integrated into a holistic understanding of humanity.

Students work closely with biological anthropology faculty to choose electives from both within and outside of the department to refine their own research and scholarly interests. Upper-level electives in biology, psychology and/or geographic sciences are recommended depending on the student's particular goals. Students might consider taking a minor or second major in these disciplines. Students are strongly encouraged to gain practical experience in biological anthropology through study abroad, internships or independent study with faculty.

### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
ANTH 196. Biological Anthropology [C3NS] 3.00  
ANTH 197. Archaeology 3.00 (A,R)  
ANTH 201. The Discipline of Anthropology 1.00 (R)  
ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W)  
ANTH 376. Anthropology of Reproduction 3.00 (C) or WGSS 376. Anthropology  
of Reproduction 3.00

*One upper-division course in archaeology and cultural anthropology 6 Credit Hours*

*At least one additional upper level course in biological anthropological topics 3 Credit Hours*

*Electives 2, 3 12 Credit Hours*

*Choose two of the following courses: 6 Credit Hours*

ANTH 315. Human Evolution 3.00 (B)  
ANTH 316. Human Evolutionary Psychology 3.00 (B)  
ANTH 317. Primate Evolutionary Ecology 3.00 (B)

**Total: 40 Credit Hours**

### Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students may take up to two adviser approved electives at the 300 or 400-level from courses outside of the program. BIO 270. Human Physiology (3, 2) [C3NS] and BIO 290. Human Anatomy (3, 3) are accepted electives. <sup>3</sup> In addition to biological anthropology courses, students are encouraged to take electives from across the breadth of cultural and linguistic anthropology and archaeology.

## Cultural Anthropology Concentration, B.S

Cultural anthropology is at the core of anthropology. It provides students with in-depth experience in the interpretation and comparison of cultures. It is closely linked to the humanities and to other social sciences. Students learn what culture is, how different cultural systems and forms of social organization work, how language both reflects and constitutes culture, and methodological and theoretical frameworks for interpreting cultural differences and similarities. Students work closely with cultural anthropology faculty to choose a series of electives from both within and outside of the department to refine their own research interests.

Students are encouraged (but not required) to become proficient in a foreign language beyond the level required for the B.A. and to develop a regional area of specialization through course work or a minor (e.g., Latin American studies, Africana studies, Middle Eastern studies, Asian studies). Outside upper-level electives are recommended in history, sociology, economics, religion, modern foreign languages and political science. Students are encouraged to pursue study abroad, ethnographic field school and internship opportunities.

### Required Courses

ANTH 195. Cultural Anthropology [C4GE] 3.00 (C, R)  
ANTH 196. Biological Anthropology [C3NS] 3.00  
ANTH 197. Archaeology 3.00 (A,R)  
ANTH 201. The Discipline of Anthropology 1.00 (R)  
ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W) <sup>1</sup>  
ANTH 435. Ethnographic Genres and Methods 4.00 (C,F)  
*One upper-division course archaeology and biological anthropology 6 Credit Hours*

*Hours*

*Electives 15 Credit Hours 2, 3*

*One regional cultural anthropology course: 3 Credit Hours*

ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C).  
ANTH 280. Peoples and Cultures of Sub-Saharan Africa 3.00 (C)  
ANTH 295. People and Cultures of East Asia 3.00 (C)  
ANTH 306. Japanese Society and Culture 3.00 (C)  
ANTH 364. U.S./Latin American Borders 3.00 (C)  
ANTH 368. Contemporary American Culture 3.00 (C)  
ANTH 389. Ethnographic Experience in Dominica 3.00 (C)  
ANTH 436. Afro-Latin America 3.00 (C)

**Total: 41 Credit Hours**

### Footnotes

<sup>1</sup> Students should take two of ANTH 195, ANTH 196 or ANTH 197 and at least one anthropology elective before taking ANTH 375. <sup>2</sup> Students may take up to two adviser approved electives at the 300 or 400 level from courses outside of the program. <sup>3</sup> Suggested electives include ANTH 305, additional area studies courses and upper-level topical courses.

## Minors

### Anthropology Minor

Students complete a minor in anthropology by completing 18 hours in anthropology including the core courses ANTH 195. Cultural Anthropology [C4GE]; ANTH 196. Biological Anthropology [C3NS] and ANTH 197. Archaeology. Students must receive at least a "C-" in a class to have it count toward the minor.

### Historical Anthropology Minor

The minor is designed for students interested in the field of historical archaeology, a discipline that integrates the research interests and methods of archaeology and history. For a full description of this program, refer to the cross disciplinary Historical Archaeology Minor.

## *Sociology, Bachelor of Arts, B.A.*

### Degree and Major Requirements

#### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *23-37 Credit Hours*
- Major requirements (listed below) and electives *39 Credit Hours*

**Total: 120 Credit Hours**

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Language's placement test.

### Major Requirements

To earn the B.A. degree with a sociology major, students must complete a minimum of 39 credit hours in sociology. Of these credit hours, 18 are required courses; the remaining 21 credit hours are electives chosen from over 30 sociology courses.

Students must earn at least a "C-" in all sociology classes or any course that is substituted for a sociology core course. If a student earns below a "C-" in a course, he/she can re-take the course once in order to meet the "C-" standard.

#### Courses

SOCI 110. Social Issues in a Global Context [C4GE] *3.00*

SOCI 140. Microsociology: The Individual in Society [C5SD] *3.00*

SOCI 200. Development of Sociological Thought and Method *3.00*<sup>1</sup>

SOCI 231. Introduction to Social Statistics *3.00*<sup>2</sup>

SOCI 300. Sociological Inquiry *3.00*<sup>3</sup>

SOCI 480. Senior Seminar in Sociology *3.00*<sup>4</sup> 4, 5, 6

*Sociology electives 21 Credit Hours*<sup>7</sup>

**Total: 39 Credit Hours**

#### Footnotes

<sup>1</sup> Prerequisite for SOCI 200: SOCI 110, SOCI 140 or SOCI 101. <sup>2</sup> Students may substitute SOCI 231 with MATH 220, PSYC 210 or COB 191, but must take an additional sociology course to complete the required 39 hours of sociology. <sup>3</sup> Prerequisite for SOCI 300: SOCI 200 and SOCI 231 (or equivalent), sociology majors only. <sup>4</sup> Prerequisite for SOCI 480: SOCI 300. <sup>5</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major. <sup>6</sup> Students may fulfill the senior seminar requirement by completing a supervised internship with a substantial writing expectation. Students must secure their own internship placement before enrolling in the internship course and should consult an adviser or the sociology program coordinator for details. Students may also fulfill the senior seminar requirement by successfully completing the SOCI 499 Honors Thesis sequence. <sup>7</sup> If a course other than SOCI 231 is used to meet the statistics requirement, 24 elective credits will be required to reach the 39 credit hour total.

### Recommended Schedule for Majors

Transfer students on a two-year course of study should change "Year" in this sequence to "Semester." The following is an example of a four-year course of study for a student seeking a degree in sociology:

#### First Year

SOCI 110. Social Issues in a Global Context [C4GE] *3.00*

SOCI 140. Microsociology: The Individual in Society [C5SD] *3.00*

Sociology elective *3 Credit Hours*

**Total: 9 Credit Hours**

#### Second Year

SOCI 200. Development of Sociological Thought and Method *3.00*

SOCI 231. Introduction to Social Statistics *3.00*

Sociology electives *3 Credit Hours*

**Total: 9 Credit Hours**

#### Third Year

SOCI 300. Sociological Inquiry *3.00*

Electives *6-9 Credit Hours*

**Total: 9-12 Credit Hours**

#### Fourth Year

Sociology electives *6-9 Credit Hours*

SOCI 480. Senior Seminar in Sociology *3.00* (majors take this any time after completing SOCI 300)

**Total: 9-12 Credit Hours**

### Concentrations

The sociology program encourages majors to select electives that create a coherent program of study suited to their special needs and interests. Such a focus would involve four or more courses from the following concentration groupings:<sup>1</sup>

#### Communities, Inequalities and Public Policy

SOCI 280. Social Gerontology *3.00* or GERN 280. Social Gerontology *3.00*

SOCI 304. Social Deviance *3.00*

SOCI 311. Sociology of the Environment *3.00*

SOCI 318. Sociology of Immigration *3.00*

SOCI 321. Politics in Society *3.00*

SOCI 322. Sociology of Religion *3.00* or REL 322. Sociology of Religion *3.00*

SOCI 328. Digital Inequality *3.00*

SOCI 334. Self & Society *3.00*

SOCI 335. Disability and Society *3.00*

SOCI 336. Race and Ethnicity *3.00*

SOCI 337. Sociology of Gender *3.00* or WGSS 337. Sociology of Gender *3.00*

SOCI 341. Sociology of Education *3.00*

SOCI 347. Queer Theories of Gender and Inequality *3.00*

SOCI 352. Birth, Death, Sex: Exploring Demography *3.00* or ANTH 352. Birth, Death, Sex: Exploring Demography *3.00 (B,C)*

SOCI 354. Social Inequality *3.00*

SOCI 357. Sociology of Disasters *3.00*

SOCI 360. Social Movements *3.00*

SOCI 367. Sociology of Sexuality *3.00*

SOCI 372. Sociology of the Community *3.00*

SOCI 374. Sociology of Families *3.00*

SOCI 375. Medical Sociology *3.00*

SOCI 382. Qualitative Sociology *3.00*

SOCI 385. Madness and Society: the Sociology of Mental Health and Illness *3.00*

SOCI 386. Sociology of Nonprofit Organizations *3.00*



## Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Environment, Technologies and Innovations Concentration, B.A.

SOCI 311. Sociology of the Environment *3.00*  
SOCI 315. Technology and Society *3.00*  
SOCI 328. Digital Inequality *3.00*  
SOCI 344. Work and Society *3.00*  
SOCI 348. Introduction to Developing Societies *3.00*  
SOCI 354. Social Inequality *3.00*  
SOCI 357. Sociology of Disasters *3.00*

SOCI 360. Social Movements *3.00*  
SOCI 361. Sociology of Organizations *3.00*  
SOCI 366. Sociology of Knowledge *3.00*  
SOCI 367. Sociology of Sexuality *3.00*  
SOCI 375. Medical Sociology *3.00*  
SOCI 385. Madness and Society: the Sociology of Mental Health and Illness *3.00*  
SOCI 386. Sociology of Nonprofit Organizations *3.00*

## Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Markets and Cultures Concentration, B.A.

SOCI 306. Japanese Society and Culture *3.00*  
SOCI 315. Technology and Society *3.00*  
SOCI 318. Sociology of Immigration *3.00*  
SOCI 328. Digital Inequality *3.00*  
SOCI 334. Self & Society *3.00*  
SOCI 341. Sociology of Education *3.00*  
SOCI 342. Social Movements in the Middle East *3.00*  
SOCI 344. Work and Society *3.00*

SOCI 348. Introduction to Developing Societies *3.00* or SOWK 348. Introduction to Developing Societies *3.00*  
SOCI 358. Sociology of Consumption *3.00*  
SOCI 361. Sociology of Organizations *3.00*  
SOCI 363. Sociology of Culture *3.00*  
SOCI 367. Sociology of Sexuality *3.00*  
SOCI 368. Contemporary American Culture *3.00*  
SOCI 382. Qualitative Sociology *3.00*  
SOCI 386. Sociology of Nonprofit Organizations *3.00*

## Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Political and Global Analysis Concentration, B.A.

SOCI 304. Social Deviance *3.00*  
SOCI 306. Japanese Society and Culture *3.00*  
SOCI 318. Sociology of Immigration *3.00*  
SOCI 321. Politics in Society *3.00*  
SOCI 328. Digital Inequality *3.00*  
SOCI 335. Disability and Society *3.00*  
SOCI 336. Race and Ethnicity *3.00*  
SOCI 337. Sociology of Gender *3.00* or WGSS 337. Sociology of Gender *3.00*  
SOCI 342. Social Movements in the Middle East *3.00*  
SOCI 344. Work and Society *3.00*  
SOCI 347. Queer Theories of Gender and Inequality *3.00*

SOCI 348. Introduction to Developing Societies *3.00* or SOWK 348. Introduction to Developing Societies *3.00*  
SOCI 352. Birth, Death, Sex: Exploring Demography *3.00* or ANTH 352. Birth, Death, Sex: Exploring Demography *3.00 (B,C)*  
SOCI 354. Social Inequality *3.00*  
SOCI 360. Social Movements *3.00*  
SOCI 361. Sociology of Organizations *3.00*  
SOCI 363. Sociology of Culture *3.00*  
SOCI 375. Medical Sociology *3.00*  
SOCI 382. Qualitative Sociology *3.00*  
SOCI 386. Sociology of Nonprofit Organizations *3.00*

## Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Sociology, Bachelor of Science, B.S.

### Degree and Major Requirements

#### Degree Requirements

- General Education *41 Credit Hours* 1
- Quantitative requirement *3 Credit Hours* 2
- Scientific Literacy requirement *3-4 Credit Hours* 2
- University electives *32-33 Credit Hours*
- Major requirements (listed below) *39 Credit Hours*

**Total: 120 Credit Hours**

## Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

### Major Requirements

To earn the B.S. degree with a sociology major, students must complete a minimum of 39 credit hours in sociology. Of these credit hours, 18 are required courses; the remaining 21 credit hours are electives chosen from over 30 sociology courses. Students must observe the prerequisite sequencing of required courses as shown in the course descriptions. Students must earn at least a "C-" in all sociology classes or any course that is substituted for a sociology core course. If a student earns below a "C-" in a course, he/she can re-take the course once in order to meet the "C-" standard.

#### Courses

SOCI 110. Social Issues in a Global Context [C4GE] *3.00*  
SOCI 140. Microsociology: The Individual in Society [C5SD] *3.00*  
SOCI 200. Development of Sociological Thought and Method *3.00* 1  
SOCI 231. Introduction to Social Statistics *3.00* 2

SOCI 300. Sociological Inquiry *3.00* 3  
SOCI 480. Senior Seminar in Sociology *3.00* 4, 5, 6  
Sociology electives *21 Credit Hours* 7

**Total: 39 Credit Hours**

## Footnotes

<sup>1</sup> Prerequisite for SOCI 200: SOCI 110, SOCI 140 or SOCI 101. <sup>2</sup> Students can substitute SOCI 231 with MATH 220, PSYC 210 or COB 191, but must take an additional sociology course to complete the required 39 hours of sociology.

<sup>3</sup> Prerequisite for SOCI 300: SOCI 200 and SOCI 231 (or equivalent), sociology majors only. <sup>4</sup> Prerequisite for SOCI 480: SOCI 300. <sup>5</sup> This course fulfills the College of Arts and Letters writing-intensive requirement for the major.

<sup>6</sup> Students may fulfill the senior seminar requirement by completing a supervised internship with a substantial writing expectation. Students must secure their own internship placement before enrolling in the internship course and should

consult an adviser or the sociology program coordinator for details. Students may also fulfill the senior seminar requirement by successfully completing the SOCI 499 Honors Thesis sequence. <sup>7</sup> If a course other than SOCI 231 is used to meet the statistics requirement, 24 elective credits will be required to reach the 39 credit hour total.

## Recommended Schedule for Majors

Transfer students on a two-year course of study should change "Year" in this sequence to "Semester." The following is an example of a four-year course of study for a student seeking a degree in sociology:

### First Year

SOCI 110. Social Issues in a Global Context [C4GE] 3.00  
SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00  
Sociology elective 3 Credit Hours

**Total: 9 Credit Hours**

### Second Year

SOCI 200. Development of Sociological Thought and Method 3.00  
SOCI 231. Introduction to Social Statistics 3.00  
Sociology electives 3 Credit Hours

**Total: 9 Credit Hours**

### Third Year

SOCI 300. Sociological Inquiry 3.00  
Electives 6-9 Credit Hours

**Total: 9-12 Credit Hours**

### Fourth Year

Sociology electives 6-9 Credit Hours  
SOCI 480. Senior Seminar in Sociology 3.00 (majors take this any time after completing SOCI 300)

**Total: 9-12 Credit Hours**

## Communities, Inequalities and Public Policy Concentration

SOCI 280. Social Gerontology 3.00 or GERN 280. Social Gerontology 3.00  
SOCI 304. Social Deviance 3.00  
SOCI 311. Sociology of the Environment 3.00  
SOCI 318. Sociology of Immigration 3.00  
SOCI 321. Politics in Society 3.00  
SOCI 322. Sociology of Religion 3.00 or REL 322. Sociology of Religion 3.00  
SOCI 328. Digital Inequality 3.00  
SOCI 334. Self & Society 3.00  
SOCI 335. Disability and Society 3.00  
SOCI 336. Race and Ethnicity 3.00  
SOCI 337. Sociology of Gender 3.00 or WGSS 337. Sociology of Gender 3.00  
SOCI 341. Sociology of Education 3.00  
SOCI 347. Queer Theories of Gender and Inequality 3.00

SOCI 352. Birth, Death, Sex: Exploring Demography 3.00 or ANTH 352. Birth, Death, Sex: Exploring Demography 3.00 (B,C)  
SOCI 354. Social Inequality 3.00  
SOCI 357. Sociology of Disasters 3.00  
SOCI 360. Social Movements 3.00  
SOCI 367. Sociology of Sexuality 3.00  
SOCI 372. Sociology of the Community 3.00  
SOCI 374. Sociology of Families 3.00  
SOCI 375. Medical Sociology 3.00  
SOCI 382. Qualitative Sociology 3.00  
SOCI 385. Madness and Society: the Sociology of Mental Health and Illness 3.00  
SOCI 386. Sociology of Nonprofit Organizations 3.00

### Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Environment, Technologies and Innovations Concentration

SOCI 311. Sociology of the Environment 3.00  
SOCI 315. Technology and Society 3.00  
SOCI 328. Digital Inequality 3.00  
SOCI 344. Work and Society 3.00  
SOCI 348. Introduction to Developing Societies 3.00  
SOCI 354. Social Inequality 3.00  
SOCI 357. Sociology of Disasters 3.00

SOCI 360. Social Movements 3.00  
SOCI 361. Sociology of Organizations 3.00  
SOCI 366. Sociology of Knowledge 3.00  
SOCI 367. Sociology of Sexuality 3.00  
SOCI 375. Medical Sociology 3.00  
SOCI 385. Madness and Society: the Sociology of Mental Health and Illness 3.00  
SOCI 386. Sociology of Nonprofit Organizations 3.00

### Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Markets and Cultures Concentration

SOCI 306. Japanese Society and Culture 3.00  
SOCI 315. Technology and Society 3.00  
SOCI 318. Sociology of Immigration 3.00  
SOCI 328. Digital Inequality 3.00  
SOCI 334. Self & Society 3.00  
SOCI 341. Sociology of Education 3.00  
SOCI 342. Social Movements in the Middle East 3.00  
SOCI 344. Work and Society 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00  
SOCI 358. Sociology of Consumption 3.00  
SOCI 361. Sociology of Organizations 3.00  
SOCI 363. Sociology of Culture 3.00  
SOCI 367. Sociology of Sexuality 3.00  
SOCI 368. Contemporary American Culture 3.00  
SOCI 382. Qualitative Sociology 3.00  
SOCI 386. Sociology of Nonprofit Organizations 3.00

### Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Political and Global Analysis Concentration

SOCI 304. Social Deviance 3.00  
SOCI 306. Japanese Society and Culture 3.00  
SOCI 318. Sociology of Immigration 3.00  
SOCI 321. Politics in Society 3.00  
SOCI 328. Digital Inequality 3.00  
SOCI 335. Disability and Society 3.00  
SOCI 336. Race and Ethnicity 3.00  
SOCI 337. Sociology of Gender 3.00 OR WGSS 337. Sociology of Gender 3.00  
SOCI 342. Social Movements in the Middle East 3.00  
SOCI 344. Work and Society 3.00  
SOCI 347. Queer Theories of Gender and Inequality 3.00

SOCI 348. Introduction to Developing Societies 3.00 or SOWK 348. Introduction to Developing Societies 3.00  
SOCI 352. Birth, Death, Sex: Exploring Demography 3.00 OR ANTH 352. Birth, Death, Sex: Exploring Demography 3.00 (B,C)  
SOCI 354. Social Inequality 3.00  
SOCI 360. Social Movements 3.00  
SOCI 361. Sociology of Organizations 3.00  
SOCI 363. Sociology of Culture 3.00  
SOCI 375. Medical Sociology 3.00  
SOCI 382. Qualitative Sociology 3.00  
SOCI 386. Sociology of Nonprofit Organizations 3.00

### Footnotes

<sup>1</sup> Within any of the defined concentrations students may gain credits toward completing the concentration through certain special topics or other courses. On occasion, courses taken outside the major or university may qualify. For special topics courses in sociology, see the instructor of record for that course. For other questions or possibilities see an adviser or the sociology program coordinator.

## Recommended Schedule for Majors

Transfer students on a two-year course of study should change "Year" in this sequence to "Semester." The following is an example of a four-year course of study for a student seeking a degree in sociology:

### First Year

SOCI 110. Social Issues in a Global Context [C4GE] 3.00

SOCI 140. Microsociology: The Individual in Society [C5SD] 3.00

Sociology elective 3 Credit Hours

**Total: 9 Credit Hours**

### Second Year

SOCI 200. Development of Sociological Thought and Method 3.00

SOCI 231. Introduction to Social Statistics 3.00

Sociology electives 3 Credit Hours

**Total: 9 Credit Hours**

### Third Year

SOCI 300. Sociological Inquiry 3.00

Electives 6-9 Credit Hours

**Total: 9-12 Credit Hours**

### Fourth Year

Sociology electives 6-9 Credit Hours

SOCI 480. Senior Seminar in Sociology 3.00 (majors take this any time after completing SOCI 300)

**Total: 9-12 Credit Hours**

## Sociology Minor

### Sociology Minor

To minor in sociology, a student must complete a minimum of 18 credit hours of sociology course work including three core credit hours and 15 elective credit hours.

#### Core Requirements

SOCI 200. Development of Sociological Thought and Method 3.00

Sociology electives 15 Credit Hours

**Total: 18 Credit Hours**

# School of Theatre and Dance

Mr. Rubén G. Graciani, **School Director**

**Phone:** (540) 568-6342

**Email:** [graciarg@jmu.edu](mailto:graciarg@jmu.edu)

**Location:** Forbes Center for the Performing Arts

**Website:** <http://www.jmu.edu/theatredance>

Kate M Arecchi, **Associate Director**

## Professors

D. Beck, R. Graciani, P. Johnson, S. Miller-Corso, S. O'Hara, C. Thompson,

## Associate Professors

K. Arecchi, E. Becher-McKeever, R. Corrison, I. De Sanctis, R. Finkelstein, K. Sherrill

## Assistant Professors

J. Brent, J. Del Vecchio, Z. Dorsey, T. Ellis, E. Oleson, L. Olyan Pendell, B. Lambert, J. Stewart, J. Streeter

## Mission

The School of Theatre and Dance is rooted in the belief that the relevant artist is the thinking artist who couples the mastery and embodiment of concrete skills with knowledge of and sensitivity to the cultural environments of ideas, artistic forms and other persons. The school trains and educates artists, scholars and teachers in the rich traditions and current practices of dance, theatre and musical theatre. Dedicated to the value of the intensive B.A., the school's programs blend liberal arts education and critical thinking with intensive, pre-professional training and practice. Faculty foster an environment that values and cultivates creative, passionate, disciplined, curious, innovative, engaged, articulate, collaborative and independent-thinking artists and scholars. Committed to a teaching approach that emphasizes mentorship and individual attention to students, faculty members of the school empower students in the development of their own personal strengths, provide them with tools and opportunities to realize their potential, and equip them for successful work in professional environments, graduate programs and to be lifelong learners.

## Goals

To realize this mission, the School of Theatre and Dance strives to:

- Develop in students the ability to work productively and sensitively in creative and collaborative processes.
- Offer multiple opportunities for students to self-initiate and self-produce work in a context supportive of experimentation.
- Produce performances and creative experiences of high quality.
- Present performances by and learning experiences with visiting artists.
- Motivate students to take active responsibility for their work, processes and careers.
- Promote, support and enable faculty professional development so that teachers continue to provide the education for students that only growing, current and active creative artists and scholars can provide.
- Inspire and prepare students to be advocates for the arts.
- Foster an understanding of the roles of the artist and the arts in society.
- Advance dynamic partnerships with diverse communities.

## Career Opportunities

For information about career opportunities in theatre, dance and musical theatre, contact the appropriate coordinator:

- Theatre Coordinator: Ben Lambert, [lamberbc@jmu.edu](mailto:lamberbc@jmu.edu)
- Dance Coordinator: Suzanne Miller-Corso, [mille2sm@jmu.edu](mailto:mille2sm@jmu.edu)
- Musical Theatre Coordinator: Kate Arecchi, [arecchk@jmu.edu](mailto:arecchk@jmu.edu)

## Co-curricular Activities and Organizations

The School of Theatre and Dance offers a number of co-curricular activities and organizations. They allow students to apply and experiment with the theories they learn in the classroom and gain practical experience in their field.

- Alpha Psi Omega
- Associate Dance Ensemble
- Madison New Works Lab
- Contemporary Dance Ensemble
- Dance Studio Productions
- Dance Theatre
- Studio Theatre Productions
- Experimental Series Productions
- Workshop Productions
- Mainstage Productions
- National Honor Society for Dance Arts
- Stratford Players
- Virginia Repertory Dance Company
- USITT Student Chapter

## Special Admission and Retention Requirements

Admission to the dance major is competitive and an audition/interview is required. Contact the school office by calling (540) 568-6342 or visit the School of Theatre and Dance website for current audition information.

Admission to the musical theatre major is competitive and an audition/interview is required. Contact the school office by calling (540) 568-6342 or visit the School of Theatre and Dance website for current audition information.

Admission to the theatre major is competitive and an audition or portfolio review and interview is required. Contact the school office by calling (540) 568-6342 or visit the School of Theatre and Dance website for current audition information. A grade of "C" or better must be achieved in all courses that apply to a major in the School of Theatre and Dance. All School of Theatre and Dance majors must complete the requirements for a Bachelor of Arts degree and must complete the General Education program. Theatre/Musical Theatre majors cannot take THEA 210. Introduction to Theatre [C2VPA] to meet the visual and performing arts requirements. Courses from other academic units may not be counted both for the School of Theatre and Dance majors and for another major.

## Credit by Examination

A student may earn credit for a course in the School of Theatre and Dance by passing an examination. The school administers credit by examination tests during only the first two weeks of a fall or spring semester. The tests will not be offered during summer sessions. A student can take a credit by examination test only once during a semester.

A student must request permission for credit by examination by the end of the semester that precedes the semester in which he/she wants to take the examination. Theatre and dance majors who want to meet a major requirement through examination must take the examination before their final year of study. The school does not offer credit by examination for performance or design courses such as acting, directing, scene design, lighting design, costume design, makeup, stage management, dance technique, composition and ensembles.

## Dance, Bachelor of Arts, B.A.

The School of Theatre and Dance offers a B.A. in dance. A dance major must fulfill degree and major requirements.

### Degree Requirements

- General Education *41 Credit Hours*<sup>1</sup>
- Foreign Language classes (intermediate level required) *0-14 Credit Hours*<sup>2</sup>
- Philosophy course (in addition to General Education courses) *3 Credit Hours*
- University electives *14-28 Credit Hours*
- Major requirements (listed below) *48-49 Credit Hours*

**Total: 120 Credit Hours**

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

### Major Requirements

All students pursuing a B.A. degree in dance must complete the core requirements.

#### Core Courses

THEA 100. Theatre and Dance Colloquium *0.00* (4 enrollments) or  
DANC 100. Theatre and Dance Colloquium *0.00* (4 enrollments)  
THEA 171. Performance Production *3.00* or DANC 171. Performance Production  
*3.00*  
THEA 250. The Collaborative Artist: Sophomore Studio *3.00* or DANC 250. The  
Collaborative Artist: Sophomore Studio *3.00*  
*Choose one of the following: 2-3 Credit Hours*  
DANC 142. Elementary Ballet (0, 4) *2.00*  
DANC 143. International Folk Dance (0, 4) *2.00*  
DANC 144. Ballroom Dance (0, 4) *2.00*  
DANC 147. Tap Dance (0, 4) *2.00*  
DANC 325. Dance in Community *3.00*  
DANC 390. Directed Projects *1.00 - 3.00*  
THEA 251. Acting I: Basic Acting *3.00*

**Total: 8-9 Credit Hours**

#### Program Requirements

DANC 245. Dance Improvisation (0, 4) *2.00*  
DANC 248. History of Dance: Renaissance Through the 20th Century *3.00*  
DANC 320. Anatomy and Somatic Studies for the Dancer *3.00*  
DANC 345. Dance Composition I (2, 2) *3.00*  
DANC 445. Dance Composition II (2, 2) *3.00*  
DANC 449. The Dance Professional *3.00*

### Recommended Schedule for Dance Majors

#### First Year

DANC 110. Associate Group Dance Repertory I (0, 4) *1.00* (fall)  
DANC 171. Performance Production *3.00*  
DANC 210. Associate Group Dance Repertory II (0, 4) *1.00* (spring)  
DANC 240. Intermediate Modern Dance I (0, 4) *2.00* (fall and spring)  
DANC 242. Intermediate Ballet I (0, 4) *2.00*  
DANC 245. Dance Improvisation (0, 4) *2.00*  
THEA 100. Theatre and Dance Colloquium *0.00* (fall and spring) or DANC 100.  
Theatre and Dance Colloquium *0.00* (fall and spring)

#### Second Year

DANC 143. International Folk Dance (0, 4) *2.00* or DANC 144. Ballroom Dance  
(0, 4) *2.00* or DANC 390. Directed Projects *1.00 - 3.00* or DANC 325. Dance  
in Community *3.00*  
DANC 211. Contemporary Dance Ensemble Repertory I (0, 4) *2.00* (fall)  
DANC 311. Contemporary Dance Ensemble Repertory II (0, 4) *2.00* (spring)  
DANC 340. Intermediate Modern Dance II (0, 4) *2.00* (fall and spring)  
DANC 342. Intermediate Ballet II (0, 4) *2.00* or DANC 442. Advanced Ballet (0, 4)  
*2.00*

### Dance Teaching Licensure

In addition to general education and theatre and dance requirements, students desiring PreK-12 teaching licensure in dance must complete 16 credits of additional course work in kinesiology, health science, education, psychology and 12 credits of student teaching. It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses.

### Course Requirements

Students seeking licensure are encouraged to consult regularly with the faculty adviser of dance education. The undergraduate degree leading to licensure must include the following:

- Credit must be earned in each area: ballet, folk, jazz and modern dance (8 credits)
- Credit must be earned beyond the beginning level of ballet, jazz and modern dance (3 credits)
- Credit must be earned in dance composition, dance improvisation and dance production (minimum of 7 credits)
- Credit must be earned in human anatomy, kinesiology, and injury prevention and care for dance (9 credits)

DANC 479. Methods of Teaching Dance *3.00*

#### Technique Courses

The student is required to complete 10 credits in modern and four credits in ballet technique, with placement to be assessed in conference with dance faculty. Modern, ballet and jazz technique classes all have an advanced level course in the curriculum. The requirements listed below are the minimum level expected of dance major students. Most majors will take additional technique courses as university electives throughout their study in the dance program.

Two semesters for a total of four credits:

DANC 240. Intermediate Modern Dance I (0, 4) *2.00*

Two semesters for a total of four credits:

DANC 340. Intermediate Modern Dance II (0, 4) *2.00*

One semester for a total of two credits:

DANC 440. Advanced Modern Dance (0, 4) *2.00*

Select four credits from the following courses:

DANC 242. Intermediate Ballet I (0, 4) *2.00*

DANC 342. Intermediate Ballet II (0, 4) *2.00*

#### Ensemble Courses

DANC 110. Associate Group Dance Repertory I (0, 4) *1.00*

DANC 210. Associate Group Dance Repertory II (0, 4) *1.00*

DANC 211. Contemporary Dance Ensemble Repertory I (0, 4) *2.00*

DANC 311. Contemporary Dance Ensemble Repertory II (0, 4) *2.00*

**Total: 48-49 Credit Hours**

DANC 345. Dance Composition I (2, 2) *3.00*

DANC 248. History of Dance: Renaissance Through the 20th Century *3.00*

THEA 100. Theatre and Dance Colloquium *0.00* (fall and spring) or DANC 100.  
Theatre and Dance Colloquium *0.00* (fall and spring)

THEA 250. The Collaborative Artist: Sophomore Studio *3.00* or DANC 250. The  
Collaborative Artist: Sophomore Studio *3.00*

#### Third Year

DANC 320. Anatomy and Somatic Studies for the Dancer *3.00*

DANC 445. Dance Composition II (2, 2) *3.00*

DANC 479. Methods of Teaching Dance *3.00*

DANC 411. Contemporary Dance Ensemble Repertory III (0, 4) *2.00* or DANC  
312. Virginia Repertory Dance Company II (0, 4) *2.00*

Repertory III or Virginia Repertory Dance Company  
Other dance technique courses to fit the student's schedule.

#### Fourth Year

DANC 449. The Dance Professional *3.00*

Other dance technique and ensemble courses to fit the student's schedule.

- Credit must be earned in history of dance (3 credits)

## Required Courses

ATEP 205. Introduction to Athletic Training (2,2) 3.00 (spring, junior)  
 DANC 325. Dance in Community 3.00  
 DANC 490. Special Studies in Dance 1.00 - 3.00 (prior to student teaching)  
 EDUC 300. Foundations of American Education 3.00  
 DANC 480. Student Teaching 3.00 - 12.00

PSYC 160. Life Span Human Development [C5SD] 3.00 (may double count)  
 KIN 202. Biological Foundations of Kinesiology & Recreation 3.00 (fall, junior)  
 LED 420. Content Area Literacy, K-12 2.00  
**Total: 30 Credit Hours**

## Musical Theatre, Bachelor of Arts, B.A.

The Theatre and Dance, School of offers a B.A. in musical theatre. A musical theatre major must fulfill degree and major requirements.

### Degree Requirements

- General Education 41 Credit Hours <sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours <sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours
- University electives 0-14 Credit Hours
- Major requirements (listed below) 62 Credit Hours

### Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

### Major Requirements

All students pursuing a B.A. degree in musical theatre must complete the core requirements listed below.

#### Core Courses

THEA 100. Theatre and Dance Colloquium 0.00 (4 enrollments) or DANC 100. Theatre and Dance Colloquium 0.00 (4 enrollments)  
 THEA 171. Performance Production 3.00 or DANC 171. Performance Production 3.00  
 THEA 250. The Collaborative Artist: Sophomore Studio 3.00 or DANC 250. The Collaborative Artist: Sophomore Studio 3.00  
 Choose one of the following: 2 Credit Hours  
 DANC 140. Elementary Modern Dance (0, 4) 2.00  
 DANC 142. Elementary Ballet (0, 4) 2.00  
 DANC 143. International Folk Dance (0, 4) 2.00  
 DANC 144. Ballroom Dance (0, 4) 2.00  
 DANC 147. Tap Dance (0, 4) 2.00  
 DANC 245. Dance Improvisation (0, 4) 2.00

#### Total: 8 Credit Hours

#### Required Courses

THEA 208. Theatre Practicum: Performance 1.00 or THEA 308. Theatre Practicum: Performance 1.00

#### Program Requirements

Choose three of the following: 3 Credit Hours  
 (One credit each from scenery, lighting, costumes or management)  
 THEA 204. Theatre Practicum: Scenery 1.00 or THEA 304. Theatre Practicum: Scenery 1.00  
 THEA 205. Theatre Practicum: Lights 1.00 or THEA 305. Theatre Practicum: Lights 1.00  
 THEA 206. Theatre Practicum: Costumes 1.00 or THEA 306. Theatre Practicum: Costumes 1.00  
 THEA 207. Theatre Practicum: Management 1.00 or THEA 307. Theatre Practicum: Management 1.00

#### Footnotes

<sup>1</sup> Two enrollments of one credit each. <sup>2</sup> Four enrollments of one credit each.

### Recommended Schedule for Majors

#### First Year

THEA 100. Theatre and Dance Colloquium 0.00 (fall and spring) or DANC 100. Theatre and Dance Colloquium 0.00 (fall and spring)  
 THEA 171. Performance Production 3.00  
 THEA 211. Performance Analysis 3.00  
 THEA 251. Acting I: Basic Acting 3.00  
 THEA 253. Musical Theatre Laboratory 1.00 (Two enrollments of 1 credit each)  
 DANC 146. Jazz Dance (0, 4) 2.00  
 MUAP 114. Group Voice for Musical Theatre Concentrators 1.00 (Two enrollments of 1 credit each)  
 Dance Core  
 Other technique courses to fit the student's schedule

#### Second Year

THEA 211. Performance Analysis 3.00  
 THEA 251. Acting I: Basic Acting 3.00  
 THEA 253. Musical Theatre Laboratory 1.00 1  
 THEA 273. Design Aspects of Performance 3.00  
 THEA 351. Acting II: Intermediate Acting 3.00  
 THEA 353. Music Theatre Performance 2.00  
 THEA 357. Music Theatre History and Analysis 3.00 or MUS 357. Music Theatre History and Analysis 3.00  
 Choose two of the following: 6 Credit Hours  
 THEA 315. World Theatre Histories, Texts and Performances I 3.00  
 THEA 316. World Theatre Histories, Texts and Performances II 3.00  
 THEA 317. World Theatre Histories, Texts and Performances III 3.00  
 Choose one of the following: 3 Credit Hours  
 THEA 441. Senior Seminar in Theatre 3.00  
 THEA 442. Senior Seminar 1.00 and  
 THEA 499. Honors in Theatre 1.00 - 3.00  
 THEA 454. Advanced Music Theatre Performance 2.00  
 THEA 455. Auditioning for Musical Theatre 2.00  
 DANC 146. Jazz Dance (0, 4) 2.00  
 DANC 246. Intermediate Jazz 2.00  
 DANC 346. Intermediate Jazz II/Musical Theatre Styles 2.00  
 MUAP 114. Group Voice for Musical Theatre Concentrators 1.00 1  
 MUAP 214. Private Voice for Musical Theatre Concentrators 1.00 2  
 MUS 100. Keyboard Skills 1.00  
 MUS 101. Keyboard Skills II 1.00  
 MUS 140. Introduction to Music Theory and Aural Skills 4.00  
**Total: 62 Credit Hours**

THEA 100. Theatre and Dance Colloquium 0.00 (fall and spring) or DANC 100. Theatre and Dance Colloquium 0.00 (fall and spring)  
 THEA 250. The Collaborative Artist: Sophomore Studio 3.00 or DANC 250. The Collaborative Artist: Sophomore Studio 3.00  
 THEA 273. Design Aspects of Performance 3.00  
 THEA 351. Acting II: Intermediate Acting 3.00  
 THEA 353. Music Theatre Performance 2.00  
 THEA 357. Music Theatre History and Analysis 3.00  
 DANC 246. Intermediate Jazz 2.00  
 MUS 100. Keyboard Skills 1.00  
 MUS 101. Keyboard Skills II 1.00  
 MUAP 214. Private Voice for Musical Theatre Concentrators 1.00 (Two enrollments of 1 credit each)  
 Practicum

Other technique courses to fit the student's schedule

### Third Year

THEA 454. Advanced Music Theatre Performance 2.00

MUS 140. Introduction to Music Theory and Aural Skills 4.00

MUS 214. Private Voice for Musical Theatre Concentrators 1.00 (Two enrollments of 1 credit each)

Practicum

Other technique courses to fit the student's schedule

Take two of the following: 6 Credit Hours

THEA 315. World Theatre Histories, Texts and Performances I 3.00

THEA 316. World Theatre Histories, Texts and Performances II 3.00

THEA 317. World Theatre Histories, Texts and Performances III 3.00

### Fourth Year

THEA 441. Senior Seminar in Theatre 3.00 or THEA 442. Senior Seminar 1.00 and

THEA 499. Honors in Theatre 1.00 - 3.00

THEA 455. Auditioning for Musical Theatre 2.00

Other technique courses to fit the student's schedule

## Theatre Teaching Licensure

In addition to general education and theatre major requirements, students desiring PK-12 licensure in theatre must complete additional course work in education, psychology and theatre. It is necessary to be admitted to the teacher education program prior to enrolling in professional education courses. For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education.

Students seeking licensure are encouraged to consult regularly with the theatre education program adviser. The undergraduate degree leading to licensure must include the following minimum requirements in theatre:

### Required Courses

Theatre education concentration requirements (12 credits)

All theatre major core requirements (8 credits)

All theatre major non-concentration requirements (25 credits)

Directing to fulfill the major performance requirement (3 credits)

### Required Theatre Courses

THEA 320. Theatre Teaching Methods - Primary Level 3.00 (second or third year)

THEA 321. Theatre Teaching Methods - Secondary Level 3.00 (second or third year)

THEA 490. Special Studies in Theatre 1.00 - 3.00 (Practicum) (fall semester fourth year)

THEA 355. Directing for the Theatre 3.00 (must be taken to fulfill the concentration performance requirement)

Total: 15 Credit Hours

### Required Education and Psychology Courses

PSYC 160. Life Span Human Development [C5SD] 3.00

EDUC 300. Foundations of American Education 3.00

LED 420. Content Area Literacy, K-12 2.00

THEA 480. Student Teaching 3.00 - 12.00

Total: 20 Credit Hours

## Theatre, Bachelor of Arts, B.A.

The School of Theatre and Dance offers a B.A. in theatre. A theatre major must fulfill degree and major requirements.

### Degree and Major Requirements

#### Degree Requirements

- General Education 41 Credit Hours<sup>1</sup>
- Foreign Language classes (intermediate level required) 0-14 Credit Hours<sup>2</sup>
- Philosophy course (in addition to General Education courses) 3 Credit Hours
- University electives 17-28 Credit Hours
- Major requirements (listed below) 48 Credit Hours

Total: 120 Credit Hours

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level of the student's chosen language (typically 232) or by placing out of that language through the Department of Foreign Languages, Literatures and Cultures' placement test.

### Major Requirements

All students pursuing a B.A. degree in theatre must complete the core requirements.

#### Required Courses

Choose one of the following: 2 Credit Hours

DANC 140. Elementary Modern Dance (0, 4) 2.00

DANC 142. Elementary Ballet (0, 4) 2.00

DANC 143. International Folk Dance (0, 4) 2.00

DANC 144. Ballroom Dance (0, 4) 2.00

DANC 146. Jazz Dance (0, 4) 2.00

DANC 147. Tap Dance (0, 4) 2.00

DANC 245. Dance Improvisation (0, 4) 2.00

#### Core Courses

THEA 100. Theatre and Dance Colloquium 0.00 or DANC 100. Theatre and Dance Colloquium 0.00 (4 enrollments)

THEA 171. Performance Production 3.00 or DANC 171. Performance Production 3.00

THEA 250. The Collaborative Artist: Sophomore Studio 3.00 or DANC 250. The Collaborative Artist: Sophomore Studio 3.00

#### Program Requirements

THEA 211. Performance Analysis 3.00

THEA 251. Acting I: Basic Acting 3.00

THEA 273. Design Aspects of Performance 3.00

THEA 315. World Theatre Histories, Texts and Performances I 3.00

THEA 316. World Theatre Histories, Texts and Performances II 3.00

THEA 317. World Theatre Histories, Texts and Performances III 3.00

Choose four of the following: 4 Credit Hours

(One credit each from scenery, lighting, costumes, management or performance)

THEA 204. Theatre Practicum: Scenery 1.00 or THEA 304. Theatre Practicum: Scenery 1.00

THEA 205. Theatre Practicum: Lights 1.00 or THEA 305. Theatre Practicum: Lights 1.00

THEA 206. Theatre Practicum: Costumes 1.00 or THEA 306. Theatre Practicum: Costumes 1.00

THEA 207. Theatre Practicum: Management 1.00 or THEA 307. Theatre Practicum: Management 1.00

THEA 208. Theatre Practicum: Performance 1.00 or THEA 308. Theatre Practicum: Performance 1.00

Choose one of the following: 3 Credit Hours

THEA 441. Senior Seminar in Theatre 3.00

THEA 442. Senior Seminar 1.00 and

THEA 499. Honors in Theatre 1.00 - 3.00

Performance Requirements: 3 Credit Hours (Choose one)

THEA 351. Acting II: Intermediate Acting 3.00

THEA 355. Directing for the Theatre 3.00

Design/Technology Requirements: 3 Credit Hours (Choose one)

THEA 271. Technical Theatre 3.00

THEA 331. Technical Costuming 3.00

THEA 332. Costume and Fashion History 3.00

THEA 333. Costume Design 3.00

THEA 374. Stage Lighting 3.00

THEA 375. Sound Design 3.00

THEA 376. Scene Design 3.00

Total: 39 Credit Hours

## Concentrations

Theatre majors may fulfill the requirements for one or more concentrations or complete nine THEA credits not already applied to the major.

Students in concentrations receive concentration-related advising. In order to formally pursue a concentration, student must apply for the concentration, which can happen as early as the fall of sophomore year for the theatre education concentration and as early as the spring of sophomore year for the theatre studies, performance and design/technology concentrations. Concentrations include:

- Theatre, Design/Technology Concentration, B.A.
- Theatre, Performance Concentration, B.A.
- Theatre, Theatre Education Concentration, B.A.
- Theatre, Theatre Studies Concentration, B.A.

## Recommended Schedule for Theatre Majors

### First Year

THEA 100. Theatre and Dance Colloquium 0.00 or DANC 100. Theatre and Dance Colloquium 0.00

THEA 171. Performance Production 3.00

THEA 211. Performance Analysis 3.00

THEA 251. Acting I: Basic Acting 3.00

Theatre Major General Requirements

### Second Year

THEA 100. Theatre and Dance Colloquium 0.00 or DANC 100. Theatre and Dance Colloquium 0.00

THEA 250. The Collaborative Artist: Sophomore Studio 3.00 or DANC 250. The Collaborative Artist: Sophomore Studio 3.00

THEA 273. Design Aspects of Performance 3.00

THEA 315. World Theatre Histories, Texts and Performances I 3.00

THEA 316. World Theatre Histories, Texts and Performances II 3.00

Theatre Major General Requirements

Theatre Major Performance or Design/Technology Requirement

Dance Core Requirement

### Third Year

THEA 317. World Theatre Histories, Texts and Performances III 3.00

Theatre Major General Requirements

Theatre Major Performance or Design/Technology Requirements

Concentration Requirements

### Fourth Year

THEA 441. Senior Seminar in Theatre 3.00 or THEA 442. Senior Seminar 1.00

THEA 499. Honors in Theatre 1.00 - 3.00

Theatre Major Performance or Design/Technology Requirements

Concentration Requirements

## Design/Technology Concentration

### Design/Technology

Choose two courses not already applied to the major:

THEA 333. Costume Design 3.00

THEA 374. Stage Lighting 3.00

THEA 375. Sound Design 3.00

THEA 376. Scene Design 3.00

Choose one course not already applied to the major:

THEA 271. Technical Theatre 3.00

THEA 331. Technical Costuming 3.00

THEA 332. Costume and Fashion History 3.00

THEA 336. History, Theory and Practice of Stage Makeup 3.00

THEA 371. Advanced Technical Theatre 3.00

THEA 471. Stage Management 3.00

THEA 473. Advanced Design and Rendering 3.00

THEA 390. Directed Projects 1.00 - 3.00 (with permission) 1 or THEA 490.

Special Studies in Theatre 1.00 - 3.00 (with permission) 1

## Footnotes

<sup>1</sup> THEA 390. Directed Projects; THEA 490. Special Studies in Theatre; THEA 499. Honors in Theatre; No more than four hours of practicums may be applied to the theatre major, and no more than 10 hours of special studies (including practicums) may be applied to the theatre major.

## Performance Concentration

THEA 452. Acting III: Contemporary Scene Study 3.00

THEA 453. Acting IV: Approach to Heightened Language 3.00

THEA 460. Auditioning and Professional Issues 3.00

## Theatre Education Concentration

Students who complete the theatre education concentration are able to apply for a PreK-12 teaching licensure in theatre. This concentration requires 15 THEA credits.

THEA 310. Theatre for Young Audiences 3.00

THEA 320. Theatre Teaching Methods - Primary Level 3.00

THEA 321. Theatre Teaching Methods - Secondary Level 3.00

THEA 322. Equity, Inclusion and Access in Education and Performance 3.00

THEA 323. Youth Theatre 3.00

## Theatre Studies Concentration

Choose any nine THEA credits not already applied to the major or six THEA credits and one of the following courses:

THEA 449. London Theatre 3.00

THEA 485. American Theatre 3.00 or ENG 485. American Theatre

ENG 317. Shakespeare's Tragedies and Romances 3.00

ENG 318. Shakespeare's Comedies and Histories 3.00

ENG 320L. Shakespeare on the Page and Stage in London

ENG 334. Contemporary Drama 3.00

## Teacher Licensure in Theatre

In addition to general education and theatre and dance requirements, students desiring PreK-12 teaching licensure in theatre must complete the courses below. For a complete description of admission and retention policies and procedures for teacher education, refer to the College of Education.

EDUC 300. Foundations of American Education 3.00

PSYC 160. Life Span Human Development [C5SD] 3.00

LED 420. Content Area Literacy, K-12 2.00

THEA 325. Theatre Teaching Practicum 3.00

THEA 480. Student Teaching 3.00 - 12.00

Theatre education concentration course requirements

All theatre major requirements

THEA 355. Directing for the Theatre

Fulfills the theatre major requirement and a Virginia theatre teacher licensure requirement

## Minors

### Theatre Minor

**Theatre Minor Adviser:** Zachary Dorsey

**Email:** [dorseyza@jmu.edu](mailto:dorseyza@jmu.edu)

**Phone:** (540) 568-4551

The School of Theatre and Dance offers a minor with options in theatre or dance. No audition or portfolio review is required for the theatre minor or dance minor. A grade of "C" or better must be achieved in all School of Theatre and Dance courses that apply to a minor in the School of Theatre and Dance.

#### Courses

Choose one of the following: 3 Credit Hours

THEA 171. Performance Production 3.00

THEA 273. Design Aspects of Performance 3.00

Choose one of the following: 3 Credit Hours

THEA 210. Introduction to Theatre [C2VPA] 3.00

THEA 211. Performance Analysis 3.00

Electives: 15 Credit Hours



Electives selected from the theatre-designated courses with the approval of the minor adviser

**Total: 21 Credit Hours**

## Dance Minor

**Dance Minor Adviser:** Suzanne Miller-Corso

**Email:** [mille2sm@jmu.edu](mailto:mille2sm@jmu.edu)

**Phone:** (540) 568-3924

The School of Theatre and Dance offers a minor with options in theatre or dance. No audition or portfolio review is required for the theatre minor or dance minor. A grade of "C" or better must be achieved in all School of Theatre and Dance courses that apply to a minor in the School of Theatre and Dance.

### Courses

DANC 245. Dance Improvisation (0, 4) *2.00*

DANC 248. History of Dance: Renaissance Through the 20th Century *3.00*

Electives from contemporary dance techniques and/or folk and ballroom techniques with approval of minor adviser *10.00 Credit Hours*

Electives selected from dance-designated courses and/or dance related courses at the 300 or 400 level with approval of minor adviser. *6.00 Credit Hours*

**Total: 21 Credit Hours**

# School of Writing, Rhetoric and Technical Communication

Dr. Traci A. Zimmerman, **Director** Phone: (540) 568-6004 Email: [zimmertra@jmu.edu](mailto:zimmertra@jmu.edu) Location: Harrison Hall, Room 2252 Website: <http://www.jmu.edu/wrtc/index.shtml>

## Professors

L. Burton, M. Hawthorne, S. O'Connor, K. Schick, M. Smith, T. Zimmerman

## Associate Professors

S. Aley, J. Almjeld, A. Crow, J. Featherstone, S. Ghiaciu, E. Gumnior, M. Klein, S. Lunsford, S. McCarthy, C. Molloy, A. Parrish, E. Pass, J. Zimmerman

## Assistant Professors

H. Comfort, L. De Hertogh, V. Rouillon, L. Schubert

## Instructors

C. Allen, M. Hickman, K. Jefferson, C. Martin, K. McDonnell, C. Radcliffe

## Mission Statement

The School of Writing, Rhetoric and Technical Communication is a community committed to preparing its students - both writers and technical and scientific communicators - for lives of enlightened, global citizenship.

## Goals

The goals of WRTC are to help students:

- Develop into accomplished writers and editors.
- Evaluate the effectiveness of communication based upon the principles of rhetoric.
- Develop proficiency in critical thinking, technological and analytical skills.
- Create for themselves an area of expertise applicable to work as professional communicators.

## Career Opportunities

In the WRTC major, students learn the kinds of research, analytical and reasoning skills that will allow them to become successful professionals in a wide range of fields. WRTC graduates can expect career opportunities in writing, editing or production positions with a variety of business, educational or industry employers, including the computer hardware and software industry, law firms, journalism, health care providers, pharmaceutical manufacturers, education, engineering companies, publishing houses, environmental organizations, not-for-profit or political organizations, and technical translation groups of multinational corporations.

## Professional Activities and Organizations

### Internships

The WRTC internship is a requirement for all B.A. and B.S. students. It allows students to utilize the preparation that they received from their WRTC coursework to design, write, edit and produce professional documents for internship providers in academia, business, industry and government. Information about internships may be obtained through the WRTC website.

### Journal

*RhetTech* is the newest, student-run, online journal in WRTC. It aims to publish high-quality compositions in a variety of genres from students working in the disciplines of writing, rhetoric and technical communication. *RhetTech* is created and managed by students enrolled in WRTC 328. These practicum students develop the criteria used to evaluate essays, read and discuss each submission, and work individually with winning essayists to prepare their work for publication.

### Pre-Law

Pre-law at JMU is not a major, minor or concentration, but a number of WRTC students elect to pursue law school after graduation. The director of WRTC serves the College of Arts and Letters as a pre-law adviser and can assist students in selecting courses that will best provide the intellectual challenge and skills necessary for success in law school.

### STC Student Chapter

The Society for Technical Communication offers a unique opportunity for members to seek recognition for their work and obtain professional contacts. STC is the world's largest and oldest professional association dedicated to the advancement of the field of technical communication. The Society's members span the field of the technical communication profession from students and academics to practitioners and managers.

The James Madison University STC Student Chapter was established in the fall of 1999, offering students a venue for exploring networking and applied skills.

## *Writing, Rhetoric and Technical Communication, Bachelor of Arts*

The study of writing, rhetoric and technical communication includes two concentrations in the undergraduate major: technical and scientific communication and writing and rhetoric. The WRTC major emphasizes scholarly, humanistic and social scientific perspectives on the function and application of communication technologies, with instruction in areas such as:

- literacy studies
- rhetorical traditions
- writing pedagogy
- editing
- website theory and design
- publications management
- knowledge and information management
- writing for professional communities such as government, medical, scientific and academic

In addition to offering students the rhetorical tools with which to excel as professional communicators, the B.A. and B.S. programs also prepare graduates for academic studies in writing, rhetoric and technical communication at the master's level as well as for professional programs such as law school.

The B.A. and B.S. programs in WRTC unite three disciplines into a flexible yet historically and theoretically grounded degree program. The WRTC degree teaches students to think in ways that cross disciplinary lines and to demonstrate accomplishment in multiple genres of writing, rhetoric and technical communication.

Students work with their WRTC advisers to design a program that fits their unique educational needs and career aspirations.

Course requirements differ between the B.A. and B.S. programs and students are advised to maintain regular contact with their WRTC adviser to ensure timely graduation.

Requirements and eligible courses for the B.A. and B.S. in each of the two concentrations are outlined below.

## Writing, Rhetoric and Technical Communication, Bachelor of Arts

### Degree Requirements

- Foreign language classes (intermediate level required) *0-14 Credit Hours* 2
- Philosophy course (in addition to General Education courses) *3 Credit*
- University electives *23-37 Credit Hours*

- Major requirements *39 Credit Hours*

#### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> The foreign language requirement may be satisfied by successful completion of the second semester of the intermediate level (typically 232) of the student's chosen language or by placing out of that language through the Department of Foreign Language, Literature and Cultures' placement test.

### Total: 120 Credit Hours

#### Major Requirements

- Core requirements *18 Credit Hours*
- Concentration requirements (Students must choose a concentration in either technical and scientific communication or writing and rhetoric.) *12 Credit Hours*
- WRTC electives *9 Credit Hours*

Total: 39 Credit Hours

#### Core Requirements

WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication *3.00*  
 WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication *3.00*  
 WRTC 300. Professional Editing *3.00*

WRTC 301. Language, Law and Ethics *3.00*  
 WRTC 495. Internship in Writing, Rhetoric and Technical Communication *3.00*  
 WRTC 496. Capstone in Writing, Rhetoric and Technical Communication *3.00*  
 Total: 18 Credit Hours

#### Recommended Schedule for B.A. Majors

Students are encouraged to begin their WRTC course work as soon as possible in their degree plans. The following sample program of study illustrates how a WRTC major might earn a B.A. degree.

##### First Year

##### First Semester

Foreign language course *3-4 Credit Hours* 1  
 General Education Cluster One *9 Credit Hours*  
 General Education Cluster Three *3 Credit Hours*

**Total: 15-16 Credit Hours**

##### Second Semester

Foreign language course *3-4 Credit Hours*  
 WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication *3.00*  
 General Education Cluster Three course *3 Credit Hours*  
 General Education courses *6 Credit Hours*

**Total: 15-16 Credit Hours**

##### Second Year

##### First Semester

Foreign language course *0-3 Credit Hours*  
 WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication *3.00*

B.A. Degree philosophy course *3 Credit Hours*  
 General Education Cluster Three course *4 Credit Hours*  
 General Education courses *0-9 Credit Hours*

**Total: 16 Credit Hours**

##### Second Semester

Foreign language course *0-3 Credit Hours*  
 WRTC 300. Professional Editing *3.00*  
 WRTC 301. Language, Law and Ethics *3.00*  
 General Education course *3 Credit Hours*  
 University electives *3 Credit Hours*

WRTC Concentration Requirement: 3 Credit Hours

WRTC 330. Rhetorical Analysis and Criticism *3.00* (for WR)  
 WRTC 350. Foundations of Technical Communication *3.00* (for TSC)

**Total: 15-18 Credit Hours**

##### Third Year

##### First Semester

WRTC concentration-specific electives *6 Credit Hours*  
 General Education courses *6 Credit Hours*  
 University elective *3 Credit Hours*

**Total: 15 Credit Hours**

##### Second Semester

WRTC concentration-specific elective *3 Credit Hours*  
 WRTC elective *3 Credit Hours*  
 General Education courses *3-6 Credit Hours*  
 University electives *6 Credit Hours*

**Total: 15-18 Credit Hours**

##### Fourth Year

##### First Semester

WRTC electives *3-6 Credit Hours*  
 University electives *6-9 Credit Hours*

**Total: 15-18 Credit Hours**

##### Second Semester

WRTC elective 0-3 Credit Hours  
 WRTC 495. Internship in Writing, Rhetoric and Technical Communication *3.00*  
 WRTC 496. Capstone in Writing, Rhetoric and Technical Communication *3.00*  
 University electives 6-9 Credit Hours  
 University electives *3 Credit Hours*

**Total: 15-16 Credit Hours**

#### Footnotes

<sup>1</sup> Completion of an intermediate level foreign language is required for the B.A. degree (usually six hours if begun at the intermediate level) unless the language requirement is satisfied by an exemption test. In that case, university electives may be substituted for additional hours indicated as foreign language courses.

#### Prerequisites

Prerequisites for most WRTC 200 and above level courses require completion of WRTC 200 and WRTC 201. Students may enroll in some courses for which they have not taken the prerequisite courses with permission of the instructor.

#### Concentrations

All students must choose a concentration in either technical and scientific communication (TSC) or writing and rhetoric (WR). In addition to the 18 credit hours of core requirements, students must take an additional 21 credit hours of WRTC electives, 12 of which are concentration-specific.

#### Technical and Scientific Communication

All TSC concentrators must take WRTC 350 and choose three additional WRTC courses from the following list of TSC electives. In addition, TSC concentrators must take one WR elective, one crossover elective and one community-based learning elective.

#### TSC Concentration Courses

WRTC 350. Foundations of Technical Communication *3.00*  
**TSC Electives (Choose three): 9 Credit Hours**  
 WRTC 352. Online Design I *3.00*  
 WRTC 354. Document Design *3.00*  
 WRTC 356. Web Theory and Design *3.00*  
 WRTC 358. Writing About Science and Technology *3.00*

WRTC 412. Content Strategy *3.00*  
 WRTC 450. Digital Rhetoric *3.00*  
 WRTC 452. Online Design II *3.00*  
 WRTC 454. Publication Management *3.00*  
 WRTC 456. Usability Testing *3.00*  
 WRTC 458. Scientific and Medical Communication *3.00*

WRTC 460. Legal Writing 3.00  
 WRTC 462. Government Writing 3.00  
**WR Electives (Choose one): 3 Credit Hours**  
 WRTC 330. Rhetorical Analysis and Criticism 3.00  
 WRTC 332. Creative Approaches to Digital Storytelling 3.00  
 WRTC 334. Introduction to Popular Writing 3.00  
 WRTC 336. Writing Consultation 3.00  
 WRTC 338. Genre Theory 3.00  
 WRTC 340. Writing as Leading 3.00  
 WRTC 342. Writing Place 3.00  
 WRTC 430. Contemporary Rhetorical Theory and Practice 3.00 or SCOM 343. Contemporary Rhetorical Theory and Practice 3.00  
 WRTC 432. Rhetoric of the Personal Narrative 3.00  
 WRTC 434. Advanced Popular Writing 3.00  
 WRTC 436. Teaching Writing 3.00  
**Crossover Electives (Choose one): 3 Credit Hours**  
 WRTC 310. Semiotics 3.00  
 WRTC 312. Studies in Literacy 3.00  
 WRTC 314. Writing in the Public Sphere 3.00  
 WRTC 316. Research Methodologies in WRTC 3.00  
 WRTC 318. Intercultural Professional Communication 3.00

### Writing and Rhetoric Concentration

All writing and rhetoric (WR) concentrators must take WRTC 330 and choose three additional WRTC courses from the following list of WR electives. In addition, WR concentrators must take one TSC elective, one crossover elective and one community-based learning elective.

WRTC 330. Rhetorical Analysis and Criticism 3.00  
**WR Electives (Choose three): 9 Credit Hours**  
 WRTC 332. Creative Approaches to Digital Storytelling 3.00  
 WRTC 334. Introduction to Popular Writing 3.00  
 WRTC 336. Writing Consultation 3.00  
 WRTC 338. Genre Theory 3.00  
 WRTC 340. Writing as Leading 3.00  
 WRTC 342. Writing Place 3.00  
 WRTC 430. Contemporary Rhetorical Theory and Practice 3.00 or SCOM 343. Contemporary Rhetorical Theory and Practice 3.00  
 WRTC 432. Rhetoric of the Personal Narrative 3.00  
 WRTC 434. Advanced Popular Writing 3.00  
 WRTC 436. Teaching Writing 3.00  
**TSC Electives (Choose one): 3 Credit Hours**  
 WRTC 350. Foundations of Technical Communication 3.00  
 WRTC 352. Online Design I 3.00  
 WRTC 354. Document Design 3.00  
 WRTC 356. Web Theory and Design 3.00  
 WRTC 358. Writing About Science and Technology 3.00  
 WRTC 412. Content Strategy 3.00  
 WRTC 450. Digital Rhetoric 3.00  
 WRTC 452. Online Design II 3.00  
 WRTC 454. Publication Management 3.00  
 WRTC 456. Usability Testing 3.00  
 WRTC 458. Scientific and Medical Communication 3.00  
 WRTC 460. Legal Writing 3.00  
 WRTC 462. Government Writing 3.00

WRTC 326. Environmental Communication and Advocacy 3.00 or SCOM 354. Environmental Communication and Advocacy 3.00  
 WRTC 328. Practicum 1.00 - 3.00, repeatable up to 6 credits  
 WRTC 359. Digital Communications Consulting 3.00 or SCOM 359. Digital Communications Consulting 3.00 or SMAD 359. Digital Communications Consulting 3.00  
 WRTC 410. Sociolinguistics 3.00  
 WRTC 414. Major Theorists in WRTC 3.00  
 WRTC 416. Rhetoric of Environmental Science and Technology 3.00 or SCOM 465. Rhetoric of Environmental Science and Technology 3.00  
 WRTC 420. Feminist Rhetorics 3.00 or SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00  
 WRTC 426. Special Topics in Writing, Rhetoric, and Technical Communication 3.00

### Community-Based Learning Electives (Choose one): 3 Credit Hours

WRTC 480. Writing for Business and Industry 3.00  
 WRTC 484. Writing for Nonprofits 3.00  
 WRTC 486. Writing in the Community 3.00  
 WRTC 488. Writing in the Health Sciences 3.00

**Total: 21 Credit Hours**

### Crossover Electives (Choose one): 3 Credit Hours

WRTC 310. Semiotics 3.00  
 WRTC 312. Studies in Literacy 3.00  
 WRTC 314. Writing in the Public Sphere 3.00  
 WRTC 316. Research Methodologies in WRTC 3.00  
 WRTC 318. Intercultural Professional Communication 3.00  
 WRTC 326. Environmental Communication and Advocacy 3.00 or SCOM 354. Environmental Communication and Advocacy 3.00  
 WRTC 328. Practicum 1.00 - 3.00, repeatable up to 6 credits  
 WRTC 359. Digital Communications Consulting 3.00 or SCOM 359. Digital Communications Consulting 3.00 or SMAD 359. Digital Communications Consulting 3.00  
 WRTC 410. Sociolinguistics 3.00  
 WRTC 414. Major Theorists in WRTC 3.00  
 WRTC 416. Rhetoric of Environmental Science and Technology 3.00 or SCOM 465. Rhetoric of Environmental Science and Technology 3.00  
 WRTC 420. Feminist Rhetorics 3.00 or SCOM 420. Feminist Rhetorics 3.00 or WGSS 420. Feminist Rhetorics 3.00  
 WRTC 426. Special Topics in Writing, Rhetoric, and Technical Communication 3.00

### Community-Based Learning Electives (Choose one): 3 Credit Hours

WRTC 480. Writing for Business and Industry 3.00  
 WRTC 484. Writing for Nonprofits 3.00  
 WRTC 486. Writing in the Community 3.00  
 WRTC 488. Writing in the Health Sciences 3.00

**Total: 21 Credit Hours**

## Writing, Rhetoric and Technical Communication, Bachelor of Science, B.S.

### Degree Requirements

- General Education 41 Credit Hours 1
- Quantitative requirement 3 Credit Hours 2
- Scientific literacy requirement 3-4 Credit Hours 2
- University electives 33-35 Credit Hours
- Major requirements 39 Credit Hours

### Footnotes

<sup>1</sup> The General Education program contains a set of requirements each student must fulfill. The number of credit hours necessary to fulfill these requirements may vary. <sup>2</sup> In addition to course work taken to fulfill General Education requirement.

**Total: 120 Credit Hours**

### Major Requirements

- Core requirements 18 Credit Hours
- Concentration requirements (Students must choose a concentration in either technical and scientific communication or writing and rhetoric.) 12 Credit Hours
- WRTC electives 9 Credit Hours

**Total: 39 Credit Hours**

## Core Requirements

WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication 3.00  
WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication 3.00  
WRTC 300. Professional Editing 3.00

WRTC 301. Language, Law and Ethics 3.00  
WRTC 495. Internship in Writing, Rhetoric and Technical Communication 3.00  
WRTC 496. Capstone in Writing, Rhetoric and Technical Communication 3.00  
**Total: 18 Credit Hours**

## Prerequisites

Prerequisites for most WRTC 200 and above level courses require completion of WRTC 200 and WRTC 201. Students may enroll in some courses for which they have not taken the prerequisite courses with permission of the instructor.

## Recommended Schedule for B.S. Majors

Students are encouraged to begin their WRTC course work as soon as possible in their degree plans. The following sample program of study illustrates how a WRTC major might earn a B.S. degree.

### First Year

#### First Semester

General Education Cluster One courses 9 Credit Hours  
General Education Cluster Three courses 3-6 Credit Hours  
General Education courses 3 Credit Hours

**Total: 15-18 Credit Hours**

#### Second Semester

WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication 3.00  
WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication 3.00  
General Education Cluster Three courses 3-4 Credit Hours  
General Education courses 6 Credit Hours

**Total: 15-16 Credit Hours**

### Second Year

#### First Semester

WRTC 300. Professional Editing 3.00  
General Education Cluster Three courses 0-4 Credit Hours  
General Education courses 9-12 Credit Hours

**Total: 15-16 Credit Hours**

#### Second Semester

WRTC 301. Language, Law and Ethics 3.00  
B.S. Quantitative requirement 3 Credit Hours  
General Education courses 9 Credit Hours  
WRTC concentration requirement: 3 Credit Hours

WRTC 330. Rhetorical Analysis and Criticism 3.00 (for WR)  
WRTC 350. Foundations of Technical Communication 3.00 (for TSC)  
**Total: 15-18 Credit Hours**

### Third Year

#### First Semester

WRTC concentration-specific electives 6 Credit Hours  
B.S. Scientific Literacy requirement 3 Credit Hours 1  
University electives 6-9 Credit Hours

**Total: 15-18 Credit Hours**

#### Second Semester

WRTC concentration-specific elective 3 Credit Hours  
WRTC elective 3 Credit Hours  
University electives 9 Credit Hours

**Total: 15 Credit Hours**

### Fourth Year

#### First Semester

WRTC elective 3-6 Credit Hours  
University electives 6-9 Credit Hours

**Total: 12-15 Credit Hours**

#### Second Semester

WRTC electives 3 Credit Hours  
WRTC 495. Internship in Writing, Rhetoric and Technical Communication 3.00  
WRTC 496. Capstone in Writing, Rhetoric and Technical Communication 3.00  
University electives 6-9 Credit Hours

**Total: 13-16 Hours**

## Footnotes

<sup>1</sup> Completion of the B.S. degree requires a student to complete either a natural science or a social science course in addition to those required for the General Education program.

## Concentrations

All students must choose a concentration in either technical and scientific communication (TSC) or writing and rhetoric (WR). In addition to the 18 credit hours of core requirements, students must take an additional 21 credit hours of WRTC electives, 12 of which are concentration-specific.

### Technical and Scientific Communication

WRTC 350. Foundations of Technical Communication 3.00

**TSC Electives (Choose three): 9 Credit Hours**

WRTC 352. Online Design I 3.00  
WRTC 354. Document Design 3.00  
WRTC 356. Web Theory and Design 3.00  
WRTC 358. Writing About Science and Technology 3.00  
WRTC 412. Content Strategy 3.00  
WRTC 450. Digital Rhetoric 3.00  
WRTC 452. Online Design II 3.00  
WRTC 454. Publication Management 3.00  
WRTC 456. Usability Testing 3.00  
WRTC 458. Scientific and Medical Communication 3.00  
WRTC 460. Legal Writing 3.00  
WRTC 462. Government Writing 3.00

**WR Electives (Choose one): 3 Credit Hours**

WRTC 330. Rhetorical Analysis and Criticism 3.00  
WRTC 332. Creative Approaches to Digital Storytelling 3.00  
WRTC 334. Introduction to Popular Writing 3.00  
WRTC 336. Writing Consultation 3.00  
WRTC 338. Genre Theory 3.00  
WRTC 340. Writing as Leading 3.00  
WRTC 342. Writing Place 3.00  
WRTC 430. Contemporary Rhetorical Theory and Practice 3.00 or SCOM 343.  
Contemporary Rhetorical Theory and Practice 3.00  
WRTC 432. Rhetoric of the Personal Narrative 3.00  
WRTC 434. Advanced Popular Writing 3.00

WRTC 436. Teaching Writing 3.00

**Crossover Electives (Choose one): 3 Credit Hours**

WRTC 310. Semiotics 3.00  
WRTC 312. Studies in Literacy 3.00  
WRTC 314. Writing in the Public Sphere 3.00  
WRTC 316. Research Methodologies in WRTC 3.00  
WRTC 318. Intercultural Professional Communication 3.00  
WRTC 326. Environmental Communication and Advocacy 3.00 or SCOM 354.  
Environmental Communication and Advocacy 3.00  
WRTC 328. Practicum 1.00 - 3.00, repeatable up to 6 credits  
WRTC 359. Digital Communications Consulting 3.00 or SCOM 359. Digital  
Communications Consulting 3.00 or SMAD 359. Digital Communications  
Consulting 3.00  
WRTC 410. Sociolinguistics 3.00  
WRTC 414. Major Theorists in WRTC 3.00  
WRTC 416. Rhetoric of Environmental Science and Technology 3.00 or SCOM  
465. Rhetoric of Environmental Science and Technology 3.00  
WRTC 420. Feminist Rhetorics 3.00 or SCOM 420. Feminist Rhetorics 3.00 or  
WGSS 420. Feminist Rhetorics 3.00  
WRTC 426. Special Topics in Writing, Rhetoric, and Technical Communication  
3.00

**Community-Based Learning Electives (Choose one): 3 Credit Hours**

WRTC 480. Writing for Business and Industry 3.00  
WRTC 484. Writing for Nonprofits 3.00  
WRTC 486. Writing in the Community 3.00  
WRTC 488. Writing in the Health Sciences 3.00

## Writing and Rhetoric Concentration

All writing and rhetoric (WR) concentrators must take WRTC 330 and choose three additional WRTC courses from the following list of WR electives. In addition, WR concentrators must take one TSC elective, one crossover elective and one community-based learning elective.

WRTC 330. Rhetorical Analysis and Criticism 3.00

### WR Electives (Choose three): 9 Credit Hours

WRTC 332. Creative Approaches to Digital Storytelling 3.00

WRTC 334. Introduction to Popular Writing 3.00

WRTC 336. Writing Consultation 3.00

WRTC 338. Genre Theory 3.00

WRTC 340. Writing as Leading 3.00

WRTC 342. Writing Place 3.00

WRTC 430. Contemporary Rhetorical Theory and Practice 3.00 or SCOM 343.

Contemporary Rhetorical Theory and Practice 3.00

WRTC 432. Rhetoric of the Personal Narrative 3.00

WRTC 434. Advanced Popular Writing 3.00

WRTC 436. Teaching Writing 3.00

### TSC Electives (Choose one): 3 Credit Hours

WRTC 350. Foundations of Technical Communication 3.00

WRTC 352. Online Design I 3.00

WRTC 354. Document Design 3.00

WRTC 356. Web Theory and Design 3.00

WRTC 358. Writing About Science and Technology 3.00

WRTC 412. Content Strategy 3.00

WRTC 450. Digital Rhetoric 3.00

WRTC 452. Online Design II 3.00

WRTC 454. Publication Management 3.00

WRTC 456. Usability Testing 3.00

WRTC 458. Scientific and Medical Communication 3.00

WRTC 460. Legal Writing 3.00

WRTC 462. Government Writing 3.00

### Crossover Electives (Choose one): 3 Credit Hours

WRTC 310. Semiotics 3.00

WRTC 312. Studies in Literacy 3.00

WRTC 314. Writing in the Public Sphere 3.00

WRTC 316. Research Methodologies in WRTC 3.00

WRTC 318. Intercultural Professional Communication 3.00

WRTC 326. Environmental Communication and Advocacy 3.00 or SCOM 354. Environmental Communication and Advocacy 3.00

WRTC 328. Practicum 1.00 - 3.00, repeatable up to 6 credits

WRTC 359. Digital Communications Consulting 3.00 or SCOM 359. Digital Communications Consulting 3.00 or SMAD 359. Digital Communications Consulting 3.00

WRTC 410. Sociolinguistics 3.00

WRTC 414. Major Theorists in WRTC 3.00

WRTC 416. Rhetoric of Environmental Science and Technology 3.00 or SCOM

465. Rhetoric of Environmental Science and Technology 3.00

WRTC 420. Feminist Rhetorics 3.00 or SCOM 420. Feminist Rhetorics 3.00 or

WGSS 420. Feminist Rhetorics 3.00

WRTC 426. Special Topics in Writing, Rhetoric, and Technical Communication 3.00

### Community-Based Learning Electives (Choose one): 3 Credit Hours

WRTC 480. Writing for Business and Industry 3.00

WRTC 484. Writing for Nonprofits 3.00

WRTC 486. Writing in the Community 3.00

WRTC 488. Writing in the Health Sciences 3.00

**Total: 21 Credit Hours**

## Writing, Rhetoric and Technical Communication Minor

The minimum requirement for a minor in WRTC is 18 credit hours.

### Minor Requirements

WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication 3.00

WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication 3.00

WRTC 300. Professional Editing 3.00

WRTC 301. Language, Law and Ethics 3.00

Choose any two WRTC electives 6 Credit Hours

**Total: 18 Credit Hours**

# Course Descriptions

## Accounting

### **ACTG 244. Accounting for Non-Business Majors. 3.00.**

For non-business majors only. Introduces basic business and accounting topics such as revenue, investments, expenditures, liabilities, credit, cash management, and taxation. Heavy emphasis is placed on the measurement of operating performance, and interpretation and use of accounting data for organizational decision-making. *Prerequisite: Sophomore standing or higher.*

### **ACTG 295. Accounting Ethics and Social Responsibility. 3.00.**

This course examines ethical perspectives and values in decision making for accountants from both philosophical and professional perspectives. Students analyze the nature of ethical dilemmas faced by accountants in making decisions and exercising responsibilities to the public, and they apply professional guidance on ethics in accounting. *Prerequisite: Junior standing. Open to accounting majors only.*

### **ACTG 302. Introduction to the Profession: Role of Accountants. 1.00.**

This class relies heavily on discussions with practicing accountants in public accounting, industry and government. Topics include career preparation and the role of accountants in business and capital markets. Written assignments are used to enhance communication skills. *Prerequisite: Completion of both COB 241 and COB 242 with grades of "B" or better in each and COB 300. Corequisite: COB 300.*

### **ACTG 303. Basic Spreadsheet Skills for Accountants. 1.00.**

This class provides students with hands-on learning and practice with basic Excel skills necessary in the workplace. Topics include creating and printing professional documents, navigating through workbooks, creating and editing formulas, using basic logical and statistical functions, and creating charts. *Prerequisite: ACTG 302 or permission of the department head. Corequisite: ACTG 302 or permission of the department head.*

### **ACTG 304. Advanced Spreadsheet Skills for Analysis and Reporting Accounting Information. 1.00.**

This class provides students with hands-on learning and practice with advanced Excel skills. This class focuses on preparing students to become Microsoft Certified Application Specialists in Excel. Topics include customizing charts, using advanced financial, logical, and statistical functions, pivot tables and pivot charts, evaluation of formulas, and collaboration of workbooks. *Prerequisite: Completion of ACTG 303 with a grade of "C-" or better.*

### **ACTG 313. Accounting Information Systems. 3.00.**

Covers the use of accounting systems for the collection, organization, analysis and reporting of accounting data. Topics include: internal controls, documentation of accounting systems, transaction processing cycles, auditing information technology, computer and information systems security and integration of business functions in the accounting process. *Prerequisite: ACTG 303. Corequisite: ACTG 303.*

### **ACTG 343. Corporate Financial Reporting I. 3.00.**

Provides a theoretical framework to explain and critically evaluate financial reporting by businesses. In addition to studying the authoritative standards for preparing financial statements, students develop the ability to read, use, analyze and interpret financial statements. Students gain an understanding that managers can shape the financial information communicated to investors and creditors. *Prerequisite: ACTG 302 or permission of the department head. Corequisite: ACTG 302 or permission of the department head.*

### **ACTG 344. Corporate Financial Reporting II. 3.00.**

Continues the development of a theoretical framework to read, use, analyze, interpret, explain and critically evaluate financial reporting by businesses. Selected topics include financial instruments, leases, pensions, deferred taxes, stockholders' equity and other corporate reporting issues. *Prerequisite: ACTG 343 with a grade of "C-" or better.*

### **ACTG 377. Federal Income Tax Accounting. 3.00.**

Designed to introduce students to the federal income tax system, including individual and business entity taxation. Topics include income, exclusions, deductions and property transactions. Also facilitates development of research skills. *Prerequisite: ACTG 302 or permission of the department head. Corequisite: ACTG 302 or permission of the department head.*

### **ACTG 410. Auditing. 3.00.**

A study of techniques available for gathering, summarizing, analyzing and interpreting the data presented in financial statements and procedures used in verifying the fairness of the information. Also emphasizes ethical and legal aspects and considerations. *Prerequisite: ACTG 313, ACTG 303 and ACTG 344 with grades of "C-" or better.*

### **ACTG 440. Advanced Information Technology for Accountants. 3.00.**

This course is offered only for accounting majors seeking a minor in CIS. Topics include legacy systems, the systems development life cycle, telecommunications, distributed processing, networking and information security, taught from an accounting perspective. *Prerequisite: ACTG 313 with a grade of "C-" or better and declared CIS minor.*

### **ACTG 475. Accounting Decision Making and Control. 3.00.**

The study of cost accounting concepts and information used by business organizations to make strategic, organizational and operational decisions. Topics include the role of planning and control in attaining organizational goals and objectives; the relationship among cost structure, cost behavior, and operating income; traditional and activity-based costing approaches to product costing, differential analysis in decision making; and ethical issues for accountants. *Prerequisite: ACTG 343 with a grade of "C-" or better and ACTG 304. Corequisite: ACTG 304.*

### **ACTG 483. International Accounting and Financial Reporting. 3.00.**

Designed to develop a fundamental knowledge of the assumptions, environmental considerations and techniques underlying the collection and reporting of financial information on an international scale. *Prerequisite: COB 300. Open to International Business Majors Only.*

### **ACTG 490. Special Studies in Accounting. 1.00 - 6.00 each semester.**

Designed to give capable students in accounting an opportunity to do independent study under faculty supervision. Admission only by recommendation of the instructor and permission of the director.

### **ACTG 499A. Honors. 1.00**

### **ACTG 499B. Honors Thesis. 3.00**

### **ACTG 499C. Honors. 2.00**

## African, African American and Diaspora

### **AAAD 200. Introduction to African, African American and Diaspora Studies [C4GE]. 3.00.**

An introductory survey of basic theoretical concepts to analyze the Black experience, with special focus on the general historical process common to Africa and the African Diaspora. May be used for general education credit.

### **AAAD 300. Special Topics in African, African American and Diaspora Studies. 3.00.**

Examination of selected topics of importance to the field of African, African Americans and Diaspora studies.

**AAAD 400. Advanced Topics in African, African American and Diaspora Studies. 3.00.**

Selected topics in African, African American and Diaspora studies are studied in depth. Course may be repeated when content changes.

**AAAD 401. Internship in African, African American and Diaspora Studies. 1.00-6.00**

This internship course provides the student with the opportunity to apply knowledge learned in the classroom in a practical/real-world setting(s). It prepares students for working independently in the field. Any internship experience must be approved by the internship coordinator in advance, and details of supervision and evaluation should be spelled out in advance by the supervising faculty member. If the internship is through an academic unit, it must be approved for credit by the African, African American and Diaspora Studies internship coordinator in advance of the experience.

**AAAD 489. African, African American and Diaspora Studies Senior Research Experience. 1.00.**

In this research-oriented experience, students design and complete research projects relevant to their interests in African, African American and Diaspora studies, as well as connect their projects to previous course work and experiences within the AAAD studies minor. *Prerequisite: AAAD 200, senior standing and permission of the instructor.*

**AIRS****AIRS 100. Leadership Laboratory. 0.00.**

This course is a mandatory laboratory in leadership and followership development for Air Force Reserve Officer Training Course (AFROTC) cadets. As a complement to the air science classes, this laboratory focuses on applying leadership principles and understanding leaders' responsibilities while emphasizing the benefits of practical experience. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: Any Air Force ROTC class.*

**AIRS 110. The Foundations of the United States Air Force I. 1.00.**

This course introduces the United States Air Force and Air Force Reserve Officers Training Corps. Topics include mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities and communication skills. JMU students will take AFROTC classes at the University of Virginia for JMU credit. AFROTC cadets and students interested in joining Air Force ROTC must also register for AIRS 100, Leadership Laboratory.

**AIRS 120. The Foundations of the United States Air Force II. 1.00.**

This course introduces the United States Air Force and Air Force Reserve Officers Training Corps. Topics include mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities and communication skills. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 210. The Evolution of Air and Space Power I. 1.00.**

Historical perspective, from the first balloons and dirigibles to the space age global positioning systems of the Persian Gulf War. Topics include principles of war, tenets of air and space power, historical Air Force leaders, and employment of air and space power. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 220. The Evolution of Air and Space Power II. 1.00.**

This course examines general aspects of air and space power through a historical perspective, from the first balloons and dirigibles to the space age global positioning systems of the Persian Gulf War. Topics include principles of war, tenets of air and space power, historical Air Force leaders, and employment of air and space power. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 310. Concepts of Air Force Leadership and Management I. 3.00.**

This course studies leadership, management fundamentals and professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. The class examines Air Force leadership and management situations, using case studies as a means of demonstrating and applying the concepts under consideration. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 320. Concepts of Air Force Leadership and Management II. 3.00.**

This course studies leadership, management fundamentals and professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. The class examines Air Force leadership and management situations, using case studies as a means of demonstrating and applying the concepts under consideration. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 410. National Security Affairs/Preparation for Active Duty I. 3.00.**

This course examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, preparation for active duty and current issues affecting the military profession. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**AIRS 420. National Security Affairs/Preparation for Active Duty II. 3.00.**

This course examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, preparation for active duty and current issues affecting the military profession. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Corequisite: AIRS 100.*

**American Studies****AMST 200. Introduction to American Studies [C2HQC]. 3.00.**

This interdisciplinary course will highlight the student's role in interrogating the cultural and political function of representations of America in literature, history, philosophy, religion, popular culture, music and art. Students will gain an understanding of why definitions of American identity matter and learn about the contemporary debates that inform the discipline of American Studies today. Questions about the changing role of national studies in the face of globalization are central. May be used for general education credit.

**AMST 302. Immigrants in American Society. 3.00.**

Immigrants today come to America from many countries, but because scholarly research had tended to concentrate on only a few of the largest nationality groups, the full range of immigrant experience has yet to be explored and documented. In this cross-disciplinary course, we will give special attention to two groups, Mexicans and Vietnamese, about whom much has been written, as examples of the varying ways that immigrants come to the U.S. and adapt to living here while maintaining important ties to their homelands and cultures. We will also consider the consequences of immigration for both the first and second generations of immigrants as well as for the communities that receive them, including the Central Shenandoah Valley.

**Anthropology****ANTH 195. Cultural Anthropology [C4GE]. 3.00 (C, R)**

An introduction to the nature of culture and its relationship to language, economics, politics, kinship and other institutions in diverse cultures. The course also provides an overview of the theories, methods and ethical responsibilities involved in the study of cultural systems and ethnographic writing. May be used for general education credit.

**ANTH 196. Biological Anthropology [C3NS]. 3.00.**

An introduction to the origins, evolution and genetic variability of humans and their relationship to nonhuman primates. Examination of the fossil record, the relationship between biology and culture and human genetics are included. Theories and methods used in the study of biological anthropology are also introduced. May be used for general education credit.



**ANTH 197. Archaeology 3.00 (A,R)**

An introduction to the goals, methods and theory of anthropological archaeology. The course examines the variety of techniques archaeologists use to reconstruct the past from material remains. Archaeological ethics and the impact of the past on contemporary society are also considered.

**ANTH 201. The Discipline of Anthropology 1.00 (R)**

This required course introduces students to the subdisciplines of cultural, biological, linguistic and archaeological anthropology and the logic of their integration within the larger discipline of anthropology. Students will be introduced to current research questions within anthropology and how they are addressed from the perspective of the various subdisciplines. Prerequisite: Major status or permission of the instructor. It is recommended that students have had at least one of the introductory-level ANTH courses (ANTH 195, ANTH 196 or ANTH 197)

**ANTH 205. Buried Cities, Lost Tribes: The Rise and Fall of Early Human Societies [C2HQC] 3.00 (A)**

This course takes an archaeological and comparative perspective on the origins of human institutions, including art, architecture, religion, centralized political formations and urban life. The development and collapse of early societies in multiple world regions, including Mesopotamia, Egypt, the Indus Valley, Mesoamerica and the Andes will be explored. May be used for general education credit.

**ANTH 250. Anthropology of the American Southwest 3.00 (A)**

This course examines the development of Southwestern societies from early hunter-gatherers to the Native American communities of today. Major issues of anthropological interest, such as the adoption of agriculture, the development of village life, migration and abandonment, the spread of religious "cults," the extent of Mesoamerican influence and the effects of the Spanish conquest are explored.

**ANTH 265. Peoples and Cultures of Latin America and the Caribbean 3.00 (C)**

Anthropological and historical perspectives on the cultures of Latin America and the Caribbean through such themes as colonialism, nationalism, ethnicity, development, aesthetic traditions, gender, religion and urban and rural resistance movements.

**ANTH 280. Peoples and Cultures of Sub-Saharan Africa 3.00 (C)**

This is an introductory course emphasizing cultural diversity of sub-Saharan African societies. Basic anthropological concepts are used in analyzing African economics, political systems, marriage patterns and family organization, religious beliefs and the impacts of colonialism and post-colonial development practices.

**ANTH 295. People and Cultures of East Asia 3.00 (C)**

This introductory course examines the peoples and cultures of the core East Asian countries – China, Japan and Korea. The course is organized around anthropological perspectives on topics such as nationalism, consumption, gender, ethnicity and development but also emphasizes the cultural, social and historical characteristics of various groups in these nations, in addition to important cultural flows within region.

**ANTH 300. The Anthropology of Food 3.00 (C)**

This course explores anthropological approaches to food production, distribution, preparation and consumption in the contemporary world. Topics include food preferences and taboos, food and the senses, ritual and identity, technological risks, diet and nutrition, cuisine and class and the political economy of food. Prerequisite: Any lower-level course in anthropology or permission of the instructor.

**ANTH 305. Language and Culture 3.00 (C) Crosslisted with SCOM 305.**

An introduction to linguistic anthropology. Explores the complex relationships between language and culture through topics such as language acquisition and socialization; language, thought and worldview; language and identity; multilingualism; how and why languages change; literacy; and the politics of language use and language ideologies.

**ANTH 306. Japanese Society and Culture 3.00 (C) Crosslisted with SOCI 306.**

This introductory course takes a critical and interdisciplinary approach to exploring Japan. We will apply Sociological, Anthropological, and Demographic perspectives to comparatively understand, analyze, and discuss Japanese society and culture. Students will read and discuss issues related to history, socio-demographic change, gender, work, social class, race/ethnicity, family, health care, and aging in Japanese society.

**ANTH 307. Climate, Culture and Change. 3.00.**

This course explores the implications of climate change for human cultures. The overall perspective will be historical, but the relevance of past experiences to contemporary circumstances will be under constant discussion. A series of case studies drawn from archaeological and historical records will attest to a range of possible human responses, including examples that involve both naturally- and culturally-induced change. Students will be introduced to the fundamentals of paleoclimatology, such as basic processes that influence climate change, as well as the sources of long-term climate records. Under an anthropological perspective, students will also become acquainted with the range of documented human reactions to climate change and their ramifications. Each case study will be addressed in three parts over the course of two class sessions: lecture/presentation, discussion and supplemental analysis.

**ANTH 311. Archaeology of Virginia. 3.00.**

A comprehensive survey of human experience in the Old (Old!) Dominion. Archaeological discoveries in Virginia, ranging from evidence of Ice Age pioneers to colonial-era plantations, will be the basis for charting wider cultural developments in eastern North America. Through these cases, basic archaeological principles, methods and theories will be reinforced. Activities and assignments will involve manipulation of original archaeological data using basic quantitative analysis. The course will also feature profiles of prominent Virginia archaeologists and sites, as well as an overview of the discipline as it is practiced in the state today. ANTH 197. Archaeology is recommended, though not required.

**ANTH 312. The Native Americans 3.00 (A)**

A study of the nature of Indian societies occupying different environmental areas of North America at the time of earliest historic contact. Indian groups such as Shawnee, Mandan, Nuunamit, Natchez, Creek, Iroquois and Sioux will be considered.

**ANTH 315. Human Evolution 3.00 (B)**

Discusses the emergence of the hominids as a lineage distinct from other apes. Provides evidence for the evolution of bipedalism, tool use, hunting/gathering, major increases in brain size, language and material culture and the hypotheses that have been developed to explain the emergence of these characteristics Prerequisite: ANTH 196, or BIO 140 and BIO 150, or permission of the instructor.

**ANTH 316. Human Evolutionary Psychology 3.00 (B)**

An exploration of human behavior from an evolutionary perspective. Emphasis is placed on the critical evaluation of adaptive hypotheses purported to explain fundamental human behaviors such as survival and mating strategies, reproduction and parenting, kinship and cooperation, dominance and aggression, cultural evolution and religion. Prerequisite: ANTH 196 or permission of instructor.

**ANTH 317. Primate Evolutionary Ecology 3.00 (B)**

This course explores the interface between an organism and its environment, illustrated with examples from the primates. Behaviors related to feeding, moving, grouping and socializing are considered from an evolutionary perspective. Topics to be discussed include feeding ecology, functional anatomy, the ecology of primate social systems, ranging behaviors, community ecology and the role humans play in shaping primate communities. Prerequisite: ANTH 196 or permission of instructor.

**ANTH 318. The Evolution of Primate Sexuality and Reproduction 3.00 (B)**

A survey of non-human primate sexuality from an evolutionary perspective. Emphasis is placed on the diversity of behavioral, anatomical and physiological aspects of mating and

reproduction across the order Primates. Where appropriate, comparisons with human sexuality are made. *Prerequisite: ANTH 196 or permission of instructor.*

**ANTH 319. Human Osteology 3.00 (B)**

Emphasis is placed on learning individual bones and teeth as well as the numerous osteological and dental landmarks that characterize them. Applied topics such as bone growth and the analysis of age, sex, stature, pathology and geographic ancestry will also be addressed. *Prerequisite: ANTH 196 or permission of the instructor.*

**ANTH 323. Anthropology and Photography 3.00 (C)**

This course explores the anthropological use of photographic data for the description, analysis, communication and interpretation of human behavior. Topics include phenomenological, cross-cultural and historical understanding of still photography; the social life of photographs; visual cultural production and the consumption of photographs; and still photography after colonialism, globalization, and postmodernity.

**ANTH 324. Mindfulness and Anthropology. 3.00.**

Mindfulness provides ways of attending to the world in its present moment in a nonjudgmental manner. Students study and practice contemporary mindfulness practices, while applying these techniques to the holistic collection, analysis and presentation of ethnographic data. The course considers recent ethnographic practice and theory in the context of mindfulness, including the anthropology of poetic expression, the senses and embodied experience. *Prerequisite: ANTH 195 or permission of the instructor.*

**ANTH 325. Aztec, Maya & Their Predecessors 3.00 (A)**

Survey of the Olmec, Toltec, Teotihuacan, Maya and Aztec civilizations and the factors leading to their development, persistence and decline.

**ANTH 327. Ancient North American Civilizations 3.00 (A)**

Studies the emergence of Native American societies prior to historic contact. Emphasizes prehistoric developments in the eastern United States.

**ANTH 331. Historical Archaeology 3.00 (A) Crosslisted with HIST 331.**

The course introduces students to the purposes, subject matter, methodology and historical background of the discipline of historical archaeology. Building on research issues and methodologies of anthropological archaeology and history, the multidisciplinary aspects of this field are introduced through field trips, projects, guest lectures, readings and classroom presentations.

**ANTH 333. Celts, Viking and Tribal Europe: Art & Culture From 500 to 1100 AD 3.00 (A)**

Building on a heritage of archaeology, art, history, material culture, mythology and literature, the course introduces students to the cultures and traditions of the Celtic, Viking (Norwegian, Danish and Swedish) and Germanic tribal and theocratic cultures that shaped the early civilizations of northern Europe, Britain and Ireland from ca. 500 A.D. to 1100 A.D.

**ANTH 350. Magic, Witchcraft and Religion 3.00 (C)**

Anthropological study of religion in society. The influence of religion on the development of social, legal, governmental and economic aspects of culture is emphasized.

**ANTH 352. Birth, Death, Sex: Exploring Demography 3.00 (B,C) Crosslisted with SOCI 352.**

Fertility (birth) and mortality (death) and their biological and social determinants in cross-cultural and evolutionary/historical frameworks. Exploration of the dynamic between the material constraints on and symbolic significance of, reproduction, sexuality and death within a cultural context. Critical examination of population growth as a global "problem." Basic demographic methods. *Prerequisite: Any lower level course in anthropology or sociology or permission of the instructor.*

**ANTH 360. Medical Anthropology 3.00 (C)**

This course takes an anthropological approach to the study of health, illness and healing; how do different cultural systems and social institutions influence the experience and interpretation of different bodily states? Material covers critical analyses of Western medicine and ethnomedicine in both specific cultural settings and their global circulation. Topics include disease epidemics, illness narratives, public health, suffering, pharmaceuticals, disability and health care systems. *Prerequisite: ANTH 195 or permission of the instructor.*

**ANTH 364. U.S./Latin American Borders 3.00 (C)**

This course examines the experiences of Latin American migrants to the United States. It stresses the cultural expression of those experiences, globalization and its effects on local communities in Latin America, the U.S. responses to migration and migrants.

**ANTH 366. Anthropology of War 3.00 (A, C)**

This course examines the causes, conduct and consequences of warfare in non-state societies using both ethnographic and archaeological data. Case studies drawn from throughout the world are used to examine topics such as the co-evolution of war and society, the impact of colonialism on native warfare, the process of making peace and claims about the biological "inevitability" of war.

**ANTH 368. Contemporary American Culture 3.00 (C) Crosslisted with SOCI 368.**

This course analyzes contemporary American society in relation to popular cultural formations and representations. Cultural expressions found in music, literature, theatre, film, television, cyberspace and sports will be examined with respect to values, sentiments, identity constructions and lived experiences of differentially situated social actors.

**ANTH 370. Topics in the Anthropology of Gender 3.00 (C)**

This course examines the many ways in which gender is constructed and negotiated in different historical and social contexts. Topics will vary with the instructor to include both cultural and biocultural perspectives.

**ANTH 375. History of Theory in Sociocultural Anthropology 3.00 (C,R,W)**

An examination of the major theoretical traditions in social and cultural anthropology. Important theoreticians and the historical contexts in which their work emerged are discussed. Fulfills the College of Arts and Letters writing intensive requirement for the major. *Prerequisite: ANTH 195 and Junior Standing.*

**ANTH 376. Anthropology of Reproduction 3.00 (C)**

This course provides students with a critical and cross-cultural perspective on human reproduction. Examining how individuals draw on social and symbolic resources to sort out complicated private decisions, we will discuss how reproductive experiences are embedded in local, national and transnational politics. Topics covered may include: cross-cultural perspectives on childbearing and childlessness, kinship, and the globalization of new reproductive technologies such as in vitro fertilization. *Prerequisite: ANTH 195 or permission of the instructor.*

**ANTH 377. Space/Culture/Power 3.00 (C)**

An introduction to social-scientific approaches to space. We will think critically about how people across cultures shape—and are shaped by—the spaces we occupy. Drawing on examples from around the world we examine the intersections of space, culture and power through such topics as segregation, maps, architecture, prisons, schools, migration politics and more. The course encourages students to think of space—and its intersections with culture and power—in new and sophisticated ways. *Prerequisite: ANTH 195.*

**ANTH 388. Prisons, Punishment and the State. 3.00. Crosslisted with SOCI 388.**

The course investigates the nature of punishment and the particular forms of punishment meted out by the state. Questions include: What is the purpose of punishment? Why does the state choose incarceration as its standard punishment? What forms of punishment exist in other cultures? We focus on the contexts in which prisons emerged in the US and what they say about our society. Discussions center on power, race, class, gender, age and the political economics of the criminal justice system. *Prerequisite: ANTH 195 or permission of the instructor.*

**ANTH 389. Ethnographic Experience in Dominica 3.00 (C)**

This course is an anthropological case study of Dominica, an independent postcolonial island nation in the Eastern Caribbean. The course entails extensive background study of the

island's history, culture and languages, combined with hands-on ethnographic, service-learning and cross-cultural experiences during an Alternative Spring Break in Dominica.  
*Prerequisite: Permission of the instructor.*

**ANTH 390. Topics in Cultural Studies 3.00 (C) Crosslisted with SOCI 390.**

This course explores contemporary culture through a "cultural studies" lens, an interdisciplinary perspective interested in using empirical knowledge to encourage more just human relations. Specific topics of investigation will vary by semester, but each course will cover cultural studies' intellectual history and its application to cultural expressions found in everyday life, film, music and text.

**ANTH 391. Study Abroad 1.00 - 6.00 (May be A, B, C, F)**

Designed to encourage students to enhance their academic programs through studying abroad. Arrangements must be made with a faculty member who will direct the study with preparatory instructions and final requirements. May be repeated up to 12 credits.

**ANTH 395. Special Topics in Anthropology 3.00 (May be A,B, or C)**

Examination of selected topics which are of current importance to anthropology. May be repeated for credit when course content changes.

**ANTH 405. Topics in Linguistic Anthropology 3.00 (C)**

Examines current issues in the anthropology of language. Topics vary by semester, but each course will include hands-on analysis of social interaction and/or investigation of contemporary case studies of language policy, ideologies and use.

**ANTH 410. Spatial Analysis for Anthropologists 4.00 (A,B and C).**

The course teaches students how to identify and solve anthropological problems with spatial dimensions. Hands-on experience is stressed in the acquisition, analysis and display of spatial data using Geographic Information Systems software. Topics include the mapping of race and ethnicity, the spatial distribution of cultural variables and human modification and use of the landscape. *Prerequisite: ANTH 195, ANTH 196 or ANTH 197.*

**ANTH 411. Topics in Ethnographic Film. 3.00.**

An examination of current issues in the study of ethnographic film. The course studies the changing role, practice and methods of film in anthropological research and scholarship. Topics include methods and genres of ethnographic film composition; the scientific status of filmed data; cross-cultural visual literacies; narrative form as social scientific inquiry; film and sensory data; sound, subtitles and translations; "indigenous media;" and audience reception *Prerequisite: ANTH 195 or permission of the instructor.*

**ANTH 415. Anthropological Genetics 3.00 (B)**

Surveys the theory and methods of evolutionary genetics as applied to human evolution and human diversity. Emphasizes human evolution as illuminated by genetics, as well as the intersection of human genetics with social issues such as racism, bioethics and eugenics. *Prerequisite: ANTH 196.*

**ANTH 430. Primate Conservation Biology 3.00 (B)**

A discussion-based course that examines the impact of human activities on biodiversity, with an emphasis on the primates. Concepts and theories in conservation biology will be explored and applied to understanding the threats to wild primates and evaluating conservation strategies. Cultural and political perspectives and philosophical and ethical arguments for conserving biodiversity will also be considered. *Prerequisite: ANTH 196 or BIO 250 or permission of the instructor.*

**ANTH 435. Ethnographic Genres and Methods 4.00 (C,F)**

Explores ethnographic methods and conventions of ethnographic writing through close reading, analysis and production of ethnographic texts. Students develop critical skills in assessing ethnographic practice by examining how ethnographies are shaped by authors' fieldwork experiences, intellectual traditions and theoretical perspectives. Students engage in fieldwork and craft their own ethnographic accounts. *Prerequisite: ANTH 375.*

**ANTH 436. Afro-Latin America 3.00 (C) Crosslisted with HIST 436.**

Latin America and the Caribbean were the first and largest parts of the Western Hemisphere to be populated by Africans. Afro-Latin America examines cultural formations Africans brought to these regions. Beginning with an overview of the slave trade, it examines the histories of Africans and African-descent people throughout Latin America, as well as contemporary Afro-Latin American culture(s). *Prerequisite: One course in either Latin American or Africana studies (any discipline); upper-division status or permission of the instructor.*

**ANTH 455. Archaeology: Methods of Analysis and Interpretation 4.00 (A,F)**

A review of the nature of inquiry, recent theory and the means by which archaeologist acquire, analyze and interpret their data. In addition to practical training in methods of analysis used in contemporary practice, students will gain experience in designing, conducting and reporting archaeological research. *Prerequisite: ANTH 195 and ANTH 197.*

**ANTH 485. Anthropology Course Assistantship 1.00 - 3.00.**

Students participate as course assistants in anthropology. Assistantships provide students with a sense of what it is like to teach an anthropology course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships also allow for a deeper understanding of course material by providing opportunities for student assistants to lead discussion and to help their peers review the material outside of the classroom. *Prerequisite: Students must have junior/senior standing, must have earned a grade of "B" or better in the course for which he/she will serve as assistant and may register by faculty invitation only. May be repeated up to six credits; only three credits can count toward the major. A student may only serve as a course assistant to the same course twice.*

**ANTH 486. Internship in Anthropology 1.00 - 6.00 (May be A,B or C)**

Designed to encourage students to enhance their academic programs by employing and refining anthropological skills through internships in public or private agencies. Arrangements must be made with a faculty member who will oversee the internship. *Prerequisite: By permission only. May be repeated up to six credits.*

**ANTH 490. Special Studies in Anthropology 1.00 - 3.00 (May be A, B or C).**

Course offers students an opportunity to do independent study under staff supervision. *Prerequisite: Admission only by recommendation of the instructor. More than one repeat requires department head approval.*

**ANTH 490A. Special Studies 3.00**

**ANTH 490B. Special Studies 2.00**

**ANTH 490C. Special Studies 3.00**

**ANTH 492. Material Culture 3.00 (A) Crosslisted with ARTH 492, HIST 492.**

A broad introduction to the multidisciplinary "field" of material culture studies through readings, written assignments, in-class exercises and field trips. The course introduces ways of looking at and learning from objects and examines how scholars from several disciplines have used material culture in their work. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 as prerequisite for non-history majors.*

**ANTH 494. Field Techniques in Archaeology 4.00 - 8.00 (A,F)**

Laboratory course directed at teaching students the basic field techniques and procedures of historic and prehistoric archaeology. Classroom lectures will present techniques and relevant aspects of method and theory.

**ANTH 494A. Field Tech in Archeology 4.00 - 8.00**

**ANTH 494B. Field Tech in Archeology 4.00 - 8.00**

**ANTH 494C. Field Tech in Archeology 4.00 - 8.00**

**ANTH 496. Research Thesis. 3.00. Crosslisted with HIST 496.**

Students will gather, analyze and interpret archaeological/historical data over two semesters. Students will work on a project that demonstrates theory, research design, data gathering and analysis, culminating in a written thesis. The course meets the capstone requirement for the historical archaeology minor but is also available to students in history and anthropology. *Prerequisite: Junior or senior standing.*

**ANTH 499. Honors Thesis 6.00 (May be A, B, or C). Three Semesters**

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction.

**ANTH 499A. Honors 1.00**

**ANTH 499B. Honors 3.00**

**ANTH 499C. Honors 2.00**

## **ARAB**

**ARAB 101. Elementary Arabic I. 4.00.**

The fundamentals of modern standard Arabic through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If a student has had two or more years of the language in high school, he/she will not receive credit for the course.

**ARAB 102. Elementary Arabic II. 4.00.**

The fundamentals of modern standard Arabic through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite: ARAB 101.*

**ARAB 109. Accelerated Review of Elementary Arabic. 3.00.**

Reviews elementary Arabic grammar, reading, writing, speaking and listening skills in Arabic. One hour of work a week in the language laboratory. For students who have had no more than two or three years of Arabic in high school and qualify through the placement exam. Native speakers are excluded. *Prerequisite: Permission of the department head or sufficient score on the foreign language placement exam.*

**ARAB 111. Intensive Arabic I 6.00**

The fundamentals of Arabic through intensive listening, speaking, reading and writing. This four-week course is the equivalent of ARAB 101 -ARAB 102.

**ARAB 212. Intensive Arabic II 6.00**

A thorough review of grammar, vocabulary building, conversation, composition and reading at the intermediate level. This four-week course is the equivalent of ARAB 231-ARAB 232. *Prerequisite: ARAB 102, ARAB 109 or ARAB 111, or permission of the instructor.*

**ARAB 231. Intermediate Arabic I. 3.00.**

A thorough review of first-year grammar and vocabulary building. Conversation, composition and reading will be chosen to reach competency at the lower intermediate level Arabic. *Prerequisite: ARAB 102, ARAB 109 or ARAB 111, or permission of the instructor.*

**ARAB 232. Intermediate Arabic II. 3.00.**

A thorough review of grammar and vocabulary building, conversation, composition and reading. *Prerequisite: ARAB 231 or permission of the instructor.*

**ARAB 300. Arabic Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Arabic. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: ARAB 212 or ARAB 232 or permission of the instructor.*

**ARAB 307. A History of Islamic Civilization 600-1600 A.D. 3.00.**

A study of society, economics, politics, culture and the arts of the Islamic world from the rise of Islam to the establishment of the gunpowder empires (Ottoman, Safavid, and Mughal). Instruction is in English.

**ARAB 308. Contemporary Islamic Civilization. 3.00.**

A study of society, economics, politics, culture and the arts of the Islamic world, with a focus on the Arabic-speaking regions, from 1700 A.D. to the present. Instruction is in English.

**ARAB 320. Arabic Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Arabic with emphasis on conversation and composition. Readings in Arabic will provide a context for discussion and writing. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 330. Business Arabic. 3.00.**

A study of commercial and trade vocabulary and customs in conjunction with practice in commercial communication, including letter writing, interviews and interpretations. Instruction is in Arabic. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 339. Literatures of the Islamic World 600-1500 A.D.. 3.00.**

A thorough analysis of selected passages from important authors from early Arabic and Persian literature up to the beginning of the 16th century AD. The material studied will include Arabic poetry and prose from the period just before the rise of Islam to about 1500, and Persian poetry and prose from the spread of the use of New Persian in the 10th century to about 1500. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 340. Intermediate Arabic Conversation. 3.00.**

Course emphasizes oral communication at the intermediate level. Students will use the vocabulary they have learned in the previous Arabic language classes. In addition, students will acquire new vocabulary from in- and out- of class conversational situations. *Prerequisite: ARAB 212 or ARAB 232 or permission of the instructor.*

**ARAB 371. Advanced Arabic Grammar and Translation. 3.00.**

Arabic/English translation applied in several fields. In this course students analyze the main grammatical differences between Arabic and English with the focus on producing accurate and idiomatic translations into both languages. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 385. The Arabian Nights. 3.00.**

This course introduces the collection of popular tales known as "The Arabian Nights" or "The Thousand and One Nights." Readings also include medieval and modern European short stories that are adapted from the "Nights", or which appropriate themes and techniques from the "Nights." Instruction is in English. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 386. Arabic Fables and Short Stories. 3.00.**

This course provides an overview of short Arabic literary texts, ranging from the animal fables translated by Ibn al-Muqaffa' in the 8th century to Arabic short stories from the 20th century. Students will read a number of stories in English as well as a selection of texts in classical and modern standard Arabic by some of the most prominent Arabic-writing authors of the last thirteen centuries. Advanced topics in grammar will be addressed as the need arises. *Prerequisite: ARAB 300 or the permission of the instructor.*

**ARAB 400. Advanced Arabic Writing and Conversation. 3.00.**

Discussions and writings deal with topics of current interest. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 405. The Arabic Novel. 3.00.**

This course provides an introduction to novels written in the Arabic language. The goal is to study the development of the modern Arabic novel from the nineteenth century to the present through a selection of ten texts written by authors originating from a number of different Arabic countries. The texts will be placed within the social and political contexts in which they were written. Additionally, social, religious and historical aspects of modern Arab culture will be explored through the texts. The students will gain some familiarity with the major literary trends, themes and genres of this time period. Readings are in English and Arabic. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 410. Media Arabic. 3.00.**

An introduction to the vocabulary and language of Arabic press media and to the history of mass media in the Arabic speaking world. The focus is on print and Internet media, although media broadcasting in other forms is also covered. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 411. Colloquial Egyptian Arabic I. 3.00.**

This course provides an introduction to Egyptian Colloquial Arabic (ECA), the most widely spoken and understood Arabic dialect. Students will learn the phonological, morphological, syntactic, and semantic particularities of ECA, and the major differences between Modern Standard Arabic and ECA, while developing their listening and speaking skills necessary for personal everyday life. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 412. Colloquial Egyptian Arabic II. 3.00.**

This course is a continuation of Colloquial Egyptian Arabic I. It is the second part of an intensive introduction to Egyptian Colloquial Arabic (ECA). Students will build on previously learned material through scenarios of everyday life. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 413. Colloquial Levantine Arabic I (Jordanian/Palestinian). 3.00.**

This course provides an introduction to Jordanian and Palestinian Colloquial Arabic (JCA and PCA), the Arabic dialects spoken in Jordan and Palestine/Israel. Students will learn the phonological, morphological, syntactic and semantic particularities of JCA and PCA, and the major differences between them and Modern Standard Arabic, while developing their listening and speaking skills necessary for personal everyday life. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 414. Colloquial Levantine Arabic II (Syrian/Lebanese). 3.00.**

This course provides an introduction to Syrian and Lebanese Colloquial Arabic (SCA and LCA), the Arabic dialects spoken in Syria and Lebanon. Students will learn the phonological, morphological, syntactic and semantic particularities of SCA and LCA, and the major differences between them and Modern Standard Arabic, while developing their listening and speaking skills necessary for personal everyday life. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 428. Muhammad and the Qur'an. 3.00.**

A study of the life of the Prophet Muhammad and the contents of his message as found in the "Sira" (his biography), the Qur'an, and the "hadith" (reports concerning his sayings and actions). Instruction is in English. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 429. Intro To Qur'anic Arabic. 3.00.**

An introduction to the Arabic vocabulary and grammar of the Qur'an and hadith literature. The course provides an intensive overview of Arabic grammar, from basic to advanced topics. Students will gain the ability to read excerpts from the Qur'an and other Islamic religious texts in Arabic. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 446. Special Topics in Arabic Literature. 3.00.**

Study of a particular topic in Arabic Literature. May cover all or specific Arabic literature genre. May be repeated if content changes. *Prerequisite: ARAB 300 or permission of the instructor.*

**ARAB 447. Special Topics in Arabic Civilization and Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of Arabic countries. Course may be repeated if content changes. *Prerequisite: ARAB 300 or Permission of the Instructor*

**ARAB 448. Special Topics in Arabic Linguistics. 3.00.**

Students will study a particular topic in Arabic linguistics. Topics could include an introduction to Arabic sociolinguistics and psycholinguistics. Course may be repeated if content changes. *Prerequisite: ARAB 300 or Permission of the Instructor*

**ARAB 490. Special Studies in Arabic 1.00 - 4.00**

Special topics or independent studies in Arabic. *Prerequisite: Permission of the instructor.*

**Architectural Design****ARCD 200. Architect Design Studio I 6.00**

This studio focuses on the design process through the creation of objects and architectural spaces. Projects involve investigations into syntax and design language, program interpretation, materiality, ritual, use and the constructed order of built space. Emphasis is placed on experimentation, risk and play. Design projects will incorporate constructed drawings, sketching, diagramming, model-building and writing. *Prerequisite: All 200-level ARCD courses are restricted to declared art, art history, graphic design, architectural design and industrial design majors during the fall and spring semesters.*

**ARCD 202. Architect Design Studio II 6.00**

Design studio building on the fundamentals of ARCD 200. Projects will address both three-dimensional design of spaces and the objects within the spaces. Projects will include questions of ritual, ergonomics, material properties, mechanism and prototypes. Introduction of workshop, digital graphics and photography incorporated in studio work, with an emphasis on fabrication and constructed full-scale objects. *Prerequisite: ARCD 200.*

**ARCD 208. Portfolio Review 0.00**

Portfolio review required to enroll in architectural design courses at 300 level and above. *Prerequisite: ARCD 200. Corequisite: ARCD 202.*

**ARCD 220. CAD I: 3D Modeling. 3.00. Crosslisted with INDU 220.**

This course will introduce students to principles used in 3D Cad and BIM modeling. Technologies to draw three dimensionally on the computer will be considered as a discipline within itself, and students will be instructed to use the machine for design exploration. Various software packages will be utilized during the semester.

**ARCD 300. Architect Design Studio III 6.00**

Intermediate design studio building upon skills of ARCD 200-202 sequence. Projects will be of greater complexity, scope and technical requirement. Design studies will incorporate drawing, diagramming, models, digital studies and writing. Legal, industry and engineering requirements will be integrated into the learned poetics of design. *Prerequisite: ARCD 208.*

**ARCD 302. Architect Design Studio IV 6.00**

Intermediate design studio building upon skills of ARCD 300. Projects will be an extension of ARCD 300 but with greater complexity, scope and technical requirements. Design studies will incorporate drawing, diagramming, models, digital studies and writing. Legal, industry and engineering requirements will be integrated into the learned poetics of design. *Prerequisite: ARCD 300.*

**ARCD 330. Materials and Methods I. 3.00.**

A lecture course introducing components and materials used in construction and building systems. *Prerequisite: ARCD 208*

**ARCD 390. Independent Studies in Architectural Design 1.00 - 3.00**

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

**ARCD 392. Topics in Architectural Design. 3.00.**

Study of selected topics in architectural design at the intermediate level. May be repeated when course content changes. See MyMadison for current topics. *Prerequisite: ARCD 208.*

**ARCD 400. Architect Design Studio V 6.00**

An upper-level design studio building upon the design rigor and technical craft acquired in the ARCD 300-302 sequence. Expansion of the design role into collaborative teams, interdisciplinary teams, actual clients, service projects and competition projects. *Prerequisite: ARCD 302.*

**ARCD 402. Architect Design Studio VI 6.00**

Final upper-level architectural design studio culminating in a thesis project. Complete student initiative across every phase of the project. *Prerequisite: ARCD 400.*

**ARCD 440. Professional Design Practices. 3.00.**

Procedures and practices in the architectural design profession. *Prerequisite: ARCD 302 or permission of the instructor.*

**ARCD 470. Contemporary Design. 3.00.**

Seminar format class which explores influential ideas in contemporary design, including critical regionalism, postmodernism, minimalism, the neo-avantgarde, green design, Marxism and post-structuralism. *Prerequisite: ARCD 208 and ARTH 206.*

**ARCD 490. Independent Studies in Architectural Design 1.00 - 3.00, repeatable**

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

**ARCD 491. Studio Assistant 1.00 - 3.00, repeatable Crosslisted with ARED 491, ART 491, GRPH 491, INDU 491.**

An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control and the proper operation of equipment found within various individual classroom studios. *Prerequisite: Permission of the instructor.*

**ARCD 492. Topics in Architectural Design. 3.00.**

Study of selected topics in architectural design at the advanced level. May be repeated when course content changes. See MyMadison for current topics. *Prerequisite: ARCD 208.*

**ARCD 496. Internship 0.00.**

An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in professional design settings. *Prerequisite: Permission of the instructor.*

**Art****ART 102. Two-Dimensional Design (0,6). 3.00.**

Application and appreciation of the principles and elements of design, with emphasis on line, form, color and texture as applied to two-dimensional space.

**ART 104. Drawing I (0,6). 3.00.**

An introductory course composed of problems in landscape, perspective, figure and still-life in several media.

**ART 106. Three-Dimensional Design (0,6). 3.00.**

A course exploring the basic problems in three-dimensional design.

**ART 108. Drawing II (0,6). 3.00.**

A continuation of ART 104 involving more complex problems with emphasis on composition and expressive possibilities of a variety of media including ink, pencil, conte, charcoal and experimental materials. *Prerequisite: ART 104.*

**ART 200. Art in General Culture [C2VPA]. 3.00.**

An exploratory course that aims to develop a non-technical, general cultural understanding of the space arts, such as architecture, painting, sculpture and industrial design. Emphasis is on the contemporary. May be used for general education credit.

**ART 205. Professional Practices in Art. 3.00.**

A required course for studio art majors focused on the exploration and exchange of ideas related to embarking on a studio career. Contemporary issues and responsibilities faced by emerging artists are emphasized. Students will investigate various visual art disciplines offered by JMU, write an artist's statement, and construct a website and digital portfolio. *Coresquisite: ART 102 and ART 104.*

**ART 220. Introductory Ceramics: Potter's Wheel (0,9). 3.00.**

Explores the aesthetics, conceptualization and design of functional objects. Investigates tactility and the process of realizing form and the effective use of the wheel as a creative tool. Introduces historic and contemporary approaches, firing techniques and glaze application. *Prerequisite: ART 102, ART 104 and ART 106.*

**ART 222. Introductory Ceramics: Handbuilding (0,9). 3.00.**

Forming techniques will be explored for both vessel and sculptural work. Addresses construction concerns such as timing, structure and mass. Conceptual issues of hand-formation and ceramic sculpture discussed. Introduces historic and contemporary approaches, firing techniques and glaze application. *Prerequisite: ART 102, ART 104 and ART 106*

**ART 230. Introduction to Fiber Processes (0,9). 3.00.**

Introduction to and practice in basic weaving and other fiber arts. Emphasis will be placed on floor loom weaving and surface design on the fabric. *Prerequisite: ART 102 and ART 104*

**ART 232. Introduction to Fiber Arts: Structures. 3.00.**

In this introductory level studio course, students develop skills and cultivate conceptual concerns related to the fibers medium related to structural forms. Traditional and experimental materials will be used to explore such techniques as knitting, crochet, looping, felting, offloom weaving and embroidery. Topics will include the historical relevance of fibers; its relationship to ideas such as labor and identity; and what textiles have to offer within the expanded field of contemporary art. *Prerequisite: ART 102 and ART 104*

**ART 234. Introduction to Fiber Arts: Surfaces. 3.00.**

In this introductory level studio course, students develop skills and cultivate conceptual concerns related to the fibers medium related to surface design. Traditional and experimental materials will be used to explore such techniques as quilting, dyeing, piecing, shibori, dye printing and embroidery. Topics will include the historical relevance of fibers; its relationship to ideas such as labor and identity; and what textiles have to offer within the expanded field of contemporary art. *Prerequisite: ART 102 and ART 104*

**ART 240. Metal & Jewelry (0,9). 3.00.**

An introduction to designing and executing jewelry and related objects through various fabrication and finishing techniques, and the exploration of metal as a medium of personal aesthetic expression. *Prerequisite: ART 102 and ART 104*

**ART 242. Bladesmithing: Exploring Form and Function. 3.00.**

Students will explore the complex interplay of form and function through the techniques, materials and concepts of knifemaking.

**ART 252. Introductory Painting (0,9). 3.00.**

Introduction to basic materials and techniques in oil or acrylic painting. This class extends previous practice with design and drawing through introductory experiences in painting.

*Prerequisite: ART 102 and ART 104.*

**ART 260. Introductory Photography: Black and White (0,9). 3.00.**

A creative approach to photography with emphasis on understanding materials and techniques. (Students must provide a fully manual 35mm camera and a light meter which may be built into the camera or separate.) *Prerequisite: ART 102 and ART 104.*

**ART 270. Printmaking: Screenprint (0,9). 3.00.**

An introduction to the history and techniques of screenprinting. Lectures, demonstrations and projects will involve photographic and nonphotographic stencils, related digital processes and color registration. *Prerequisite: ART 102 and ART 104.*

**ART 272. Printmaking: Relief and Intaglio. 3.00.**

An introduction to the history and techniques of relief and intaglio printing. Lectures, demonstrations and projects will involve oil based and water soluble inks, linocut, woodcut, wood engraving, collagraph, drypoint, engraving, line etching, aquatint, softground, color registration and related photographic processes. Formerly ART 354. *Prerequisite: ART 102 and ART 104.*

**ART 274. Printmaking: Lithography (0,9). 3.00.**

An introduction to the history and techniques of lithography printing. Lectures, demonstrations and projects will involve stone and plate lithography, color registration and related photographic processes. *Prerequisite: ART 102 and ART 104*

**ART 276. Introductory Book Arts: Materials and Structures. 3.00.**

This course offers students an opportunity to engage in the techniques, structures, tools, and materials used in creating artists' books. A broad range of studio practice will be explored as they examine the relationship of verbal, visual and structural content in books. Students will complete group and individual projects. *Prerequisite: ART 102 and ART 104*

**ART 280. Sculpture (0,9). 3.00.**

Problems in three-dimensional form using traditional and modern techniques. Processes of modeling in clay, mold making, casting, carving in wood and stone and welded metal sculpture are explored. *Prerequisite: ART 106.*

**ART 300. Illustration (0, 9). 3.00. Crosslisted with GRPH 300.**

Through demonstrations, theory and practical application, students are introduced to numerous media and illustrative techniques. Encouraged experimentation is tempered by an understanding of problem solving and conceptualization. *Prerequisite: ART 108.*

**ART 304. Methods of Art Criticism. 3.00.**

The practical analysis and interpretation of works of art through oral and written forms. Emphasis is on the practice of art criticism in public settings such as the school classroom, art museum and college art studio.

**ART 305. Seminar in Aesthetics. 3.00. Crosslisted with PHIL 305.**

Readings and discussions in the persistent philosophical problems of the arts centering on consideration of the work of art, the artist and the audience. *Prerequisite: ART 200, ARTH 205, ARTH 206 or PHIL 101.*

**ART 320. Intermediate Ceramics: Molds & Casting (0,9). 3.00.**

Mold-making systems and processes for ceramic slip casting and press molding. Conceptual issues of multiples, reproductions and material transformation discussed. Also suitable for students wanting to utilize molds with other materials in their artistic production. *Prerequisite: ART 220 or ART 222.*

**ART 322. Intermediate Ceramics: Surface Development (0,9). 3.00.**

Research and experimentation with ceramic materials and finishes, glaze formulation, and application for finishing ceramic artwork. Forming processes may include any combination of the potter's wheel, handbuilding and mold making. *Prerequisite: ART 220 or ART 222 or by permission.*

**ART 330. Intermediate Fiber Processes (0, 9). 3 credits, repeatable. 3.00.**

Introduction to surface design techniques such as painting and printing on fabric. Further work may be in this area or in weaving or other fiber techniques. *Prerequisite: ART 230, ART 232 or ART 234 or permission of the instructor.*

**ART 336. Pulp. 3.00.**

Students will use raw, natural and recycled materials to explore the basic techniques, processes and concepts used in papermaking. Pulp materials and fabrication processes will be explored through techniques using traditional mold and deckle, sculptural mold making, and pulp inclusions. Students will gain skills in beating a variety of fibers, sheet forming, sculpting with pulp and pulp painting. *Prerequisite: ART 276*

**ART 340. Intermediate Metal & Jewelry (0,9). 3.00.**

An intermediate course offering further exploration of metal as a medium of personal aesthetic expression as well as more advanced technical experience and experimentation. *Prerequisite: ART 240.*

**ART 350. Figure Drawing (0,9). 3.00.**

An introductory course with problems stressing the fundamental skills, approaches and concepts involved in drawing the human figure. *Prerequisite: ART 104 and ART 108.*

**ART 352. Intermediate Painting. 3.00.**

Intermediate experiences in materials and techniques in oil, acrylic and nontraditional painting media. This class extends previous experiences introduced in ART 252, with a focus on developing a more personal iconography and content. A variety of materials, techniques, surfaces and philosophies of working are discussed in lecture, demonstration, and in both individual and group critique. *Prerequisite: ART 252.*

**ART 354. Watercolor (0,9). 3.00.**

Study of and practice in transparent and opaque watercolor techniques. *Prerequisite: ART 102 and ART 104.*

**ART 360. Intermediate Photography: Digital (0,9). 3.00.**

An intensive exploration of digital photography with an introduction to digital camera techniques, combinations of traditional and digital photographic methods, image manipulation and modes of output. *Prerequisite: ART 260.*

**ART 362. Intermediate Photography: Experimental Black & White (0,9). 3.00.**

Intensive exploration of advanced black and white photography using alternative cameras, pinhole, a variety of film speeds and papers and sequential concepts. *Prerequisite: ART 260.*

**ART 364. Intermediate Photography: Large Format (0,9). 3.00.**

An exploration of medium format and view camera techniques, film exposure and advanced black and white printing. *Prerequisite: ART 260.*

**ART 375. Letterpress. 3.00. Crosslisted with GRPH 375.**

This studio course offers students an opportunity to engage in the process and product of letterpress printing through various techniques and conceptual approaches. Instruction focuses on text and image relationships by integrating metal and wood type, and other type-high surfaces. Emphasis will be placed on the acquisition of skills and vocabulary and the creative use of type and image. The course will address the history of letterpress and its contribution to contemporary art and design. *Prerequisite: ART 102 and ART 104; For GRPH credit: GRPH 208.*

**ART 376. Intermediate Book Arts: Concept, Content, Form. 3.00. Crosslisted with GRPH 376**

This course challenges the student to develop a limited edition hand-made artists' book. The appropriate format for each individual's concepts are identified, adapted, customized, applied, and produced. Content development, book design, integration of various media and the functionality of various bookmaking materials are explored. We will consider the artists' book as a sculptural form and locate it within the broader context of contemporary writing and visual art. *Prerequisite: ART 276. For GRPH: ART 276 and GRPH 208.*

**ART 380. Intermediate Sculpture (0,9). 3.00.**

A study in casting techniques for sculpture using the lost wax process. Foundry operations, cold cast methods, ceramic shell and fiberglass are also explored. *Prerequisite: ART 280.*

**ART 390. Independent Study in Art 1.00 - 3.00**

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

**ART 392. Topics in Art. 3.00.**

Study of selected topics in art at the intermediate level. May be repeated when course content changes. See MyMadison for current topics.

**ART 420. Advanced Ceramics: Portfolio Development (0,9) 1.00 - 3.00, repeatable**

Self-directed, focused course of study with supervision of the instructor. This course is the culmination of ceramic study, resulting in a body of work suitable for exhibition and that is representative of the student's research and development. *Prerequisite: ART 320 and ART 322 or permission of the instructor.*

**ART 430. Advanced Fiber Processes 1.00 - 3.00, repeatable**

A series of fiber projects selected by the student with the approval of the instructor. *Prerequisite: ART 330*

**ART 432. Digital Processes in Fibers. 3.00.**

In this upperdivision course, students develop skills and conceptual concerns pertaining to screenprinting. Additionally, this class surveys a range of digital technologies specifically applicable to fibers. Students will leave this course with the knowledge of several software interfaces, practical experience planning for image generation and a portfolio of advanced fibers work. *Prerequisite: ART 230, ART 232 or ART 234*

**ART 434. Collaboration in Fiber Arts. 3.00.**

The course will examine social practice in fiber arts including art and activism, network art, Social Aesthetics, poststudio practices and Relational Aesthetics. This course will place a strong emphasis on contemporary examples of art and social practice. Through group activities, discussions, student led seminars and participatory projects, the class will work together to address contemporary issues in collaboration. *Prerequisite: ART 230, ART 232 or ART 234.*

**ART 436. Woven Structures in Fiber Arts. 3.00.**

Traditional and experimental use of materials, techniques and structures are used to understand weaving as a cross-disciplinary practice including exploration of floor-loom hand weaving. Students will explore various forms of encoding information and address personal strategies for developing individual art practices. Weaving's role within the larger contemporary art world will be discussed and understandings of what constitutes a woven structure will be challenged. *Prerequisite: ART 230, ART 232 or ART 234.*

**ART 438. Iterative Structures in Fiber Arts. 3.00.**

This course engages students in spatiality, object creation and physical construction and will supplement artistic practice and design methodologies for sculptural fiber art or experimental design. Strategies for engaging in off loom fiber art structures such as knitting, macrame, crochet and basketry techniques will be explored. Class activities will include demonstrations, lectures, critiques and discussions revolving around iterative design strategies in fiber art. *Prerequisite: ART 230, ART 232 or ART 234.*

**ART 440. Advanced Metal and Jewelry (0,9) 1.00 - 3.00, repeatable**

A series of metal arts projects selected by the student with the approval of the instructor. *Prerequisite: ART 340*

**ART 450. Advanced Figure Drawing 1.00 - 3.00, repeatable**

An advanced drawing course stressing inventive and in-depth approaches to portraying the human figure. *Prerequisite: ART 350*

**ART 452. Advanced Painting (0,9) 1.00 - 3.00, repeatable**

Advanced problems in media selected by the student with the advice of the instructor. *Prerequisite: ART 352.*

**ART 454. Advanced Watercolor (0,9) 1.00 - 3.00, repeatable**

Advanced problems in the use of watercolor and related water-based media. *Prerequisite: ART 354.*

**ART 460. Advanced Photography: Alternative Processes (0,9) 1.00 - 3.00. Crosslisted with ART 560.**

Advanced study in photography focusing on alternative processes and experimental approaches including non-silver 19th century techniques, Polaroid and liquid emulsion among others. *Prerequisite: ART 360, ART 362 or ART 364.*

**ART 462. Advanced Photography: the Prehistory of Photography, Magic and Illusion 1.00 - 3.00. Crosslisted with ART 562.**

An exploration of the culture and trends leading to the invention of photography, facilitating the formation of concepts and objects which create wonder. *Prerequisite: ART 360, ART 362 or ART 364.*

**ART 464. Advanced Photography: The Photograph as Document. 3.00. Crosslisted with ART 564.**

An exploration of technical, conceptual and theoretical approaches to making documentary-based photographic work using film, digital or video cameras. *Prerequisite: ART 360, ART 362 or ART 364.*

**ART 466. Advanced Photography: Performance for the Lens. 3.00.**

An exploration of technical, conceptual and theoretical approaches to making, staging and directing performance-based photographic work using film, digital or video cameras. *Prerequisite: ART 360, ART 362 OR ART 364.*

**ART 468. Advanced Photography: Screen-Based Photo/Video. 3.00.**

An exploration of technical, conceptual and theoretical approaches to making screen-based photographic projects culminating in a fully developed online presentation. *Prerequisite: ART 362.*

**ART 469. Photography: Portfolio Development (0,9) 1.00 - 3.00, repeatable**

An intensive exploration in photography focusing on a theme or process that results in a cohesive body of work from a self-directed project and a written artist's statement. *Prerequisite: ART 360, ART 362 or ART 364.*

**ART 470. Advanced Printmaking (0,9) 1.00 - 3.00, repeatable**

Advanced projects in printmaking to be determined by the student and instructor. *Prerequisite: ART 270, ART 272, or ART 274.*



**ART 480. Advanced Sculpture (0,9) 1.00 – 3.00, repeatable**

Advanced study in sculpture focusing on projects chosen by the student in consultation with the instructor from an array of materials and processes used in contemporary sculpture. *Prerequisite: ART 380.*

**ART 490. Independent Study in Art 1.00 – 3.00, repeatable**

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

**ART 491. Studio Assistant 1.00 – 3.00, repeatable Crosslisted with ARCD 491, ARED 491, GRPH 491, INDU 491**

An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control and the proper operation of equipment found within various individual classroom studios. *Prerequisite: Permission of the instructor.*

**ART 492. Topics in Art. 3.00.**

Study of selected topics in art, art history, graphic design or interior design at the advanced level. May be repeated when course content changes. See MyMadison for current topics.

**ART 493. Contemporary Art Theory. 3.00.**

This is a reading, research and discussion seminar designed for upper level undergraduate and first-year graduate level studio art majors addressing historic and contemporary issues surrounding vision, the senses and aesthetics in the theory and practice of art.

**ART 495. Capstone Seminar: Three-Dimensional Art. 3.00.**

A team-taught, intensive seminar for B.F.A. in studio art seniors with concentrations in metals/jewelry, ceramics, fibers or sculpture, or with an emphasis in integrated 3D. Capstone seminar is designed to be a transition into professional life, to help students organize and prepare themselves for graduation and to provide opportunities to work with faculty on professional concerns beyond the studio. *Corequisite: ART 497.*

**ART 496. Internship in Art 1.00 – 8.00**

A program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisite: Permission of the instructor and ARTH 394 if in museums and galleries.*

**ART 497. Capstone Studio: Three-Dimensional Art. 3.00.**

An intensive studio for B.F.A. in studio art seniors with concentrations in metals/jewelry, ceramics, fibers or sculpture, or with an emphasis in integrated 3D. Working closely with their concentration adviser, students refine their artistic voice, build their portfolio and develop their senior thesis presentation. The course culminates in a professional-quality body of work ready for exhibition. *Corequisite: ART 495.*

**ART 499. Honors. 6 credits total for three semesters (1, 3, 2)****Art Education****ARED 300. Elementary Art Education Methods (1, 4). 3.00.**

A study of the aims, philosophy, management, and current methods of art education in elementary school with an emphasis on child growth and development in visual expression. Experiences include developing thematic lessons with art techniques and materials suitable from Kindergarten through grade five with emphasis on instructional art content, lesson plan preparation, teaching strategies, assessment of student learning, and professional dispositions. *Prerequisite: PSYC 160, EDUC 300 and permission of instructor.*

**ARED 302. Secondary Art Education Methods. 3.00.**

The study of art education methods, philosophy and contemporary practices as they relate to public education secondary school and lifelong learning with adults. Experience with concepts and ideas relevant to secondary curriculum with a focus on instructional art content, lesson plan preparation, teaching strategies, assessment of student learning and professional dispositions. *Prerequisite: PSYC 160, EDUC 300 and permission of instructor.*

**ARED 400. Visual Arts Across the Curriculum (1,4). 3.00.**

Explores ways in which the art teacher can promote relationships among art and other subjects within the public school curriculum. Emphasis will be placed on how art experiences can be used to teach skills and concepts associated with other subjects. Includes a range of intensive non-art classroom field experiences at the middle grade level. *Prerequisite: ARED 300, ARED 302, EDUC 300 PSYC 160 and permission of instructor.*

**ARED 480. Student Teaching 8.00**

Enables students to apply, in the public school classrooms and the comprehensive child development programs, those skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors, students are provided activities designed to familiarize them with the classroom teacher's role. Two sections of student teaching are completed for a total of sixteen credits. Sections must include the elementary level and secondary level. *Prerequisite: ARED 300, ARED 302 and ARED 400, the appropriate education courses, and permission of the coordinator of field experiences.*

**ARED 490. Field Experiences in Art Education 1.00-3.00**

Field experiences tied to the appropriate methods course at the elementary, middle, or high school levels under faculty supervision and an assigned cooperating teacher in the public schools. Practicum field experiences are arranged, approved, and directed by the methods course instructor in conjunction with the coordinator of field experiences. Offered only with the consent of the instructor. *Corequisite: Concurrent with the appropriate methods course: ARED 300, ARED 302 or ARED 400.*

**ARED 491. Studio Assistant 1.00 – 3.00 Crosslisted with ARCD 491, ART 491, GRPH 491, INDU 491**

An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control and the proper operation of equipment found within various individual classroom studios. *Prerequisite: Permission of the instructor.*

**ARED 496. Internship in Art Education 1.00 – 8.00**

A program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisite: Permission of the instructor and ARTH 394 if in museums and galleries.*

**Art History****ARTH 205. Survey of World Art I: Prehistoric to Renaissance [C2VPA]. 3.00.**

An introduction to the art and architecture of the world from cave painting through European pre-Renaissance art. Includes ancient through medieval art in Europe and the Near East, as well as Asian and African arts. May be used for general education credit.

**ARTH 206. Survey of World Art II: Renaissance to Modern [C2VPA]. 3.00.**

Introduction to art and architecture of the world from the Renaissance through Modern ages. Includes European Renaissance, Baroque, Enlightenment, 19th and 20th centuries, as well as Asian and African arts. May be used for general education credit.

**ARTH 210. African Art & Culture in the Humanities. 3.00.**

An interdisciplinary introduction to African art and culture with topics focusing on life ways, music, religion, philosophy, art, literature and cinema. This course provides a strong background for upper-division course work in the arts of African and the African Diaspora, as well as for students pursuing degrees in history and anthropology.

**ARTH 289. Topics in Art History. 3.00.**

Study of selected topics in art history, including museum studies, at the introductory level. May be repeated when course content changes. See MyMadison for current topics.

**ARTH 300. Art History Seminar. 3.00.**

Exploration of various methodological approaches in the history of art, including connoisseurship, iconography, formalism, psychological studies and interpretations of art and society. Students will examine contrasting interpretations of major works of art. Seminar format. *Prerequisite: ARTH 205, ARTH 206 or permission of the instructor.*

**ARTH 301. Institutions and Professions in Art History. 3.00.**

This elective art history course prepares students for professions related to the field through exploration of the histories and missions of its important institutions. Organizations at the international, national and local levels that support the arts are considered. While conducting advanced research and writing on a chosen institution, or on an important issue in the field, students are exposed to a wide range of future opportunities in their professional lives.

**ARTH 304. History of Photography. 3.00.**

A survey of photography as an art form from its discovery to the present day. Emphasis is on 20th-century developments and recent contemporary trends.

**ARTH 305. History of Decorative Arts. 3.00.**

A history of the decorative arts in Europe and America from c. 1200 to c. 1930. This course provides a stylistic and contextual analysis, concentrating on domestic furnishings, including textiles, furniture, metals, ceramics and glass. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 309. Topics in Museum Studies. 3.00.**

This course may include studies of select museums, or categories of museums, their histories and current missions and projects; the history of collecting, as well as the dispersal of collections; the repatriation of artworks; and consideration of significant issues in the field at the intermediate level. Topics vary. See MyMadison for current topics.

**ARTH 312. African Art: Sub-Saharan. 3.00.**

A survey of the arts and cultures of sub-Saharan Africa, focusing on the major style areas of the continent. Coverage will include: the historic sites of Nigeria, the Guinea Coast, and central, eastern and southern Africa. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 313. Masterpieces of Italian Renaissance Art 3.00 (Semester in Florence only)**

A survey of Italian Renaissance painting and sculpture (1280-1550), including the works of Giotto, Donatello, Masaccio, Fra Angelico, Botticelli, Leonardo and Michelangelo. Weekly visits to the Uffizi, San Marco, the Accademia and other Florentine museums.

**ARTH 314. Masterpieces of Spanish Art [C2VPA] 3.00 (Semester in Salamanca)**

A survey of art in Spain from prehistoric cave painting through 20th-century art. Emphasis is given to 17th-18th century Baroque and modern artists including El Greco, Velasquez, Goya, Gaudi and Picasso. Visits to Altamira, the Alhambra, the Prado, Toledo, Santillana del Mar and other sites.

**ARTH 316. Masterpieces of British Art 3.00 (Semester in London)**

Survey of painting and sculpture in Britain (1530-1860) concentrating on 18th/19th-century painting. British art is viewed in the context of European civilization. Weekly visits to London museums including the Portrait Gallery, Sir John Soane's House, the Wallace Collection and the Tate Gallery.

**ARTH 320. Travel Study in Art History. 3.00.**

Art history credit is available to students participating in formal travel study programs with an emphasis on art history. Students maintain a journal with an emphasis on their art history experiences and write a research paper. *Prerequisite: Permission of the program leader and art history coordinator.*

**ARTH 322. Ancient Art. 3.00.**

A comparative study of major examples of art and architecture from the ancient world. Certain selected topics in pottery, painting and numismatic arts will be studied in depth. *Prerequisite: ARTH 205.*

**ARTH 325. Topics in Non-Western Art and Architecture 3.00-9.00**

This course will consider the study of a culture outside of the European and Anglo-American traditions at the intermediate level. Topics vary. See MyMadison for current topics.

**ARTH 326. Topics in Cross-Cultural Art 3.00-9.00**

This course will consider the study of two or more artistic traditions that intersect at the intermediate level. Topic varies. See MyMadison for current topics.

**ARTH 327. Topics in Pre-Modern Art. 3.00.**

This course will consider the study of a culture or tradition before the Modern Age at the Intermediate level. Topics vary. See MyMadison for current topics.

**ARTH 328. Topics in Modern and Contemporary Art. 3.00.**

This course will consider the study of a culture or tradition in the most recent centuries or decades at the Intermediate level. Topics vary. See MyMadison for current topics.

**ARTH 332. Islamic Art and Architecture. 3.00.**

This course will consider art from the age of the prophet Muhammad through the sixteenth century. The political and cultural contexts in which Islamic art developed will lay the foundations for understanding later traditions. These may include the role of the mosque in Muslim society; calligraphy and illustrated books; palace building and the arts of luxury; and modes of figural representation, including issues of gender.

**ARTH 340. Early Medieval Art. 3.00.**

Survey of Early Christian, Hiberno-Saxon and Byzantine art 300-1200. Examines painting, mosaics, manuscripts illumination and the development of church design in Italy and the Byzantine World. Considers cross-fertilization of Pagan, Christian, Islamic and Barbarian arts in Western Europe in the Early Middle Ages. *Prerequisite: ARTH 205.*

**ARTH 346. Italian Renaissance Art. 3.00.**

A survey of the development of Italian Renaissance art and architecture 1300- 1550, including the revival of classical art, the development of Humanism, the invention of perspective and the formation of the High Renaissance style.

**ARTH 360. Nineteenth Century Art. 3.00.**

A study of European art (1750-1890) concentrating on Neoclassicism, Romanticism, Realism, Impressionism and Post-Impressionism in France. *Prerequisite: ARTH 206.*

**ARTH 372. Modern Art From 1900-1945. 3.00.**

A survey of avant-garde art movements from the late nineteenth century to mid-twentieth century. An analysis of the meanings of modernism and modernity in the context of urbanism, industrialism, colonialism and the world wars.

**ARTH 380. American Art to 1870. 3.00.**

American painting, sculpture, architecture and decorative arts from the Colonial period through 1870. Topics will include Colonial portraiture, African-American aesthetics, the definition of folk art, nationalism and landscape painting, and the question of American exceptionalism. The course will also introduce students to problems of interpretation in current scholarship. *Prerequisite: ARTH 206.*

**ARTH 382. American Art from 1870. 3.00.**

American painting, sculpture, architecture and decorative arts from 1870 to 1945. This course will address topics such as the American Renaissance, the Harlem Renaissance, Chicago

School architecture, masculinity in Western American art, notions of decay in turn-of-the-century art and American modernism. It will also introduce methodological debates in current scholarship. *Prerequisite: ARTH 206.*

**ARTH 389. Topics in Art History. 3.00.**

Study of selected topics in art, art education, art history, graphic design, interior design or industrial design at the intermediate level. May be repeated when course content changes. See MyMadison for current topics.

**ARTH 390. Independent Study in Art History 1.00 - 3.00**

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

**ARTH 394. Introduction to Museum Work. 3.00. Crosslisted with HIST 394**

A study of the philosophy and practice of museum work including the areas of exhibit design, conservation registration, education and administration. Subject is taught from the perspective of the museum profession and is applicable to diverse discipline and types of collections.

**ARTH 396. Introduction to Public History. 3.00. Crosslisted with HIST 396.**

An introduction to the varied and interdisciplinary "field" of public history, such as community/local history, historic preservation, archives, historical archaeology, museum studies, business and policy history, documentary editing and publishing, and documentary films, through readings, class discussions, occasional guest speakers, and occasional field trips.

**ARTH 400. Art History Research Portfolio 0.00**

This course is required for all art history majors. In both the fall and spring semesters, majors with junior and senior standing enroll in ARTH 400.

**ARTH 404. Topics in the History of Photography. 3.00.**

This course may include studies of major photographers or consideration of thematic issues such as the documentary tradition and the New Deal. Topics vary. See MyMadison for current topics.

**ARTH 406. Monticello. 3.00. Crosslisted with HIST 406.**

A seminar on the architecture and material culture of Thomas Jefferson's Monticello. The course will examine the house's design, artwork, decorative arts, mechanical devices, landscape/garden design and Mulberry Row. Topics will include African-American artisans at the Monticello joinery, Jefferson's Indian Hall and European and African-American domestic life in the Federal Period. Required field trips.

**ARTH 408. The Museum: History and Controversies. 3.00. Crosslisted with HIST 408.**

This seminar centers on art museums in the United States. Topics include the historical development of museums, related cultures of display, recent debates on institutional mission and responsibility, and contemporary artists who employ the museum as medium, subject matter or site. Required field trips. *Prerequisite: ARTH 206.*

**ARTH 409. Topics in Museum Studies. 3.00.**

This course may include the advanced study of individual case studies or critical issues in the field. Topics vary. See MyMadison for current topics.

**ARTH 418. Modern and Contemporary African Art. 3.00. Crosslisted with ARTH 518.**

This course examines the rise of Modern and Contemporary art movements throughout Africa, from 1959 to the present. As colonial influence diminished, important artists, art schools and exhibition tactics have emerged. Developments in painting, sculpture, photography, video and film illustrate the tensions and triumphs of contemporary African nations. Course work centers on a substantial research paper based on primary source material. Additional assignments required for graduate level course.

**ARTH 419. Topics in African Art. 3.00.**

This course will deal with the current thematic or methodological issues such as contemporary African arts and artists, arts of the African Diaspora, a particular media (such as architecture or the textile arts), portraiture and identity, the royal arts of Africa, African film and performance, or gender in the arts of Africa. Topic varies. See MyMadison for topics.

**ARTH 424. Arts of Ancient Egypt. 3.00.**

A study of the arts and culture of Ancient Egypt (c. 3000 B.C. to c. 300 B.C.). This course will focus on the art and architecture of the Old and New Kingdoms and also examine the enduring fascination with this unique artistic heritage from the excavations of Napoleon to the present.

**ARTH 425. Advanced Topics in Non-Western Art. 3.00.**

This course will consider the study of a culture outside of the European and Anglo-American traditions at the advanced level. Topics vary. See MyMadison for current topics.

**ARTH 426. Advanced Topics in Cross-Cultural Art 3.00-9.00**

This course will consider the study of two or more artistic traditions that intersect at the advanced level. Topics vary. See MyMadison for current topics.

**ARTH 427. Advanced Topics in Pre-Modern Art. 3.00.**

This course will consider the study of a culture or tradition before the Modern Age at the advanced level. Topics vary. See MyMadison for current topics.

**ARTH 428. Advanced Topics in Modern and Contemporary Art. 3.00.**

This course will consider the study of a culture or tradition in the most recent centuries or decades at the advanced level. Topics vary. See MyMadison for current topics.

**ARTH 430. Far Eastern Art. 3.00.**

A survey of East Asian art from prehistoric times to 19th century colonialism. Emphasis is on the areas of major production: India, China and Japan, with less attention to such centers as Cambodia, Siam and Korea. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 439. Topics in Medieval Art. 3.00.**

This course may include the study of major buildings and artistic monuments in the medieval Mediterranean and in Western Europe, art in service of empire building, medieval audiences and modes of reception, and the afterlives of monuments into the contemporary period.

**ARTH 440. City of Jerusalem. 3.00.**

A critical examination of medieval and early modern Jerusalem, c. 1000-1800, with a special focus on the city's religious diversity evidenced through its art and architecture. The course will examine Islamic, Christian and Jewish cultural traditions in the city. *Prerequisite: ARTH 205 or ARTH 206; or MECM minor status.*

**ARTH 444. Gothic & Gothic Revival Architecture. 3.00.**

Survey of Gothic architecture in France, England and Italy 1150-1500 and its influence in England and America 1750-1910. Examines the design of major cathedrals and regional European Gothic styles. Explores their influence upon Walpole, Pugin, Ruskin and other champions of Gothic Revival. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 446. Renaissance Art and the East. 3.00.**

This seminar explores artistic exchange between the Christian west and competing cultures in the east from c. 1250-1600, focusing on the powers of Italy and their interaction with the Islamic dynasties, the Mamluks of Egypt and the Ottomans in Turkey, as well as the Christian state of Byzantium. Special topics of interest may include palace architecture and imperial ceremony; urban planning; portraiture and caricature; the exchange of luxury goods and the use of art as a diplomatic tool.

**ARTH 448. Studies in Leonardo and Michelangelo. 3.00.**

Seminar that examines the artworks of Leonardo da Vinci and Michelangelo Buonarroti. Discusses issues such as the artist's creative process, the development of the artist's style, the

patron's role in artwork and interrelationships between the artist's visual and literary works. *Prerequisite: ARTH 206.*

**ARTH 449. Topics in Renaissance Art. 3.00.**

This course may include studies of major Italian or Northern Renaissance artists, the development of linear perspective, the Renaissance tomb chapel, or art and politics of the Protestant Reformation.

**ARTH 459. Topics Seventeenth and Eighteenth Century Art. 3.00.**

Topics in this course may include studies of particular artists such as Rembrandt, Caravaggio or Watteau; studies of particular styles such as the Rococo or thematic studies such as the history of garden design or the development of art theory. See MyMadison for current topics.

**ARTH 460. Nineteenth Century Art. 3.00.**

A study of European art (1750-1890) concentrating on Neoclassicism, Romanticism, Realism, Impressionism and Post-Impressionism in France.

**ARTH 464. Romanticism and Enlightenment. 3.00.**

This seminar examines European art of the Romantic period, c. 1770-1830. Course themes include the representation of nature, art and the emergence of the nationstate, sensibility and the rise of historicism. In addition to visual culture, attention will be devoted to significant philosophical and literary texts from the period. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 469. Topics in Nineteenth Century Art. 3.00.**

Topics in nineteenth century art may include studies of major artists, such as Caspar David Friedrich or Edouard Manet, specific artists groups like the preRaphaelite brotherhood, or thematic issues such as the relationship between art and nationalism. See MyMadison for current topics. *Prerequisite: ARTH 206.*

**ARTH 471. Commemoration and Controversy: Public Art in America. 3.00. Crosslisted with HIST 471**

This course examines the socio-historical, political, cultural and philosophical dimensions of public art in American society, from the Early Republic to the present day. Topics may include: the nature of public art, its uses and functions, as well as civic and official attitudes towards art in the public sphere. Issues of censorship, propaganda, and the "culture wars" of the 1980s and 90s will be highlighted.

**ARTH 472. Modern Art Since 1945. 3.00.**

A study of the many developments and trends in American and European art since 1945. This course will focus on such movements as abstract expressionism, pop, conceptual art, installation art, video, film and computer art with an understanding of the theoretical basis of those movements and the development of the art market during this period.

**ARTH 479. Topics in Twentieth Century Art. 3.00.**

Topics in twentieth century art may include studies of contemporary painters (i.e., Gerhard Richter), sculptors (i.e., Kiki Smith or Mona Hatoum), performance and video artists (i.e., Bill Viola) or thematic issues such as the relationships between art, technology and gender/racial politics. See MyMadison for current topics. *Prerequisite: ARTH 372 or ARTH 472.*

**ARTH 484. Art of the Americas. 3.00.**

Art of indigenous peoples in the Americas (Meso, Central, South and /or North) before European contact. The course will examine domestic and state architecture, painting, textiles, ceramics, metalwork, and earthworks within the context of geographic, state, religious and social issues. Other topics include museum display, repatriation and western taxonomies.

**ARTH 488. African-American Art. 3.00. Crosslisted with AFST 488**

This course examines visual arts produced by people of African descent in the United States from the colonial period until the present. Course themes include debates about the relationship between racial identity and artistic production; the complex interchange between African-American art and the cultural traditions of Africa and Europe; black artists' engagement with popular representations of African-Americans; and the intersection of race with class, gender and sexuality. *Prerequisite: ARTH 206 or AFST 230.*

**ARTH 489. Topics in Art History. 3.00.**

Study of selected topics in art history at the advanced level. May be repeated when course content changes. See MyMadison for current topics.

**ARTH 490. Independent Study in Art History 1.00 - 3.00, repeatable**

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

**ARTH 491. Exhibition Seminar. 3.00.**

Advanced seminar explores museum theory and practice through the collaborative design of an exhibition for an on-campus gallery space. The course focuses on developing and researching the exhibition topic, investigating the specific art objects and preparing critical educational materials or catalogue. The class project also includes mounting the exhibit in a real or virtual installation space. *Prerequisite: ARTH 205 or ARTH 206.*

**ARTH 492. Material Culture. 3.00. Crosslisted with ANTH 492, HIST 492**

A broad introduction to the multidisciplinary "field" of material culture studies through readings, written assignments, in-class exercises, and field trips. The course introduces ways of looking at and learning from objects and examines how scholars from several disciplines have used material culture in their work. Instructor's permission required to waive HIST 395 prerequisite for non-history majors. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**ARTH 493. Historic Preservation. 3.00. Crosslisted with HIST 493.**

An introduction to the philosophy and techniques of historic preservation, guidelines for restoration, state and National Register forms and procedures, historic architecture, structural analysis, restoration techniques as well as the business aspects of historic preservation projects. Field trips are a major component of the course. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**ARTH 495. Internship in Art History 1.00 - 3.00**

An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisite: Permission of the instructor and ARTH 394 if in museums and galleries.*

**ARTH 499. Honors 6.00 credits total for three semesters (1,3,2)**

## Astronomy

**ASTR 120. The Solar System [C3PP]. 3.00.**

An introductory course in astronomy, which includes the following topics: motions of celestial objects, eclipses, historical development, the nature of light, telescopes, properties and evolution of the solar system. May be used for general education credit.

**ASTR 121. Stars, Galaxies, & Cosmology [C3PP]. 3.00.**

An introductory course in astronomy which includes the following topics: the Sun, stellar properties, stellar evolution, black holes, the Milky Way, galactic evolution, quasars, cosmology. May be used for general education credit.

**ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars. 3.00.**

ASTR 220 is the first in a two-course sequence in general astronomy intended for students with a background in physics. Topics covered include: appearance and movements of the night sky; astronomical coordinate systems and timekeeping; seasons, eclipses and planetary configurations; planetary motions and gravitation; fundamental forces; electromagnetic radiation and its detection; content, structure, formation and evolution of solar system; observations and models of the Sun, stellar interior models; stellar magnitudes and spectra, classifications; Hertzsprung-Russell diagram. *Prerequisite: PHYS 140 or PHYS 240.*

**ASTR 221. General Astronomy II: Star Systems, the Interstellar Medium, and Cosmology. 4.00.**

ASTR 221 is the second in a two-course sequence in general astronomy intended for students interested in science. Topics covered include : stellar evolution; variability and high-energy phenomena in stars and multiple-star systems; content, structure, and dynamics of the Milky Way; external galaxies, quasars and AGN; large-scale structure and the distance scale of the universe; the Big Bang model and alternative cosmologies, possible geometries and eventual fates of the universe. An observational astronomy laboratory component is part of this course. The lab component will cover basics of telescope set up and operation as well as astronomical coordinate systems. *Prerequisite: ASTR 220.*

**ASTR 297. Topics in Astronomy 1.00 - 4.00**

Topics in astronomy at the second year level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

**ASTR 301. Searching for Life in the Universe. 3.00.**

A study of the search for life in the universe, with emphasis on teacher preparation. Topics include how life on earth can guide the search, conditions for life within our solar system, extrasolar planets that may be conducive to life, possible radio communications with other civilizations and technologies necessary for search. Significant time is spent developing student lesson plans. *Prerequisite: ISCI 171 and ISCI 172.*

**ASTR 320. Astronomical Techniques. 3.00.**

An overview of modern astronomical techniques with an emphasis on quantitative data collection and analysis. The design and use of various astronomical devices will be covered. Topics will include visible light telescopes and radio telescopes as well as CCD data collection in addition to other current astronomical techniques. Data reduction software will also be addressed. *Prerequisite: ASTR 220 and ASTR 221.*

**ASTR 330. Relativity. 4.00. Crosslisted with PHYS 330.**

This course is a continuation of topics from mechanics, thermodynamics and statistical Mechanics, electricity and magnetism, and quantum mechanics. The course may include topics from mechanics (Lagrangian dynamics, rigid body motion), electricity and magnetism (solution of Maxwell's equations in the presence of matter), thermodynamics and statistical mechanics (dynamical statistical mechanics) and quantum mechanics (beyond the hydrogen atom). *Prerequisite: PHYS 260 and MATH 237, or permission of instructor.*

**ASTR 398. Independent Study in Physics or Astronomy 1.00 - 3.00, repeatable to 4 credits. Crosslisted with PHYS 398.**

An individual project related to some aspect of physics or astronomy. Must be under the guidance of a faculty adviser. A student may not earn more than a total of four credits for ASTR/PHYS 398.

**ASTR 480. Astrophysics. 3.00.**

An introduction to the problems of modern astronomy and the quantitative application of physical principles to these problems. Topics of study include stellar structure and evolution, the interstellar medium and star formation, cosmic rays, pulsars, galactic structure, extragalactic astronomy and cosmology. *Prerequisite: PHYS 340 and PHYS 380.*

**ASTR 498R. Undergraduate Research in Physics or Astronomy 1.00 - 4.00, repeatable to 6 credits. Crosslisted with PHYS 498R.**

Research in a selected area of physics or astronomy as arranged with a faculty research adviser. A student may not earn more than a total of six credits for ASTR/PHYS 498R. *Prerequisite: Proposal for study must be approved prior to registration.*

**Athletic Training****ATEP 205. Introduction to Athletic Training (2,2). 3.00.**

This course provides a broad introduction to the profession of athletic training. Lectures will focus on the domains of athletic training. Emphasis will be placed on basic emergency management as well as injury prevention including environmental issues, strength and conditioning, and selection of equipment. Laboratory will mirror lecture. *Prerequisite: ATEP or HS major, coaching minor, or permission of the instructor.*

**ATEP 206. Recognition and Management of Athletic Injuries. 3.00.**

Building on the concepts learned in ATEP 205, the course will emphasize the recognition of common athletic injuries. Pathology, mechanisms of injury, signs and symptoms, evaluation findings, and basic management of injuries will be explored. Athletic injuries of special populations will also be addressed. *Prerequisite: BIO 290 and ATEP 205 with a grade of "C" or better.*

**ATEP 291. Pre-Professional Practicum in Athletic Training. 2.00.**

This course is designed to help students better understand the duties and responsibilities of the athletic trainer. By focusing on psychomotor skills and the application of didactic knowledge, students build a foundation which prepares them for future clinical rotations. *Prerequisite: Permission of the instructor.*

**ATEP 304A. Lower Quarter Evaluation (2, 2). 3.00.**

This course systematically focuses on orthopedic and neurological evaluation including functional testing of athletic injuries. The lower quarter consists of the lower extremity, pelvis and lumbar spine. Other topics include management of internal injuries and sudden death related to athletic participation. *Prerequisite: ATEP 206 and admission to the clinical component of the athletic training curriculum.*

**ATEP 304B. Upper Quarter Evaluation (2, 2). 3.00.**

This course systematically focuses on orthopedic and neurological evaluation including functional testing of athletic injuries. The upper quarter consists of the upper extremity, head, neck and thorax. Other topics include management of crisis situations and facial injuries related to athletic participation. *Prerequisite: ATEP 304A.*

**ATEP 305. Rehabilitation in Athletic Training: Lower Extremity (2,2). 3.00.**

This course explains the rehabilitation process of lower extremity muscular and joint injuries related to athletic activities. Additional topics include rehabilitation facility design, budget preparation and pre-season assessment. *Prerequisite: BIO 290 and admission to the clinical component of the athletic training curriculum.*

**ATEP 306. Therapeutic Modalities (3,2). 4.00.**

This course provides a thorough overview of tissue injury, inflammatory response, healing process and neurophysiology applied to musculoskeletal injuries. Theory, application and clinical decision-making processes using therapeutic modalities during rehabilitation will be emphasized. Documentation, purchasing and maintenance are also addressed. *Prerequisite: ATEP 206 and admission to the clinical component of the athletic training curriculum.*

**ATEP 307. Acute Care of Injuries and Illnesses. 3.00.**

This course is designed for student athletic trainers to meet the educational competencies for national accreditation in the following areas: development of risk management/emergency action plans, primary assessment of athletic injuries, emergency care of athletic injuries, immediate care of spine injuries, prevention of injuries associated with the physically active, utilization of diagnostic tools and an overall understanding of protective equipment. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 350. Measurement Techniques in Athletic Training. 2.00.**

The purpose of this course is to introduce and develop proficiency with measurement techniques frequently used in athletic training. Students will learn clinical evaluation techniques such as manual muscle testing, goniometry, volumetric measurements and girth measurements. How these measures are used in research will also be presented. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 355. Infectious Disease Control. 1.00.**

Discussion includes theories of origins, statistics and characteristics of the causative pathogen, incubation, illness patterns, transmission, prevention and treatment of infectious and

noninfectious disease. Emphasis is placed on STDs, HIV, Hepatitis and OSHA regulations. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 376. Pharmacology for Athletic Trainers. 2.00.**

This course is designed for students to understand knowledge, skills and values that an entry-level certified athletic trainer must possess in pharmacological applications, including awareness of the indications, contraindications, precautions and interactions of medications, and the governing regulations relevant to physically active individuals. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 377. General Medicine in Athletic Training. 2.00.**

This course is designed for students to understand knowledge, skills and values that an entry-level certified athletic trainer must possess in order to recognize, treat and refer when dealing with general medical conditions and disabilities related to athletes or others involved in physical activity. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 378. Assessment Skills in Athletic Training. 1.00.**

The purpose of this course is to develop knowledge and assessment skills related to general medical conditions. In addition, this course will cover body composition, bone density and quality of life outcome measurement tools. *Prerequisite: Admission to clinical portion of athletic training education program. Corequisite: ATEP 377.*

**ATEP 392. Level II Practicum in Athletic Training. 3.00.**

This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journals are included in course content. Sport specific activities and clinical applications involving palpation and wound care are key components of this course. August preseason orientation and clinical participation required. *Prerequisite: Admission to clinical component of athletic training curriculum.*

**ATEP 393. Level III Practicum in Athletic Training. 2.00.**

This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journal are included in course content. Sport specific activities and clinical applications involving manual muscle testing and equipment fitting are key components of this course. *Prerequisite: ATEP 392*

**ATEP 405. Rehabilitation in Athletic Training: Upper Extremity. 3.00.**

This course explains the rehabilitation process of upper-extremity muscular and joint injuries related to athletic activities. Additional topics include prevention of athletic injuries and aquatic rehabilitation. *Prerequisite: ATEP 305.*

**ATEP 406. Organization and Administration in Athletic Training. 3.00.**

This course is an overview of managerial issues including legal concerns, OSHA guidelines, budgeting/purchasing and staffing. In addition, this course provides a variety of experiences culminating in the knowledge and skills needed to meet entry-level competencies set by the National Athletic Trainers' Association. *Prerequisite: Permission of the instructor.*

**ATEP 494. Level IV Practicum in Athletic Training 2.00 - 3.00**

This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies, and professional journal are included in course content. Sport specific activities and clinical applications involving orthopedic testing and emergency internal abdominal/chest evaluation are key components. *Prerequisite: ATEP 393*

**ATEP 495. Level V Practicum in Athletic Training. 2.00.**

This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journal are included in course content. Sport specific activities and clinical applications involving cranial nerve assessment and neurological evaluation are key components of this course. *Prerequisite: ATEP 494*

## Biology

**BIO 103. Contemporary Biology (3, 0) [C3NS]. 3.00.**

An in-depth exploration of selected biological concepts connected to current, relevant topics and emphasizing an understanding of science as a way of obtaining knowledge. Not available for major or minor credit in biology or biotechnology. Students may not receive credit for both ISCI 103 and BIO 103. May be used for general education credit. May not be used for major credit.

**BIO 110. Freshman Symposium in Biology. 1.00.**

Orientation to the program for freshman or transfer biology and biotechnology majors. Course includes introduction to the biology/biotechnology curriculum, how to access library resources, how to read and write scientifically, time management and study skills, how to access campus student resources, how to become involved in undergraduate research and discussion of biology career options. Available for university elective credit, but not biology or biotechnology major credit. Offered as a credit/no-credit only.

**BIO 140. Foundations of Biology I (3,3) [C3NS]. 4.00.**

The foundations of the cellular molecules, structures and processes that sustain life in the context of evolution will be explored. Topics will include structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. The lab experience will allow students to participate in science as it is practiced and will prepare students to be scientifically and quantitatively literate.

**BIO 150. Foundations of Biology II (3,3). 4.00.**

Focuses on the diversity of life, anatomy and physiology of organisms, and ecological organization in an evolutionary context. This class will explore structure and function; how information is transmitted; transformations of energy and matter; and how biological units act as integrated systems. The process of science, interdisciplinary approaches and the relevance of biology to society will be addressed. The research-based lab experience will emphasize core competencies of science. *Prerequisite: Grade of "C-" or better in BIO 140.*

**BIO 201. Trelawny Learning Community Seminar I. 1.00.**

in the Trelawny Learning Community. In addition to lab/field work with faculty or graduate students for 2-3 hours per week, students attend a weekly seminar. Seminar includes research skill and team-building exercises, guest speakers and case studies geared toward a career in science. Faculty and students interact with community members to provide perspectives on the major and research in a scientific network. *Prerequisite: Membership in the Trelawny Learning Community. Corequisite: BIO 114 or BIO 140.*

**BIO 202. Trelawny Learning Community Seminar II. 2.00.**

The second part of the research skills seminar for first-year students in the Trelawny Learning Community. Students will have already begun research projects during fall semester, and will continue their projects into spring semester while continuing to build research skills. Students will take part in community, campus, and social events and gain experience helping to run a research-based event. *Prerequisite: BIO 201. Corequisite: BIO 150.*

**BIO 203. Viral Discovery (0,4). 2.00. Crosslisted with ISAT 203.**

An exploratory laboratory experience, designed for incoming freshmen. Students will learn about the life cycle and ecology of viruses infecting bacteria. Soil samples will be collected, and techniques for isolation and purification of the viruses will be performed by the students. Isolated viruses will be visualized using electron microscopy. The genomic material will be isolated and prepared for nucleic acid sequencing.

**BIO 204. Viral Genome and Bioinformatics (0,4). 2.00. Crosslisted with ISAT 204.**

A computer-based laboratory experience, designed for students completing the Viral Discovery course. Students will learn to identify genes in a viral genome, compare the predicted

proteins with known proteins in databases, describe the contents of the genome and notate all the relevant information for publication. Students will also research the role of bacteriophages in ecology and evolution. *Prerequisite: BIO 203 or ISAT 203*

**BIO 222. Interdisciplinary Biology for Engineering and Physical Sciences (3,0) [C3NS]. 3.00.**

Case studies and an issues-based approach will provide a framework to understand the science of biology, to stimulate critical thinking, and to appreciate the interdisciplinary nature of biological investigations. This interdisciplinary biology course is intended for students who have at least sophomore status and who are physical science, engineering or mathematics majors. This course is not available for credit toward the major or minor in biology or biotechnology. May be used for general education credit. *Prerequisite: MATH 231 or MATH 235.*

**BIO 226. Introductory Topics in Biology (Variable) 1.00 - 4.00**

Introductory studies in specific areas of biology. May be repeated for credit when course content changes.

**BIO 240. Genetics (3,3). 4.00.**

Students will explore how genetic information is utilized throughout the lifetime of the organism. Labs will make use of common model organisms highlighting the growing base of knowledge on the genetics and molecular biology of developmental processes. *Prerequisite: Grade of "C-" or better in BIO 150.*

**BIO 245. General Microbiology (3, 3). 4.00.**

A study of the microorganisms, their significance, evolution, structure and function, genetics, and the systems in which they exist. Credit may not be earned in both BIO 245 and BIO 280. *Prerequisite: BIO 140. Corequisite: CHEM 131.*

**BIO 246. Microbiology Seminar. 1.00.**

Seminars, readings and discussions of the primary scientific literature with a focus on the current research in the field of microbiology. *Prerequisite: BIO 140 and declared microbiology concentration.*

**BIO 250. Ecology and Evolution (3,3). 4.00.**

Students will learn about variation within populations, the mechanisms of evolution, phylogeny and classification, population and community ecology, animal behavior and ecosystems dynamics. Labs will include investigations in laboratory and field settings. *Prerequisite: Grade of "C-" or better in BIO 150, GEOL 110, GEOG 210 or ISAT 112.*

**BIO 260. Anatomy and Physiology for Secondary Education 4.00**

**BIO 270. Human Physiology (3, 2) [C3NS]. 4.00.**

An introduction to basic physiological principles using humans as the primary organism. Physiological adaptations will be examined at the molecular through organismal levels. Intended for students in health-related fields and Cluster 3 of the General Education program. Not available for biology or biotechnology major credit. *Prerequisite: CHEM 120 or CHEM 131 or equivalent, and MATH 220 or COB 191 or equivalent. Credit for BIO 270 and 290 may be transferred together to JMU only when transferrable credits for two semesters of anatomy and physiology (I& II) are completed at the same institution. A single semester transfer, or courses from different institutions, transfer as BIO 000. Corequisite: CHEM 120 or CHEM 131 or equivalent, and MATH 220 or COB 191 or equivalent. Credit for BIO 270 and 290 may be transferred together to JMU only when transferrable credits for two semesters of anatomy and physiology (I& II) are completed at the same institution. A single semester transfer, or courses from different institutions, transfer as BIO 000.*

**BIO 280. Allied Health Microbiology (3, 2). 4.00.**

An introduction to the biology and significance of microorganisms. Emphasis will be placed on human- and health-related aspects of microbiology. Credit may not be earned in both BIO 280 and BIO 380. Not available for biology or biotechnology major credit. *Prerequisite: CHEM 120, CHEM 131, ISCI 101, BIO 103 or equivalent. Corequisite: CHEM 120, CHEM 131, ISCI 101, BIO 103 or equivalent.*

**BIO 290. Human Anatomy (3, 3). 4.00.**

A study of the basic body plan is reinforced by studies of dissected human cadavers and computer simulations. Emphasis is on the major body structures and systems. Credit for BIO 270 and BIO 290 may be transferred together to JMU only when transferrable credits for two semesters of Anatomy & Physiology (I & II) are completed at the same institution. A single semester, or courses from different institutions, transfer as BIO 000.

**BIO 301. Introductory Neuroscience. 3.00.**

This course will examine molecular control of neuronal function. Topics include the structure and function of neuronal excitability, chemical and contact-mediated neuronal communication, developing and regenerating nervous systems, sensation and perception, learning and memory formation, repair from neuronal damage, and the neuronal pathways of sensation and motor control. In the context of these subjects, we will review the neuronal alterations that cause some common brain diseases. *Prerequisite: BIO 140 or BIO 214, and CHEM 132, or by permission of instructor for PSYC majors.*

**BIO 304. Cell and Molecular Biology. 3.00.**

Students will develop a deeper understanding of the molecular mechanisms employed by prokaryotic and eukaryotic cells. Topics will include (1) macromolecular structure and function and how macromolecules coordinate to maintain life, (2) molecular mechanisms that regulate the synthesis and flow of genetic information and (3) molecular aspects of homeostasis, bioenergetics and cell signaling. *Prerequisite: A "C" or better in BIO 240 and CHEM 132/CHEM 132L.*

**BIO 305. Ornithology (1, 4). 3.00.**

Introduction to avian biology with exercises in field identification. *Prerequisite: BIO 250.*

**BIO 309. Marine and Freshwater Invertebrates (3, 0). 3.00.**

This is a course on animal diversity, the goal of which is to provide an understanding and appreciation of diverse ways animals function, reproduce and interact with their environment. Invertebrate groups will be surveyed. How evolution has resulted in the great richness and diversity of life on earth today will be explored using the principles of adaptation and phylogenetic analysis. *Prerequisite: BIO 250 or BIO 150.*

**BIO 310. Marine Biology. 3.00.**

An exploration of the functional biology, ecology, and biodiversity of marine organisms. Students will be provided with a general understanding of how the ocean works and how marine organisms operate within their environment. The diversity of marine organisms in the open sea and benthos will be surveyed and a discussion of the numerous threats impacting various marine ecosystems will also be included. *Prerequisite: BIO 250.*

**BIO 312. Animal Welfare. 3.00.**

An examination of the biological basis of animal welfare. Topics include the evolution of domestic animals, physiological and behavioral measurements of stress, welfare assessment and pain perception. Case studies examine the use of animals for companionship, food, medical research and entertainment. *Prerequisite: BIO 250.*

**BIO 316. Animal Development (3, 0). 3.00.**

This course integrates cell and molecular biology and genetics to understand the processes and mechanisms underlying body plan formation and organ formation in vertebrate animals and insects. The course additionally covers the development of muscle, skeleton and nervous tissues, the postembryonic phenomena of growth, metamorphosis and regeneration, and the developmental basis of evolutionary changes in animal anatomy. *Prerequisite: BIO 240.*

**BIO 318. Experimental Vertebrate Development (0, 4). 2.00.**

Students design and carry out independent research projects on different aspects of frog or chick development. Skills include manipulating live embryos, raising embryos and larvae from eggs, using wax histology to make microscope slides, immunohistochemistry, 3D reconstruction and morphometry-based analyses, and filming animal behavior. Projects are

hypothesis-driven and investigate patterns, mechanisms and behaviors involved in the development of skeleton, lungs, tails, limbs and other organs. *Prerequisite: BIO 140.*

**BIO 320. Comparative Anatomy of Vertebrates (2, 4). 4.00.**

A study of the evolution of vertebrate organ systems that integrates structure, function and development. *Prerequisite: BIO 114, BIO 150 or BIO 290.*

**BIO 324. Human Genetics (3, 0). 3.00.**

An intermediate genetics course with an emphasis on human biology. Topics include cytogenetics, pedigree analysis, quantitative traits, mutation, epigenetics, genomics and ethical issues raised by developing technologies. *Prerequisite: BIO 240.*

**BIO 340. Morphology and Anatomy of Vascular Plants (2, 4). 4.00.**

A detailed study of the comparative morphology and anatomy of tracheophytes. *Prerequisite: BIO 250 or BIO 150.*

**BIO 342. Mathematical Models in Biology. 3.00. Crosslisted with MATH 342.**

Introduction to dynamical models (discrete and continuous time) applied to biology. Tools of mathematical analysis from linear and nonlinear dynamics will be taught, including stability analysis of equilibria, as well as appropriate use of software packages. Emphasis will be on model development and interpretation in the context of applications, including effective written and oral presentation. *Prerequisite: MATH 232 or MATH 235 or equivalent.*

**BIO 343. Immunology (3, 0). 3.00.**

A study of the molecular and cellular basis of the immune system. Topics include the properties of antigens and immunoglobulins, the development and regulation of humoral and cell-mediated immunity, resistance and immunization to infectious diseases, allergies and autoimmune and immunodeficiency disorders. *Prerequisite: BIO 214, BIO 240 or permission of the instructor.*

**BIO 343L. Immunology Laboratory (0, 4). 1.00.**

This course will introduce students to the theory and application of many of the methods currently used in clinical and research immunology. Laboratory exercises will focus on methods for identifying, quantifying and assessing functional activities of immune cells and molecules. Students will gain experience using experimental animals and in animal cell culture techniques. *Corequisite: BIO 343.*

**BIO 345. Animal Field Biology. 3.00.**

The course is designed to use the nutritional and energetic relationships between plants and animals to lead into the evolutionary relationship of members of the different animal phyla. Field study and lab specimens will be used to develop understanding of the ecological relationships of humans and local animals, insects and plants. *Prerequisite: BIO 114 or BIO 150.*

**BIO 346. Bacterial Discovery. 2.00.**

Students will learn techniques used in the microbiology laboratory and employ these techniques in the identification and characterization of bacteria isolated from the environment. *Prerequisite: "C" or better in BIO 245.*

**BIO 348. Medical Microbiology. 3.00.**

Students will learn about microorganisms of medical importance, mainly bacteria and viruses. Key topics for each organism include general cell structure, unique structures/functions, epidemiology of the disease that the organism causes, mechanisms of pathogenesis, isolation and identification of the organism, and treatment options. *Prerequisite: "C" or better in BIO 245.*

**BIO 348L. Medical Microbiology Laboratory. 1.00.**

Laboratory consisting of a series of case studies that require the students to identify the likely causative agent of the symptoms described in the case study. *Prerequisite: BIO 346 and BIO 348. Corequisite: BIO 348.*

**BIO 350. Paleobiology (3, 2). 4.00. Crosslisted with GEOL 350.**

The evolution and ecological structure of the biosphere from the origin of life to the present, emphasizing the evolution and paleobiology of animal life as shown by the fossil record. Lectures discuss methods used to interpret the fossil record and cover topics such as phylogeny and systematics, functional morphology, biostratigraphy, paleoecology, evolution and extinction. Laboratories focus on the major groups of invertebrates that are common in the geologic record. *Prerequisite: GEOL 230, BIO 150 or permission of the instructor.*

**BIO 354. Global Climate Change and Life: Ecological and Biological Impacts of Climate Variability (3, 3). 4.00.**

Global climate change is important to the distribution, diversity, health and survival of organisms. The biota have changed through evolution in part as a response to selection pressures from these variations. Living things can also adjust to change through phenotypic flexibility. This course examines, in a seminar/discussion format, the potential ecological impacts of past and current patterns of climate alteration on organisms. *Prerequisite: "C-" or better in BIO 140, GEOL 110, GEOL 115, ISAT 112, GEOG 210 or CHEM 353.*

**BIO 357. Galápagos Islands: Biodiversity and Conservation. 3.00.**

A detailed study of the biodiversity, conservation, biogeography and natural history of the Galápagos Islands. *Prerequisite: BIO 150.*

**BIO 360. Plant Biology (3, 0). 3.00.**

An introduction to the biology of plants including evolution, diversity, form and function, ecology and biotechnology. *Prerequisite: BIO 150, or BIO 124 and BIO 214.*

**BIO 361. Biochemistry I (3, 0). 3.00. Crosslisted with CHEM 361.**

An introduction to the molecules and chemical reactions of living systems. Structure and function of important classes of biomolecules are explored and the relationship of structure to function is stressed. Basic metabolic sequences are discussed. *Prerequisite: CHEM 241 and permission of the instructor.*

**BIO 364. Human Uses of Plants (3, 0). 3.00.**

A survey of past, present and future uses of plants with emphasis on economically important plant families. Issues of cultivated plant origins, biodiversity and germplasm preservation are considered. *Prerequisite: BIO 250 or BIO 150.*

**BIO 364L. Laboratory in Human Uses of Plants (0, 3). 1.00.**

An investigative examination of plants and their constituents with an emphasis on their physiological ecology, adaptations and economic utilization by humans. *Prerequisite: BIO 364. Corequisite: BIO 364.*

**BIO 366. Environmental Ecology and Evolution (3, 3). 4.00.**

An exploration of contemporary environmental issues as they relate to ecological principles. Ecological changes and organismal adaptations will be viewed from an evolutionary context. Past and present resource management by humans will be examined along with implications for the future. *Prerequisite: ISCI 173 or BIO 250 or equivalent.*

**BIO 367. Journey Through the Cell (4, 2). 4.00.**

Study of biological molecules, how these molecules interact to carry out life-sustaining processes, where these processes take place in the cell and how these foundations can be applied to solve biological problems. Students will develop the knowledge and skills necessary to deeply understand and effectively teach these concepts, as well as an understanding of the mental models that K-8 students have surrounding these concepts as a basis for developing meaningful pedagogies. *Prerequisite: Course is open only to IDLS majors and not available for biology or biotechnology major or minor credit.*

**BIO 370. Animal Physiology (3, 3). 4.00.**

Human and human animals. Class activities will emphasize problem-solving and collaborative and independent learning. The laboratories will utilize computer simulations and



animal/human experiments to examine principles of both physiology and scientific investigation. *Prerequisite: BIO 304 or BIO 240, and CHEM 132 or permission of the instructor. One semester each of calculus and statistics is recommended.*

**BIO 375. Sensation and Perception. 3.00. Crosslisted with PSYC 375.**

Explores the nature and development of human sensory capabilities and processing, and how these affect perception of the environment. A potential list of the variety of systems reviewed includes hearing, vision, smell, taste, and touch/pain, as well as phenomena such as the perception of balance. *Prerequisite: Psychology majors: PSYC 211 or PSYC 213. Biology majors: Declared biology neuroscience concentration, PSYC 101 or PSYC 160, and MATH 220, MATH 285 or MATH 318.*

**BIO 385. Biopsychology. 3.00. Crosslisted with PSYC 385.**

A survey of the neurological and chemical mechanisms which control behavior. This course examines the brain and how it processes sensation, perception, cognition, movement, motivation, learning, memory and other behavioral processes of interest to psychologists. *Prerequisite: Psychology majors: PSYC 211 or PSYC 213. Biology majors: Declared biology neuroscience concentration, PSYC 101 or PSYC 160, and MATH 220, MATH 285 or MATH 318.*

**BIO 386. Field Botany (3, 3). 4.00.**

An in-depth survey of vascular plants in the field with emphasis on identification, diversity of form and function, and ecology. Laboratory topics will include techniques for sampling plant communities, identifying local flora and preserving botanical materials. *Prerequisite: BIO 250 or BIO 150.*

**BIO 387. Environmental Microbiology. 3.00.**

An examination of microbial diversity in the environment and the functional role of microbes in ecosystems around the world. *Prerequisite: Grade of C- or better in BIO 245.*

**BIO 387L. Environmental Microbiology Laboratory. 1.00.**

A field-based investigative lab experience exploring the structure and function of microbial communities and applications of microbiology. *Prerequisite: BIO 346 and BIO 387. Corequisite: BIO 346 and BIO 387.*

**BIO 395. Comparative Animal Behavior (3, 0). 3.00. Crosslisted with PSYC 395**

This course covers aspects of the development, function and evolution of the behavior of nonhuman animals. Topics include intraspecies communication, feeding, aggression, territoriality, reproductive behavior and social behavior. *Prerequisite: Psychology majors: PSYC 211 or PSYC 213; biology or biotechnology majors: BIO 124 or BIO 250, and one of the following ("C-" or better): MATH 205, MATH 220, MATH 231, MATH 235, MATH 285, and MATH 318.*

**BIO 397. Science Pedagogy 2.00**

**BIO 400. Geology and Ecology of the Bahamas. 3.00. Crosslisted with GEOL 400.**

This course explores the geology and ecology of the shallow-water marine environment by examining the preminent modern example, the Bahamas platform. The Bahamas provide an excellent model for understanding modern and ancient carbonate and reef deposits and a variety of terrestrial/aquatic habitats. Biological processes are responsible for many of the geological features of the Bahamas, so the course considers the biology/ecology of marine organisms in addition to geological topics. *Prerequisite: GEOL 110, GEOL 211, or a 200-level GEOL or BIO course; at least four hours of additional lab science, at least sophomore status, and permission of the instructor.*

**BIO 402. Forest Ecology. 4.00. Crosslisted with BIO 502, GEOG 402.**

A study of the function, structure and composition of forested ecosystems. The effect of physical geography on the distribution of forest communities will be explored. Issues of forest management and restoration will also be considered. Field laboratory topics will include dendrology and sampling techniques within different forest successional stages. *Prerequisite: BIO 250.*

**BIO 404. Evolutionary Analysis (3, 0). 3.00.**

An examination of the place of theoretical thought in biology. The concepts of phylogenetic relationships and the mechanisms of organic change as expressed through the principles of organic evolution will be stressed. *Prerequisite: BIO 240 or permission of the instructor.*

**BIO 405. Vertebrate Paleontology (3, 1). 3.00. Crosslisted with GEOL 405.**

A study of the origin and evolution of the vertebrates. Emphasis will be on understanding how the processes of Earth evolution and biological evolution have interacted through time to produce a coherent picture of vertebrate history. *Prerequisite: GEOL 230 or BIO 250 or BIO 150 or permission of the instructor.*

**BIO 410. Advanced Human Anatomy (1, 6). 3.00.**

An advanced study of topics in human anatomy using dissection techniques. *Prerequisite: BIO 290 and/or BIO 320 and permission of the instructor.*

**BIO 412. Mammalogy. 4.00.**

An introduction to the study of mammals, incorporating evolutionary history, general physiology, reproductive biology, systematics, ecology, wildlife management and behavior, followed by review of mammalian taxonomic orders. Lecture is reinforced with laboratory and field experience. Completion of BIO 320 recommended. *Prerequisite: BIO 250 or BIO 150.*

**BIO 414. Clinical Anatomy for Occupational Therapists. 4.00.**

This course offers an in-depth study of the structure of the musculoskeletal and peripheral nervous systems of the human body. Specific structural and neural pathologies will be examined in regards to impact on occupational performance. Laboratory experiences involving cadaver dissection, skeletal material, models and audiovisual technology will be utilized. *Prerequisite: Admission to the Occupational Therapy program.*

**BIO 415. Neuroanatomy and Neurogenic Communication Disorders. 3.00.**

Introduces neurogenic communication disorders from a neuroanatomical approach.

**BIO 416. Human Embryology (3, 3). 4.00.**

An introduction to human development. Topics include the molecular and cellular process of gametogenesis, fertilization, gastrulation and organogenesis, as well as the macroscopic changes that occur from conception to birth. This course will provide a basis for understanding congenital malformations, cloning and stem cell research. *Prerequisite: BIO 240 or BIO 290.*

**BIO 420. Medical Parasitology (3, 0). 3.00.**

The study and medical implications of parasites that infect humans. Class activities will emphasize parasite morphology, modes of transmission, mechanisms of host entry and infection, niche selection, life cycles, pathogenesis, diagnosis, and treatment and control. *Prerequisite: BIO 214, BIO 240 or by permission of the instructor.*

**BIO 420L. Medical Parasitology Lab (0, 3). 1.00.**

This course will introduce students to the techniques and procedures currently used in clinical and research parasitology. Laboratory exercises will focus on diagnostic methods and the use of animal models that illustrate parasitic life cycles, including their infectious stages and modes of transmission. *Prerequisite: BIO 420. Corequisite: BIO 420.*

**BIO 426. Topics in Biology 1.00 - 4.00**

Specified areas of biology. May be repeated for credit when course content changes. *Prerequisite: See MyMadison for prerequisites for specific topics.*

**BIO 427. Topics in Biology with Laboratory 1.00 - 4.00**

Laboratory studies in special areas of biology to accompany BIO 426 or stand alone. May be repeated for credit when course content changes. *Prerequisite: See MyMadison for prerequisites for specific topics.*

**BIO 432. Light Microscopy (2, 4). 4.00.**

This course covers the principles behind light microscopy, from the properties of light to the latest technologies in microscopy. Students will get hands-on experience with the different kinds of microscopes, including the confocal microscope. The course also covers fluorescent probes, advanced fluorescence techniques, digital imaging, methods of quantification and figure preparation for publication, with an emphasis on biological applications. *Prerequisite: BIO 222 or BIO 240.*

**BIO 440. Functional Neuroscience for Occupational Therapists. 3.00.**

This course will examine functional performance of all aspects of the human nervous system. Specific nervous system conditions will be introduced and their impact on occupational performance, performance components and environmental contexts discussed. *Prerequisite: Admission to the Occupational Therapy program.*

**BIO 444. Virology (3, 0). 3.00.**

A study of the fundamental aspects of both basic and medical virology. Credit may not be earned in both BIO 444 and BIO 544. *Prerequisite: A grade of "C" or better in each of the following: CHEM 241, BIO 304, and BIO 240.*

**BIO 445. Neurobiology (3, 3). 4.00.**

Molecular, cellular and network mechanisms underlying behavior will be studied using problem-solving, discussion, lecture and critical reading of the primary literature. Similarities and differences between nervous systems and computers will be explored. Laboratories will utilize contemporary electrophysiology and computer simulation to examine the neurobiology of simple animal model systems. *Prerequisite: BIO 140 or BIO 304.*

**BIO 446. Experimental Neurobiology. 4.00.**

The experimental basis of neurobiology will be explored in invertebrates and humans using modern neurobiological techniques, such extracellular, intracellular, electromyogram and voltage clamp recording. The course will revolve primarily around the laboratory activities, with the single lecture section designed to support the laboratory. Students will be expected to complete a project that involves developing a new experimental approach or model system. *Prerequisite: BIO 140 or BIO 304.*

**BIO 447. Evolution and Ecology of Infectious Disease (3, 0). 3.00.**

An introduction to the evolution and ecology of pathogenic microorganisms, with an emphasis on the bacteria. Emphasis will be placed on the study, discussion, and critique of scientific literature, as well as formal presentation of scientific information and data. *Prerequisite: BIO 250, and BIO 280, BIO 245.*

**BIO 448. Developmental Neurobiology. 4.00.**

Exploration of molecular and cellular mechanisms that determine neuronal identity, migration, synaptogenesis, synaptic plasticity and neural organization. Critical and intensive evaluation and oral communication of primary literature. Introduction to current research techniques in developmental neurobiology. *Prerequisite: BIO 240 or BIO 250.*

**BIO 449. Insect Ecology (2, 4). 4.00.**

An overview of insect ecology from an evolutionary perspective, focusing on the processes that affect the diversity, distribution, and abundance of insects in natural and managed ecosystems. The role of insects as model systems in understanding ecological and evolutionary principles is included, and current literature in the field is highlighted. Field surveys and experiments are emphasized, including general insect collection and identification. *Prerequisite: BIO 250.*

**BIO 451. Current Topics in Human Development and Evolution (3, 0). 3.00.**

Discussion-based course on the developmental changes involved in our evolution from ape-like ancestors; using the science of cloning and embryonic stem cells to prolong human life; the evolutionary theory of aging; the genetic conflict theory of human pregnancy; the developmental basis of variation in human sexuality; and the direct effects of environment on modern human development and evolution. *Prerequisite: BIO 240 or equivalent.*

**BIO 452. Population Ecology (2, 4). 4.00.**

Theoretical and applied aspects of distribution and abundance, population regulation, interactions between populations and conservation will be studied in selected organisms, including humans. Credit may not be earned in both BIO 452 and BIO 552. *Prerequisite: BIO 250.*

**BIO 453. Microbial Ecology and Evolution (2, 4). 3.00.**

The ecology of microorganisms will be covered, including those important in human health and in natural environments. Emphasis will be placed on the study and critique of scientific literature. Credit may not be earned in both BIO 453 and 553. *Prerequisite: BIO 250, and BIO 280, BIO 245.*

**BIO 454. Introduction to Biometrics (3, 1). 4.00. Crosslisted with MATH 354.**

This course discusses the role of statistics in biological research and interpretation of biological phenomena. The course will cover topics of sampling, correlation, regression analysis, tests of hypotheses, commonly observed distributions in natural populations, nonparametric tests, goodness-of-fit tests and ANOVA. In order to fully comprehend the statistical analysis of those publications, students will review approximately half a dozen publications from different fields of biology. *Prerequisite: MATH 220 or equivalent.*

**BIO 455. Plant Physiology (3, 3). 4.00.****BIO 455. Plant Physiology (3, 3). 4 credits.**

An in-depth study of plant function including metabolism, water relations, transport phenomena, growth and development, physiological ecology, and responses to pathogens and abiotic stress. Credit may not be earned in both BIO 455 and BIO 555. *Prerequisite: BIO 240, BIO 304 and CHEM 132.*

**BIO 456. Landscape Ecology (3, 3). 4.00.**

The functional and descriptive study of the interaction of the mosaic of ecosystems that comprise the landscape prevalent in a region. *Prerequisite: BIO 250; GEOG 210. Corequisite: BIO 124 or BIO 250.*

**BIO 457. Biological Applications of Geographic Information Systems (2, 4). 4.00.**

This course will explore the various ways that geographic information systems (GIS) can be used to answer biological questions. Students will use GIS software to study applications in ecology, conservation biology and environmental biology. No prior GIS experience is required. *Prerequisite: BIO 250 or BIO 150.*

**BIO 459. Freshwater Ecology (3, 3). 4.00.**

Functional relationships and productivity of freshwater communities are examined as they are affected by their physical, chemical and biotic environment. Organisms inhabiting lakes, ponds, rivers, streams and estuaries are studied at the population, community and ecosystem levels. Credit may not be earned in both BIO 459 and BIO 559. *Prerequisite: BIO 250 and CHEM 132.*

**BIO 460. Plant Biotechnology (2, 4). 4.00. Crosslisted with BIO 560.**

Theory and practice of growing isolated plant cells, tissues and organs. Credit may not be earned in both BIO 460 and BIO 560. *Prerequisite: BIO 114 or BIO 150, and CHEM 132.*

**BIO 465. Environmental Toxicology (2, 4). 4.00.**

The study of types, sources and biological effects of environmental pollutants. Class activities will include discussions of foundational material covering the biological effects of a broad range of pollutants. Labs will focus on the use of simulation models, geographic information systems and other software currently used in environmental toxicology for the analysis of environmental data. Credit may not be earned in both BIO 465 and BIO 565. *Prerequisite: BIO 240.*

**BIO 466. Toxicology Seminar (3, 0). 3.00.**

Readings and discussions of the primary scientific literature with a focus on the biological effects of toxins at the genetic, cellular, physiological and ecological level. *Prerequisite: BIO 240.*

**BIO 467. Human Cardiovascular Physiology. 3.00.**

An in-depth look at the human cardiovascular system by means of advanced physiology with clinical applications and case-based learning. While the course is focused on the human heart and blood vessels, other body systems will be discussed in the context of their association and integration with the cardiovascular system. *Prerequisite: BIO 370 or "B-" or better in BIO 270.*

**BIO 468. Endocrinology. 3.00.**

Study of endocrine organs and mechanisms of action of hormones. Students will be involved in interactive lectures and team-based learning activities to understand endocrine functions and disorders. *Prerequisite: BIO 370 or equivalent.*

**BIO 470. Morphology of Nonvascular Plants (2, 4). 4.00.**

Comparative morphology, ecology and taxonomy of representative algae, fungi and bryophytes. Credit may not be earned in both BIO 470 and BIO 570. *Prerequisite: BIO 250 or BIO 150.*

**BIO 472. Human Metabolism (3, 0). 3.00.**

This course will focus on the cellular physiological mechanisms responsible for regulation of normal human metabolism and place them in the context of the development of chronic disease processes. *Prerequisite: CHEM 241, and BIO 214, BIO 240 or permission of the instructor.*

**BIO 475. Advanced Cell Biology (3, 0). 3.00.**

This seminar-style course covers topics in advanced cell and molecular biology. Class format will be discussions from assigned review articles, followed by student-led presentations of assigned primary literature. Students write a research grant proposal and give an oral presentation of their proposal in class. *Prerequisite: A grade of "C" or better in each of the following: CHEM 241, and BIO 240, or BIO 304.*

**BIO 477. The Genetics of Cancer (3, 0). 3.00.**

Exploration of the genetic and epigenetic factors that drive the evolution of cancer cells, taking into account both inherited and environmental contributions to this process. The cellular mechanisms debilitated or subverted during cancer development will be studied, and student teams will demonstrate their understanding of the material through the diagnosis, genetic characterization and treatment of a hypothetical cancer patient. *Prerequisite: BIO 240.*

**BIO 480. Advanced Molecular Biology (2, 5). 4.00.**

Cellular constituents and genetics are emphasized at the molecular level. Credit may not be earned in both BIO 480 and BIO 580. *Prerequisite: BIO 240 and CHEM 241 or CHEM 342.*

**BIO 481. Genomics (3, 3). 4.00.**

An advanced biology course designed for students to learn about the structure and function of genomes, to develop facility in web-based tools and resources, and to appreciate the power and limitations of current resources and knowledge. Focus is on the biological questions that genomics can help to answer. Laboratory exercises will be sequencing and analyzing genomic DNA. *Prerequisite: BIO 240.*

**BIO 482. Human Histology (3, 3). 4.00.**

Microscopic structure of cells, tissues and major organ systems of the body. Basic anatomical and physiological function is presented to emphasize the histological significance of the examined organ systems. *Prerequisite: BIO 270, BIO 290 or equivalent.*

**BIO 483. Bioinformatics (3, 3). 4.00.**

Focuses on building databases and computer programs to manage and analyze biological sequence data, and secondarily on theoretical aspects. The overall objective is to learn current information about the intersection of information science and biology, to develop facility in the many web-based tools and resources for further studies and research in genomics/bioinformatics, and to appreciate the power and limitations of current resources and knowledge. *Prerequisite: BIO 240.*

**BIO 486. Systematics of Vascular Plants (2, 4). 4.00.**

Study of systematic theory and an overview of the classification and evolution of higher plants with particular attention to flowering plant families. Techniques for plant identification and collection and for construction of phylogenies will be taught in lab. *Prerequisite: BIO 250 or BIO 150.*

**BIO 489. Topics in Science Pedagogical Content Knowledge. 2.00. Crosslisted with MSSE 490S****BIO 490. Mechanics of Animal Movement (3, 3). 4.00.**

The interactions of organisms with their physical environment. Concepts from fluid and solid mechanics are applied to biological form and function. *Prerequisite: BIO 114, BIO 150 or permission of the instructor.*

**BIO 491. Scientific Writing, Presentation and Critical Thinking. 2.00.**

A discussion-based course for the development of the fundamental thinking, writing and presentation skills necessary to be a successful researcher. This course is required (as BIO 491H) for all Biology Track I and II Honors students in their sophomore year, and is strongly recommended for all Biology majors who are intending to do research. Offered as credit/no credit only. *Prerequisite: BIO 140 or by permission of the instructor.*

**BIO 492. Mentored Biology Course Assistant (0, 4). 1.00.**

Students are trained in the support and function of undergraduate biology courses. Students must contact and make arrangements with the supervising instructor in the term prior to registration. May be repeated when course content and/or student responsibilities within the course change. Offered as credit/no credit only. *Prerequisite: GPA of 2.5 or higher and permission of the instructor.*

**BIO 493. Pre-Veterinary Student Internship (0, 7). 2.00.**

Students are supervised by veterinarians and lab technicians in diagnostic lab activities at a regional animal health laboratory. A proposal and final presentation are required. Enrollment is limited to 1-2 individuals per term and students are advised to contact the Pre-Veterinary coordinator to be waitlisted. Offered as credit/no credit only. *Prerequisite: Completion of BIO 240, GPA of 2.5 or higher and permission of the instructor.*

**BIO 494. Internship in Biology (0, 4-8) 1.00 - 2.00.**

Students participate in research or applied biology outside of this university. Students must contact and obtain approval of a supervising instructor at the off-campus location and with the department internship coordinator in the term prior to registration. A proposal must be approved prior to registration and a final paper or presentation will be completed. Offered as credit/no credit only. *Prerequisite: Biology or biotechnology major with a minimum of eight biology credit hours and a GPA of 2.5 or greater.*

**BIO 495. Biotechniques (0, 4). 1.00.**

Students are trained in research theory and techniques. Students must contact and make arrangements with a supervising instructor in the term prior to registration. May be repeated for a maximum of two credits when course content changes. Offered as credit/no credit only. *Prerequisite: GPA of 2.5 or greater.*

**BIO 496. Research Literature (0, 4). 1.00.**

Students pursue literature research in a selected area of biology. Students must contact and make arrangements with a supervising instructor in the term prior to registration. May be repeated for a maximum of two credits when course content changes. Offered as credit/no credit only. *Prerequisite: GPA of 2.5 or greater.*

**BIO 497. Biological Research (0, 4-8) 1.00, repeatable.**

Students pursue a lab or field research project in a selected area of biology. For new projects (497A), students must contact and make arrangements with a supervising instructor in the term prior to registration and complete a 2-3 page proposal no later than five weeks after the start of the course. Course may be repeated as BIO 497B with the same instructor, or

as BIO 497A with a different instructor. Offered as credit/no credit only. *Prerequisite: GPA of 2.5 or greater.*

**BIO 499A. Senior Project. 2.00.**

Three semester courses taken as Parts A, B and C; 2 credits each. Expectations, requirements and prerequisites are defined in the department senior project policy. Students must contact and make arrangements with a supervising instructor in the term prior to registration.

**BIO 499B. Senior Project. 2.00.**

Three semester courses taken as Parts A, B and C; 2 credits each. Expectations, requirements and prerequisites are defined in the department senior project policy. Students must contact and make arrangements with a supervising instructor in the term prior to registration.

**BIO 499C. Senior Project. 2.00.**

Three semester courses taken as Parts A, B and C; 2 credits each. Expectations, requirements and prerequisites are defined in the department senior project policy. Students must contact and make arrangements with a supervising instructor in the term prior to registration.

## Biotechnology

**BIOT 260. Biotechnology Seminar. 1.00.**

An introduction to biotechnology. Topics will include research opportunities, careers and current topics in biotechnology. Not available for biology major or minor credit.

**BIOT 494. Internship in Biotechnology 1.00-2.00.**

Students participate in research or applied biotechnology outside of the university. A proposal must be approved by the biotechnology program's internship coordinator or director prior to registration. A final deliverable, in a format deemed appropriate for the learning experience, will be submitted at the conclusion of the course. *Prerequisite: Biotechnology major with a minimum of eight credit hours and a GPA of 2.5 or higher with instructor permission.*

## Business

**BUS 160. Business Decision Making in a Modern Society [C1CT]. 3.00.**

This course introduces the concepts of basic technology literacy, information retrieval via electronic and hard copy; along with critical thinking skills. Basic business principles will be introduced to reinforce these concepts and their relationships. The course provides opportunity for applying the skills of oral and written communication to a variety of learning activities. *Prerequisite: Students who have earned credit for a Critical Thinking course must receive permission to enroll in an additional Critical Thinking course. You may not take BUS 160 if you have completed COB 300.*

## Business Analysis

**BSAN 390. Statistical Modeling for Business Analytics. 3.00.**

This course integrates data analytics with advanced analytical methods from statistics using computer applications. The emphasis is on applying statistical modeling and analysis of data from a variety of business processes to support managerial decision-making and improved predictive capabilities. *Prerequisite: Declared BSAN minor, COB 291 or equivalent with a grade of "B-" or higher, and junior or senior standing.*

**BSAN 391. Decision Modeling for Business Analytics. 3.00.**

This course addresses a wide range of complex business decision problems through quantitative modeling using management science techniques with appropriate computer applications. Approaches include optimization and sensitivity analysis, multi-objective decision making and simulation risk analysis. *Prerequisite: Declared BSAN minor and BSAN 390.*

**BSAN 393. Data Mining for Business Analytics. 3.00. Crosslisted with CIS 393.**

This course focuses on using statistical and machine learning techniques in computer applications that allow the extraction of useful, previously unrecognized information from large data sets for predictive purposes. By effectively sifting through databases such as those generated by many businesses, data mining allows the analyst to recognize potentially important patterns and clusters and to target business opportunities. *Prerequisite: Declared BSAN minor, BSAN 390 and BSAN 391.*

**BSAN 490. Special Studies in Computer Information Systems or Business Analytics 1.00 - 3.00. Crosslisted with CIS 490.**

An advanced course in information and/or business analytics designed to give qualified students an opportunity to complete independent study under faculty supervision. *Prerequisite: Senior standing, recommendation of the instructor and written approval of the department head prior to registration.*

**BSAN 498. Special Topics in Business Analytics. 3.00.**

An advanced course designed to allow exploration of current topics in business analytics. Course content will vary. See adviser for current content. *Prerequisite: Permission of the instructor.*

## Business Law

**BLAW 470. Financial Products: Regulation and Protection. 3.00.**

An inquiry into the legal environment of the financial marketplace. Topics explored include the role of regulatory agencies, the design of contracts which minimize credit risk and maximize marketability, and methods of protecting the proprietary component of innovative financial products. *Prerequisite: COB 318 and junior standing.*

**BLAW 480. Estate Planning. 3.00.**

Legal, financial and practical considerations in the creation, management and conservation of an estate. Includes trust principles and practices; various estate planning tools, including wills, trusts, life insurance and powers of appointment; and pertinent income, estate and gift provisions. *Prerequisite: COB 300 and COB 318. Corequisite: COB 300 and COB 318*

**BLAW 494. White Collar Crime. 3.00.**

A study of white collar crime in America, a unique type of criminal activity that primarily affects businesses. The course explores the substance of white collar crime and focuses on the unique elements of various crimes through the study of actual cases. The course also examines how white collar crimes are prosecuted and defended in state and federal courts. Students are introduced to federal and state criminal procedure, substantive defenses, and the use of sentencing guidelines. *Prerequisite: COB 300.*

**BLAW 495. Contract Law, Sales and Secured Transactions. 3.00.**

A study of the law of contracts, Article Two of the Uniform Commercial Code, product liability, legal liability of accountants, secured transactions and bankruptcy with emphasis on the role these play in professional and personal decision making. The courts, the legislature and the interaction of these two branches of government in responding to a changing society are studied throughout. *Prerequisite: COB 318 and COB 300.*

**BLAW 496. The Law of Business Organizations, Negotiable Property Instruments and Property. 3.00.**

A study of Article Three of the Uniform Commercial Code, agency, partnerships, corporations, securities regulations, real property, trusts and decedents estates with emphasis on the role these play in professional and personal decision making. *Prerequisite: COB 318 and COB 300 or permission of the instructor.*

**BLAW 497. Legal Aspects of International Business. 3.00.**

Survey of legal implications of international business dealings including foreign direct sales, distributorship arrangements, licensing of technology and legal aspects of the multi-national corporation. The foreign legal environment, relevant conventions and trade regulations, and the transnational reach of regulatory law will be considered. *Prerequisite: COB 318 and senior standing.*

**BLAW 498. Special Topics in Business Law. 3.00.**

This course is designed to allow explorations of areas of current topics in business law. Course content will vary by semester and instructor. For current content, consult the adviser.  
*Prerequisite:* COB 300 and permission of the instructor.

**Chemistry****CHEM 120. Concepts of Chemistry [C3PP]. 3.00.**

A one-semester introduction to the fundamental principles, laws and applications of chemistry. Examples relating to the health sciences are emphasized. Not available for major or minor credit in chemistry. May be used for general education credit.

**CHEM 131. General Chemistry I [C3PP]. 3.00.**

The first of a two-course general chemistry sequence for science majors. It is designed to introduce students to basic chemical concepts including atomic structure, periodic properties of the elements, nomenclature, basic stoichiometry, theories related to reactivity and bonding and the behavior of materials. May be used for general education credit.  
*Corequisite:* CHEM 131L or CHEM 135L.

**CHEM 131L. General Chemistry Laboratory [C3PP]. 1.00.**

This laboratory course is designed to complement and supplement the CHEM 131 lecture course. The laboratory and lecture portions must be taken concurrently. Chemistry majors are to take CHEM 135L and CHEM 136L. *Corequisite:* CHEM 131.

**CHEM 131L-132L. General Chemistry Laboratories 1.00 each semester.**

These laboratory courses are designed to complement and supplement the CHEM 131-132 lecture courses. Chemistry majors take CHEM 135L and 136L. CHEM 131L may be used for general education credit. *Prerequisite:* For CHEM 132L: Grades of "C-" or higher in CHEM 131 and either CHEM 131L or CHEM 135L.

**CHEM 132. General Chemistry II. 3.00.**

A course designed to examine the mechanisms by which chemists obtain information about reacting systems. Major concepts covered include: chemical reactivity, chemical equilibrium, electrochemistry, thermodynamics and kinetics. *Prerequisite:* Grades of "C-" or higher in CHEM 131 and either CHEM 131L or CHEM 135L. *Corequisite:* CHEM 132L or CHEM 136L.

**CHEM 132L. General Chemistry Laboratory. 1.00.**

These laboratory courses are designed to complement and supplement the CHEM 131-132 lecture courses. Chemistry majors take CHEM 135L and 136L. CHEM 131L may be used for general education credit. *Prerequisite:* Grades of "C-" or higher in CHEM 131 and either CHEM 131L or CHEM 135L.

**CHEM 135L. Special General Chemistry Laboratory I. 1.00.**

An enriched laboratory course designed primarily for chemistry majors. May be used for general education credit. *Corequisite:* CHEM 131.

**CHEM 136L. Special General Chemistry Laboratory II. 2.00.**

An enriched laboratory course that includes special topics and experiments not presented in the regular CHEM 132 laboratory. *Prerequisite:* Grades of "C-" or higher in CHEM 131, CHEM 132 and either CHEM 131L or CHEM 135L. *Corequisite:* CHEM 132

**CHEM 241. Organic Chemistry I. 3.00.**

The major objective for this course is to teach the modern method of scientific problem solving using organic compounds as models. Emphasis will be on the chemical language (nomenclature and terminology), molecular electronic concepts, theories of organic reactions, stereochemistry and structure elucidation of organic compounds. Credit cannot be earned in both CHEM 241L and CHEM 242L. *Prerequisite:* Grade of "C-" or higher in CHEM 132.

**CHEM 241L. Concepts of Organic Chemistry Laboratory. 1.00.**

Laboratory work will include training in the techniques of organic chemistry, preparation of compounds and some organic qualitative analysis. Credit cannot be earned in both CHEM 241L and CHEM 242L. *Prerequisite:* CHEM 241 *Corequisite:* CHEM 241

**CHEM 242. Organic Chemistry II. 3.00.**

The major objective for this course is to teach the modern method of scientific problem solving using organic compounds as models. Emphasis will be on the chemical language (nomenclature and terminology), molecular electronic concepts, theories of organic reactions, stereochemistry and structure elucidation of organic compounds. *Prerequisite:* Grade of "C-" or higher in CHEM 241. It is strongly recommended that students take CHEM 242L with 242 lecture.

**CHEM 242L. Organic Chemistry Laboratory. 2.00.**

This course will present laboratory techniques and experiments associated with organic chemistry, including an introduction to synthesis, spectroscopic methods, chromatographic techniques and some qualitative organic analysis. Credit cannot be earned in both CHEM 241L and 242L. *Prerequisite:* Grade of "C-" or higher in CHEM 241. *Corequisite:* CHEM 242

**CHEM 260. Concepts of Biochemistry. 3.00.**

A brief survey of the principal constituents of living cells, proteins, carbohydrates, lipids and nucleic acids, with emphasis on their synthesis and transformations in vivo. Intermediary metabolism and protein replication will be stressed. Not available for major or minor credit. *Prerequisite:* CHEM 241 and either CHEM 241L or CHEM 242L

**CHEM 260L. Concepts of Biochemistry Laboratory. 1.00.**

The laboratory work will comprise experiments demonstrating some of the pertinent reactions including those of analytical value. *Prerequisite:* CHEM 260 *Corequisite:* CHEM 260

**CHEM 270. Inorganic Chemistry I. 3.00.**

A survey of the chemistry of the elements and modern theories of bonding. *Prerequisite:* Grade of "C-" or higher in CHEM 132.

**CHEM 280. An Alternative Lower-Division Chemistry Experience. 1.00 - 4.00.**

This course will provide a mechanism for offering a nontraditional, lower division, lecture and/or laboratory course. It will be offered only with the approval of the full-time teaching faculty. No course will be offered more than three times under the 280 designation. Students may repeat CHEM 280 for credit when course content changes.

**CHEM 287L. Integrated Inorganic/Organic Laboratory I. 2.00.**

An enriched, integrated introduction to the laboratory procedures associated with inorganic and organic chemistry. Topics include apparatus design and construction, synthesis, separation methods, spectroscopic analysis and application of computers in the laboratory. *Prerequisite:* CHEM 241 *Corequisite:* CHEM 241

**CHEM 288L. Integrated Inorganic/Organic Laboratory II. 2.00.**

An enriched, integrated introduction to the laboratory procedures associated with inorganic and organic chemistry. Topics include apparatus design and construction, synthesis, separation methods, spectroscopic analysis and application of computers in the laboratory. *Prerequisite:* Grade of "C-" or better in CHEM 241 and CHEM 270. *Corequisite:* CHEM 270.

**CHEM 325. Chemical Hazards and Laboratory Safety. 1.00.**

A brief introduction to physical and chemical hazards which may be encountered in a laboratory setting. Methods of personal protection will be emphasized.

**CHEM 331. Physical Chemistry I. 3.00.**

A study of thermodynamics, solutions, kinetics and macromolecules with applications of chemical and biological problems. *Prerequisite:* CHEM 132, MATH 236 and PHYS 240.

**CHEM 336L. Applied Physical Chemistry Laboratory. 2.00.**

A laboratory course which emphasizes the applied experimental aspects of physical chemistry. *Prerequisite: CHEM 331 Corequisite: CHEM 331*

**CHEM 351. Analytical Chemistry. 4.00.**

The total analysis concept is introduced and developed. This framework encompasses the areas of experiment design, sample collection and treatment, and statistical evaluation of results, as well as standard analysis techniques. *Prerequisite: CHEM 132.*

**CHEM 352. Instrumental Analysis. 3.00.**

This course emphasizes the application of instrumental techniques to the quantitative determination of chemical composition. Both instrument theory and practical applications are presented. *Prerequisite: CHEM 351 and MATH 235.*

**CHEM 352L. Instrumental Analysis Laboratory. 2.00.**

This course will introduce students to the methodology and technology associated with the design and use of chemical instrumentation. Students perform experiments that illustrate the theoretical principles associated with instrument designs and the application of instruments to the solution of qualitative and quantitative analysis problems. *Corequisite: CHEM 352.*

**CHEM 353. Environmental Chemistry. 3.00.**

An introduction to chemical pollution of water in the air, soil, groundwater, streams and drinking water from a chemist's perspective. Topics include sources and methods of assessment, fates and reactions, and transport of chemicals in the environment. This course does not include laboratory activities. *Prerequisite: A grade of "C" or better in CHEM 241 or permission of the instructor.*

**CHEM 354. Environmental Chemistry Field Camp. 3.00.**

Fundamentals of environmental chemistry with laboratory and field trip components. The basic chemical principles of environmental problems are studied. Field trips and laboratory work on real samples are integrated with lecture material. *Prerequisite: CHEM 241 or permission of the instructor.*

**CHEM 355. Geochemistry of Natural Waters. 3.00. Crosslisted with GEOL 355.**

Study of chemical theory and reactions important in natural water systems. The role of atmospheric, geologic and biological inputs in determining the geochemistry of streams, rivers and oceans. *Prerequisite: CHEM 131 and CHEM 132 or equivalent.*

**CHEM 361. Biochemistry I. 3.00. Crosslisted with BIO 361.**

An introduction to the molecules and chemical reactions of living systems. Structure and function of important classes of biomolecules are explored and the relationship of structure to function is stressed. Basic metabolic sequences are discussed. *Prerequisite: Grade of "C-" or higher in CHEM 241 and permission of the instructor. Completion of CHEM 242 is strongly recommended.*

**CHEM 362. Biochemistry II. 3.00.**

A continuation of CHEM 361 including metabolic regulation, protein biosynthesis, analytical methods and isolation of biomolecules. *Prerequisite: CHEM 361 or permission of the instructor.*

**CHEM 363. Biophysical Chemistry. 3.00.**

The study of structure-function relationships in biological molecules as well as the theory and applications of biophysical methods used for the analysis of proteins and nucleic acids. Topics may include analytical ultracentrifugation, light scattering, fluorescence, calorimetry, surface plasmon resonance, single molecule approaches, X-ray diffraction, NMR, TEM, AFM, structure prediction and computational simulations. *Prerequisite: Grade of "C" or higher in CHEM 361.*

**CHEM 366L. Biochemistry Laboratory. 2.00.**

An introduction to laboratory techniques and experimental approaches associated with modern biochemistry. Isolation and characterization of enzymes and other biomolecules are emphasized. *Prerequisite: CHEM 361 and either CHEM 241L or CHEM 242L or CHEM 287L.*

**CHEM 367L. Biochemistry Laboratory. 2.00.**

An introduction to laboratory techniques and experimental approaches associated with modern biochemistry. Isolation and characterization of proteins is emphasized. *Prerequisite: Restricted to majors in Chemistry or Biophysical Chemistry, or by permission of the instructor.*

**CHEM 368L. Biophysical Chemistry Laboratory. 2.00.**

An introduction to experimental approaches used to characterize proteins. Techniques may include NMR, UV-Vis, AFM, circular dichroism and infrared spectroscopy. *Prerequisite: Restricted to majors in Chemistry or Biophysical Chemistry, or by permission of the instructor.*

**CHEM 375. An Introduction to Materials Science. 3.00. Crosslisted with MATS 375, PHYS 375.**

An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials. *Prerequisite: CHEM 131 and PHYS 150 or PHYS 250 or ISAT 212 or permission of the instructor.*

**CHEM 390A. Problems in Chemistry. 1.00-3.00.**

Repeatable for a total of 4 credits. A project is undertaken dealing with some aspect of chemistry under the guidance of a faculty adviser.

**CHEM 390A, B. Problems in Chemistry. 1.00 - 3.00, repeatable for a total of 4 credits.**

A project is undertaken dealing with some aspect of chemistry under the guidance of a faculty adviser.

**CHEM 390B. Problems in Chemistry. 1.00 - 3.00.**

A project is undertaken dealing with some aspect of chemistry under the guidance of a faculty adviser.

**CHEM 395. Perspectives in Chemistry. 1.00.**

A description of the technical and nontechnical capabilities expected of a university graduate who enters industry, government or academia is presented. The student is introduced to the various laws governing the chemical industry as well as to the fields of toxicology and environmental health. Experts in various disciplines discuss current topics of concern to the chemistry and biology student.

**CHEM 397. Science Pedagogy. 2.00.****CHEM 432. Physical Chemistry II. 3.00.**

A study of atomic and molecular energy levels and structure as interpreted by quantum theory. *Prerequisite: CHEM 132 and MATH 236 and PHYS 250.*

**CHEM 438L. Physical Chemistry Laboratory. 2.00.**

A laboratory course which emphasizes the application of various physical measurement techniques as a means of obtaining data to test fundamental chemical theory. *Corequisite: CHEM 432.*

**CHEM 440. Intermediate Organic Chemistry. 3.00.**

An advanced study of the theory of organic chemistry as applied to chemical reactions and synthetic methods. Such topics as reaction mechanisms, spectroscopy and stereochemistry will be included. *Prerequisite: CHEM 242.*

**CHEM 445. Polymer Chemistry. 3.00.**

A study of the synthesis and characterization of macromolecules. Polymer chemistry is discussed in a manner that focuses most attention on the properties of macromolecules that can be understood at the molecular level. *Prerequisite: CHEM 242*

**CHEM 450. Nuclear and Radiation Chemistry. 3.00.**

A study of the fundamentals of radioactivity in chemistry. Topics include the effects of radiation on matter, measurement of radiation, activation analysis, tracer studies and the nuclear fuel cycle. Applications of radioactive materials and radiation in industry and medicine will be described. *Prerequisite: CHEM 132 and PHYS 250 or permission of the instructor.*

**CHEM 450L. Laboratory for Nuclear and Radiation Chemistry. 1.00.**

A laboratory course designed to demonstrate the topics covered in CHEM 450. *Prerequisite: CHEM 132 and PHYS 250 or permission of the instructor. Corequisite: CHEM 450.*

**CHEM 455. Lasers and Their Applications to Physical Sciences. 3.00. *Crosslisted with PHYS 455.***

An introduction to both the theoretical and practical aspects of lasers and their applications in the physical sciences. *Prerequisite: PHYS 270, CHEM 331 or permission of the instructor.*

**CHEM 470. Inorganic Chemistry II. 3.00.**

A study of selected topics in the field of advanced inorganic chemistry. *Prerequisite: A grade of "C-" or higher in CHEM 270 and CHEM 331. Corequisite: CHEM 331.*

**CHEM 480. Selected Topics in Chemistry. 1.00 - 4.00 each semester.**

This course is designed to allow an in-depth study of specific topics in chemistry selected according to student and faculty interests.

**CHEM 481. Literature and Seminar I. 1.00.**

Provides instruction in methods of abstracting specific information from the body of chemical literature. Attendance at regularly scheduled department seminars is required. *Prerequisite: CHEM 242 or CHEM 288L.*

**CHEM 482. Literature and Seminar II. 1.00.**

Provides practice in preparing and presenting a literature-based seminar and paper on a chemical topic. Attendance at regularly scheduled department seminars is required. *Prerequisite: CHEM 481 or permission of the instructor.*

**CHEM 485. Science of the Small. 4.00. *Crosslisted with PHYS 485.***

The chemistry and physics of materials of the nanometer scale will be explored. Lectures and laboratories will cover contemporary issues in surfaces, self-assembly and low dimensional materials. The intersection of biology, chemistry, engineering and physics will be explored through nanoscience. *Prerequisite: CHEM 132 and MATH 236. Prerequisite or corequisite: PHYS 150 or PHYS 250.*

**CHEM 494. Internship in Chemistry. 1.00 - 2.00, may be repeated for a maximum of 6 credits.**

Students participate in research or applied chemistry outside of the university. A proposal must be approved prior to registration, and a final paper will be completed

**CHEM 497A, B, C. Undergraduate Chemical Research. 2.00-4.00, repeatable for a total of 6 credits.**

Research in a selected area of chemistry, as arranged with and approved by a faculty research adviser the semester prior to registration. Research in a selected area of chemistry, as arranged with and approved by a faculty research adviser the semester prior to registration.

**CHEM 499A. Honors. 1.00.****CHEM 499B. Honors. 2.00.****CHEM 499C. Honors. 3.00.****Chinese****CHIN 101. Elementary Chinese I. 3.00 - 4.00.**

The fundamentals of Mandarin Chinese through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory.

**CHIN 102. Elementary Chinese II. 3.00 - 4.00.**

The fundamentals of Mandarin Chinese through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite: CHIN 101.*

**CHIN 212. Intensive Chinese I. 6.00**

The fundamentals of Chinese through intensive listening, speaking, reading and writing at the intermediate level. This four-week course is the equivalent of CHIN 231-232. *Prerequisite: CHIN 102 or CHIN 111 or permission of the instructor.*

**CHIN 231. Intermediate Chinese I. 3.00.**

A more in-depth study of grammar, vocabulary building, conversation and reading. Includes an introduction to composition. *Prerequisite: CHIN 102, CHIN 111, or permission of the instructor.*

**CHIN 232. Intermediate Chinese II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: CHIN 231 or permission of the instructor.*

**CHIN 300. Chinese Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their applications to oral and written conversation. Instruction is in Chinese. *Prerequisite: CHIN 232 or CHIN 212 or permission of the instructor.*

**CHIN 320. Chinese Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Chinese with emphasis on conversation and composition. Readings in Chinese will provide a context for discussion and writing. *Prerequisite: CHIN 300.*

**CHIN 397. Intensive Reading and Writing in Chinese I. 3.00.**

The major goal of this course is to help students intensively develop proficiency in reading and writing based on their competence in listening and speaking. Students are expected to appropriately express their ideas in writing on a wide range of topics and achieve reading competence in Mandarin Chinese. *Prerequisite: Permission of the instructor.*

**CHIN 398. Intensive Reading and Writing in Chinese II. 3.00.**

Continuation of intensive training in the reading and writing of modern Mandarin Chinese. Instruction is in Chinese. *Prerequisite: CHIN 397 or permission of the instructor.*

**CHIN 435. Translation Strategies. 3.00.**

This course discusses the different theoretical strategies of translation and applies them in extensive practical experiences using internet-based language resources in various topics of interest, thus to improve students' knowledge of Chinese language and translation competence. *Prerequisite: CHIN 300.*

**CHIN 446. Special Topics in Chinese Literature. 3.00.**

Study of a particular topic in Chinese literature. It may cover all or a specific Chinese literature genre. Course may be repeated if content varies.

**CHIN 447. Special Topics in Chinese Civilization. 3.00.**

Students will study a particular topic in the civilization and/or culture of Chinese-speaking countries. Course may be repeated if content varies.

**CHIN 448. Special Topics in Chinese Linguistics. 3.00.**

Students will study a particular topic in Chinese linguistics. Topics could include an introduction to Chinese sociolinguistics or psycholinguistics. Course may be repeated if content varies. *Prerequisite: CHIN 300.*

**Classics****CLAS 100. Latin and Greek Roots of English Words. 3.00.**

Intensive study of Latin and Greek word-roots, prefixes and suffixes in the forms they take in English words. An English vocabulary-development course for students with no knowledge of Latin or Greek. Does not count toward licensure in Latin.

**CLAS 266. Greek and Roman Classics in Translation. 3.00.**

Discussion of the writings that illustrate the cultural values and intellectual attitudes which constitute the most important legacy of Classical civilization. All readings are in English.

**CLAS 360. Topics in Greek and Roman Culture. 3.00.**

A study of selected topics in the culture of Ancient Greece and Rome. May be repeated for credit with change of topics.

**College of Business****COB 110. First-Year Success Seminar. 1.00.**

This course is designed to assist first year students with the transition from the high school classroom to the college classroom by developing a better understanding of the learning process while acquiring essential academic skills. Conducted in a seminar setting, this course provides a support group by discussing concerns confronting first year students. Throughout the semester students will engage with various guest speakers to learn about available resources and explore business career paths. *Prerequisite: Declared business major; first year students only.*

**COB 111. Business Learning Community Seminar. 1.00.**

This course introduces students to business careers, academic course work in the James Madison University College of Business, and faculty, staff, and alumni who offer insights for success. Students will learn what is expected to achieve academic success and succeeding in the business world. Students will also engage in the JMU environment and develop leadership and civic responsibility skills. Students will reflect on learned concepts through written and oral assignments, guest lectures, and service learning. *Prerequisite: MadisonBiz Residential Learning Community students only.*

**COB 191. Business Analytics I. 3.00.**

The application of data analysis and statistical methods in business. Introduces data visualization, descriptive statistics, probability, sampling, estimation and hypothesis testing. Emphasis is on using spreadsheet tools and functions for statistical analysis to support analytical decision-making in a business environment. *Prerequisite: One of the following: MATH 155, MATH 156, MATH 205, MATH 231, MATH 235, ISAT 151, or sufficient score on the mathematics placement exam.*

**COB 202. Interpersonal Skills. 3.00.**

An applied course consisting of experiential exercises followed by class discussion. Cases are used as learning activities where the instructor acts as a facilitator to learning. Essential theory emanates from class discussions with a student-based rather than instructor-based format. Theory and application are intertwined by means of student self-assessment exercises and group discussion. *Prerequisite: Open only to sophomore business majors.*

**COB 204. Computer Information Systems. 3.00.**

An introduction to computer-based information systems for students with a major in the COB or a CIS minor. Emphasis is placed on the role of computers in business and society, computer hardware and software, analysis, design and implementation of information systems, computer ethics, and collaboration using computers. Students will create databases and collaborate using computer-based tools.

**COB 241. Financial Accounting. 3.00.**

The role of financial data in contemporary society; the problems of measuring and reporting income, assets, liabilities and equities; interpretation of financial statements. *Prerequisite: Sophomore standing and declared business major.*

**COB 242. Managerial Accounting. 3.00.**

The attention-directing and problem-solving functions of accounting in relation to current planning and control, evaluation of performance, special decisions and long-range planning. *Prerequisite: COB 241.*

**COB 291. Business Analytics II. 3.00.**

The application of quantitative modeling and analysis to managerial decision-making. Introduces techniques from predictive and prescriptive analytics including linear optimization, decision analysis, queuing, regression, timeseries forecasting, and simulation. Emphasis is on implementing, solving, and interpreting results from spreadsheet models for business applications. *Prerequisite: COB 191 or MATH 220 and MATH 205 or equivalent.*

**COB 300A. Integrative Business: Management. 3.00.**

COB 300A is the management component of an integrated learning experience consisting of four courses, taken concurrently, which introduces the fundamental conceptual tools of management, finance, operation and marketing in such a way as to establish their mutual relevance and interdependence. Students work in small project teams on tasks designed to require the application in concert of conceptual tools from each of the function areas. *Prerequisite: Completion of all required 100- and 200-level B.B.A. core courses, junior standing (56 hours), formal admission to the College of Business and COB 242. Corequisite: COB 242.*

**COB 300B. Integrative Business: Finance. 3.00.**

COB 300B is the finance component of an integrated learning experience consisting of four courses, taken concurrently, which introduces the fundamental conceptual tools of management, finance, operation and marketing in such a way as to establish their mutual relevance and interdependence. Students work in small project teams on tasks designed to require the application in concert of conceptual tools from each of the function areas. *Prerequisite: Completion of all required 100- and 200-level B.B.A. core courses, junior standing (56 hours), formal admission to the College of Business and COB 242. Corequisite: COB 242.*

**COB 300C. Integrative Business: Operations. 3.00.**

COB 300C is the operations component of an integrated learning experience consisting of four courses, taken concurrently, which introduces the fundamental conceptual tools of management, finance, operation and marketing in such a way as to establish their mutual relevance and interdependence. Students work in small project teams on tasks designed to require the application in concert of conceptual tools from each of the function areas. *Prerequisite: Completion of all required 100- and 200-level B.B.A. core courses, junior standing (56 hours), formal admission to the College of Business and COB 242. Corequisite: COB 242.*

**COB 300D. Integrative Business: Marketing. 3.00.**

COB 300D is the marketing component of an integrated learning experience consisting of four courses, taken concurrently, which introduces the fundamental conceptual tools of management, finance, operation and marketing in such a way as to establish their mutual relevance and interdependence. Students work in small project teams on tasks designed to require the application in concert of conceptual tools from each of the function areas. *Prerequisite: Completion of all required 100- and 200-level B.B.A. core courses, junior standing (56 hours), formal admission to the College of Business and COB 242. Corequisite: COB 242.*



**COB 301. European Integration, Culture and History. 3.00.**

This course is designed to complement the COB 300 A-D and will only be offered as part of the semester in Antwerp program. Students will study European integration in the classroom and visit governmental institutions, historical places and cultural events associated with course content. *Prerequisite: Requires acceptance to the semester in Antwerp program. Cannot be used as an elective to fulfill any major or minor in COB. Corequisite: Must be taken with COB 300.*

**COB 318. Legal and Ethical Environment of Business. 3.00.**

A study of the law as a means of social, political and economic change. The course focuses on the law in positive leadership development and organizational success. The course has two main goals: To develop leaders who are able to achieve success by understanding the legal and ethical aspects of their business responsibilities and to show how organizations can achieve competitive advantage by reducing legal risk and using the law to create economic value, while also encouraging responsible conduct. The course examines legal and ethical issues that every businessperson should understand to make sound business decisions in a global environment. It provides an overview of the legal system, the nature and uses of law, ethical decision-making frameworks, business organizations and agency, contract law, torts and the law of product liability, criminal law, the regulatory environment, intellectual property, employment law, securities law, and mergers and acquisitions law. *Prerequisite: COB 300. Corequisite: COB 300.*

**COB 487. Strategic Management. 3.00.**

Strategic management is designed to be the capstone course for seniors completing their undergraduate studies in the various functional areas of business administration. The course is comprehensive and structured to build on the foundational knowledge students have gained through completing the interdisciplinary COB 300, Integrated Functional Systems, learning experience and from their respective concentrations. *Prerequisite: COB 300, COB 318, senior standing and completion of one full academic semester after completing COB 300.*

**COB 490. Special Studies in Business Administration. 1.00 - 3.00.**

Designed to give capable students an opportunity to complete a faculty supervised independent study apart from a specific major. *Prerequisite: Permission from the Associate Dean for Academic Affairs.*

**College of Integrated Science and Engineering****CISE 481. Robotics Project Summary. 1.00.**

Students will reflect upon their experience gained in a prerequisite supervised robotics project course, a robotics internship, a robotics research project or an equivalent experience. Results will be disseminated to the academic community via a presentation, a report and/or other means.

**College of Science and Mathematics****CSM 397. Science Pedagogy. 2.00****Communication Sciences and Disorders****CSD 200. Introduction to Communication Disorders. 3.00.**

This course is an introduction to human communication, the most advanced of neurological functions which separates humans from all other species. It surveys both normal and communicatively disordered populations served by audiologists, speech-language pathologists, educators and neuropsychologists.

**CSD 207. Phonetics. 3.00.**

Instruction in various transcription techniques for phonetic and phonemic analysis of speech production.

**CSD 208. Anatomy and Physiology of the Ear and Voice Mechanism. 3.00.**

A detailed study of the anatomy and physiology of the speech mechanism.

**CSD 209. Acoustics of Hearing and Speech. 3.00.**

Introduction to acoustics of speech and hearing. Introduction to physical acoustics, sound generation and transmission, resonance, speech acoustics and speech perception.

**CSD 300. Language Development. 3.00.**

The study of language acquisition, development, structure and function in normal children. The development of language in all cultures and the universal nature of the developmental process is the foundation for continued study in speech-language hearing. *Prerequisite: A grade of "C" or better in CSD 207, CSD 208 and CSD 209; Open to CSD majors only.*

**CSD 301. Audiology. 3.00.**

An introduction to the symptoms, causes and treatment of hearing disorders. Hearing test instrumentation and interpretation in clinical situations are emphasized. *Prerequisite: A grade of "C" or better in CSD 207, CSD 208 and CSD 209 or permission.*

**CSD 314. Phonological and Language Disorders. 3.00.**

An introduction to phonological and language disorders in children and adults. Etiological and maintaining factors are discussed, and an overview of assessment and (re)habilitation procedures is presented. *Prerequisite: CSD 300 or permission.*

**CSD 318. Aural Rehabilitation. 3.00.**

Concentrated attention is given to communication problems of the hearing handicapped. Aural rehabilitation is emphasized including lip reading and auditory training. *Prerequisite: CSD 301 or permission.*

**CSD 400. Topics in Speech Production and Perception: Implications for Clinical Populations. 2.00 - 3.00**

This course is a focused study of topics in speech production and perception as related to communication sciences and disorders. The underlying mechanisms associated with these functions for human communication are surveyed and examined with an emphasis on the effects of communicative disorders. The interdisciplinary nature of communication sciences and disorders is highlighted. This course is relevant to a range of fields of study including (but not limited to) speech-language pathology, audiology, speech, language, hearing sciences, psychology, linguistics, health sciences, nursing and occupational therapy. *Prerequisite: PSYC 101, CSD 207, CSD 209 and MATH 220, or permission of the instructor.*

**CSD 412. Professional Issues and Multicultural Considerations in Communication Disorders. 3.00.**

This course will address professional issues including healthcare disparities, ethical service delivery, and considerations for effective service delivery to culturally and linguistically diverse populations. Linguistic and nonlinguistic features of different cultures and languages will be discussed. *Prerequisite: CSD 200, CSD 207, CSD 300, CSD 314.*

**CSD 415. Neuroanatomy and Neurogenic Communication Disorders. 3.00. Crosslisted with BIO 415.**

Introduces neurogenic communication disorders from a neuroanatomical approach. *Prerequisite: CSD 208 or permission.*

**CSD 416. Organic Disorders in Communication Sciences and Disorders. 3.00.**

This course will discuss fundamental considerations for communication and swallowing disorders of organic etiology. Discussion of current evaluation methods and treatment strategies are explored. *Prerequisite: CSD 208 and CSD 415.*

**CSD 420. Introduction to Sign Language. 3.00.**

Provides an introduction to American Sign Language, the deaf community and English-based signed systems.

**CSD 421. Sign Language II. 3.00.**

Focuses on developing conversational skills of students whose core vocabulary and knowledge of the grammar and pragmatics of sign language are basic; distinguishes ASL from

English sign systems. *Prerequisite: CSD 420 or permission.*

**CSD 470. Methods and Observation. 3.00.**

Directed observation and participation in practical experiences. Introduction to the clinical process in speech-language pathology. Practical clinical methodology will be emphasized. *Prerequisite: Majors only; CSD 314 or permission.*

**CSD 471. Methods and Observation in Audiology. 3.00.**

An introduction to the clinical process in audiology via directed observation and participation in laboratory and patient interactions. Practical clinical methodology is emphasized. Majors only with interest in graduate study in audiology. Repeatable for credit up to six credits. Must have senior status to enroll. *Prerequisite: CSD 301 or permission.*

**CSD 490. Special Studies in Communication Sciences and Disorders. 1.00 - 3.00**

Provides students opportunity for independent study and/or small class instruction in elective topics.

**CSD 499. Honors. 1.00 - 6.00**

See catalog section "Graduation with Honors."

## Communication Studies

**SCOM 121. Fundamental Human Communication: Presentations [C1HC]. 3.00.**

Study of human communication as a process. Overview of the principles and practices of interpersonal, small group and public communication. Emphasis on examining the role of self-concept, perception, culture, verbal and nonverbal dimensions in the communication process, using power and managing conflict, applying critical listening, practicing audience analysis within informative speech making. Public speaking required. May be used for general education credit. May not be used for major credit.

**SCOM 122. Fundamental Human Communication: Individual Presentations [C1HC]. 3.00.**

Study of human communication as a process. Overview of the principles and practices of interpersonal, small group and public communication. Emphasis on examining the role of self-concept, perception, culture, verbal and nonverbal dimensions in the communication process, using power and managing conflict, applying critical listening, practicing audience analysis within informative speech making. Public speaking required. May be used for general education credit. May not be used for major credit.

**SCOM 123. Fundamental Human Communication: Group Presentations [C1HC]. 3.00.**

Study of human communication as a process. Overview of the principles and practices of communication in small group and public communication contexts. Emphasis on examining the role of self-concept, perception, culture, verbal and nonverbal dimensions in the communication process, using power and managing conflict, applying critical listening, practicing audience analysis, and constructing informative and persuasive group presentations. Public speaking required. May be used for general education credit. May not be used for major credit. SCOM 231. Introduction to Alternative Dispute Resolution. 3 credits. Study of conflict resolution processes including mediation, arbitration and negotiation. Consideration of litigation and hybrid dispute processes such as summary jury trial, rent-a-judge and panel evaluation.

**SCOM 123H. Fundamental Human Communication: Group Pres - Honors [C1HC]. 3.00.**

Study of human communication as a process. Overview of the principles and practices of communication in small group and public communication contexts. Emphasis on examining the role of self-concept, perception, culture, verbal and nonverbal dimensions in the communication process, using power and managing conflict, applying critical listening, practicing audience analysis, and constructing informative and persuasive group presentations. Public speaking required. May be used for general education credit. May not be used for major credit. *Prerequisite: Honors Students*

**SCOM 240. Introduction to Communication Theory. 2.00.**

Study of theories and models that inform understanding of human communication processes. Emphasis on the processes of theory building, comparison of theories, and the implications and application of theory to particular contexts. Consideration of role of communication in all human endeavors. The SCOM 241 lab and SCOM 240 [Inactive] lecture portions must be taken concurrently. *Prerequisite: SCOM major declared or SCOM minor declared students only, and any SCOM course.*

**SCOM 241. Communication Theory Lab. 1.00.**

This lab is designed to complement and supplement the SCOM 240 lecture course. Students will discuss, write and/or give presentations related to content covered in SCOM 240. The SCOM 241 lab and SCOM 240 lecture portions must be taken concurrently. *Prerequisite: SCOM major declared or SCOM minor declared students only, and any SCOM course.*

**SCOM 242. Presentational Speaking. 3.00.**

Study of methods for preparing and presenting public speeches. Consideration of impromptu and extemporaneous speaking, sales speeches, business presentations and other special occasion speeches. Emphasis on performance and evaluation. *Prerequisite: Any SCOM course. SCOM 243 /SMAD 243 /KIN 243 Sport Communication Techniques: Broadcasting. SCOM/SMAD 244/KIN 244 Sport Communication Techniques: Writing and Reporting.*

**SCOM 245. Signs, Symbols and Social Interaction. 3.00.**

The study of verbal and nonverbal communication as used in human interaction. Consideration given to the function of symbolic systems in self-concept development, the structuring of reality and social discourse. Attention is directed toward the use of signs and symbols by different ethnic groups, genders, age groups and geographic groups. *Prerequisite: SCOM major Declared' or 'SCOM minor Declared' students only and any SCOM course.*

**SCOM 247. Small Group Communication. 3.00.**

Study of communication processes involved in solving problems when working with others in a small group context. Emphasis on concepts of roles, norms, leadership and decision making. Consideration of small group factors which influence problem-solving effectiveness. *Prerequisite: SCOM 121, SCOM 122 or SCOM 123.*

**SCOM 248. Intercultural Communication. 3.00.**

The study of human communication in a variety of cultural settings and contexts. Emphasis on developing understanding and analytical skills regarding communication between people from different racial, ethnic and cultural backgrounds in both domestic and international settings. Consideration of relevance and application to social, business and political environments.

**SCOM 260. Introduction to Public Relations. 3.00.**

Study of basic principles and practices of public relations. Consideration given to public relations problems and pragmatic solutions utilizing oral, written and electronic communication media and skills.

**SCOM 261. Public Relations Techniques I: Written. 3.00.**

Study of writing fundamentals for public relations. Emphasis on practice of effective writing for a variety of media (press releases, public service announcements, brochures, newsletters). Must be able to use word processing software. *Prerequisite: SCOM 260.*

**SCOM 280. Introduction to Communication Research. 3.00.**

An introduction to the principles, methods and analysis techniques used in the field of communication. Emphasis on a broad-based understanding of the breadth of research in the field. Includes both qualitative and quantitative research methods, methods of literature review and research article critiques. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: SCOM 240.*

**SCOM 301. Feminist Blogging: Writing for Shout Out! JMU. 3.00. Crosslisted with WGSS 301.I**

The goal of this course is to work in a feminist collective to write daily blog posts for the Shout Out! JMU blog. Students will organize the blog, research and write blog posts,

publicize the blog, and create dialogue by commenting on one another's blog posts as a means of consciousness raising.

**SCOM 302. Third Wave Ecofeminism. 3.00. *Crosslisted with WGSS 302.***

This course explores the historically strong association between women and nature, in which the image of Mother Earth is central, and critiques the power-as-domination assumption of our culture shown in the exploitation of women and of the earth itself. Religious, psychological, social, historical and scientific manifestations of this assumption will be examined, along with alternative models of power and responsibility. Students will explore the considerable research on ecofeminism.

**SCOM 303. Special Topics in Health Communication. 3.00.**

Study of current topics and issues in health communication. Course content will vary by faculty. See MyMadison for the topic. May be repeated up to six credits

**SCOM 305. Language and Culture. 3.00. *Crosslisted with ANTH 305.***

An introduction to linguistic anthropology. Explores the complex relationships between language and culture through topics such as language acquisition and socialization; language, thought, and worldview; language and identity; multilingualism; how and why languages change; literacy; and the politics of language use and language ideologies.

**SCOM 313. Topics in Communication Studies. 1.00 - 3.00.**

Study of current topics and issues in human communication. Emphasis on contemporary theories, research and principles. Prerequisite: Nine hours of SCOM courses including SCOM 240 and one at 100 level.

**SCOM 314. Communication in Romantic Relationships. 3.00.**

This class acquaints students with relevant theory and research associated with communication in various stages of romantic relationships including initiation, maintenance and dissolution. Emphasis is on honing one's ability to understand communication theory, research, and application while enhancing one's communication skills in romantic relationships. Additionally, students will improve their ability to communicate about relationship research through writing, presenting and discussing.

**SCOM 318. Practicum in Communication Studies. 1.00 - 6.00**

Approved co-curricular activities and/or projects of a practical nature. No more than six hours of practicum credit can be applied to major. Proposals must be submitted to and approved by the course instructor for section and credit hour registration. To receive repeat credit, see school director. *Prerequisite: Permission of the school director.*

**SCOM 320. Introduction to Interpersonal Communication. 3.00.**

Introduction to the fundamental theoretical perspectives in interpersonal communication. Emphasis on the effects of verbal and nonverbal messages on continuity and change in personal relationships. Consideration of the influence of cultural and social contexts on messages in relationships. Development of communication competence in diverse interpersonal contexts.

**SCOM 330. Special Topics in Interpersonal Communication. 3.00.**

Study of current topics and issues in interpersonal communication. Topics and issues may include, but are not limited to aging and lifespan, communication education, computer mediated relations, deception and secrecy, friendship and rivalry, relationship rejuvenation and social support. May be repeated up to six credits.

**SCOM 331. Communication and Conflict. 3.00.**

Consideration of theories of conflict emerging from the communication discipline and application to different forms of conflict at all levels of human interaction. An examination of communication and varied responses to conflict in diverse situations. Emphasis on competencies required for successful management, intervention and transformation of conflict. *Prerequisite: SCOM 240 or SCOM 245 recommended.*

**SCOM 332. Mediation. 3.00.**

Study of analysis and resolution of human conflict. Emphasis on role of mediation in dispute resolution focusing on relationships, language, listening and problem-solving techniques. Consideration of the interpersonal and group approaches to study of conflict management. *Prerequisite: SCOM 240 or SCOM 245 recommended.*

**SCOM 333. Negotiations. 3.00.**

This course provides an overview of negotiation as a strategy for dealing with conflict.

**SCOM 334. Alternative Dispute Resolution. 3.00.**

Study of conflict resolution processes including mediation, arbitration and negotiation. Consideration of litigation and hybrid dispute processes such as summary jury trial, rent-a-judge and panel evaluation.

**SCOM 335. Communication Consulting. 3.00.**

Students learn and apply the best practices for communication consulting in a variety of contexts. Specific emphases may include consulting on public speaking, peer education, visual communication, marketing, group communication, data visualization, and data analysis. Based in contemporary human communication theory, Communication Consulting provides experiential learning opportunities through a practicum in team-based communication consulting. *Prerequisite: SCOM 121, SCOM 122 or SCOM 123.*

**SCOM 338. The Art of Public Debate. 3.00.**

This course focuses on the practical application and critical examination of debate in the public sphere. The course provides students with experience in researching, constructing and presenting topics for public debate. Additionally, students will be asked to examine pieces of public debate in order to provide them with the tools to critically examine public discourse in a manner consistent with being a productive and active citizen. This course will culminate with a public debate tournament.

**SCOM 340. Principles and Processes of Interviewing. 3.00.**

Study of communication principles and processes in interviewing. Emphasis on interpersonal processes involved in interview structures, goals and question types. Development of communication skills in information, persuasive, counseling, health care, employment and performance appraisal interviews.

**SCOM 341. Persuasion. 3.00.**

The study of oral communication as a determinant of attitudinal and behavioral change. Emphasis on the various kinds of artistic and nonartistic proofs as they apply to human motivation. Consideration of the application of behavioral research findings to persuasion. *Prerequisite: SCOM 240.*

**SCOM 342. Argument and Advocacy. 3.00.**

The study of the techniques and principles of argument and advocacy. Emphasis on developing, presenting and defending a position on controversial questions. Consideration given to contemporary theories of public argument.

**SCOM 343. Contemporary Rhetorical Theory and Practice. 3.00. *Crosslisted with WRTC 430.***

Examines contemporary rhetorical theory and practice in relation to specific social, economic and technological changes in the 20th century, with particular emphasis on theoretical frameworks. Students learn about the changing needs of postmodern communicators and how new rhetorical theories have developed to anticipate, respond to, and shape those changes. Also explored is the value of contemporary rhetorical theories for communicative and performative events. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor.*

**SCOM 344. Oral Interpretation. 3.00.**

Study and application of theories concerning the oral presentation of various forms of literature including prose, poetry, drama and nonfiction materials. Emphasis on performance. *Prerequisite: Any 100-level SCOM course.*

**SCOM 345. Nonverbal Communication. 3.00.**

Study of nonverbal means through which people relate to one another. Consideration of the communicative effects of environment, facial expression, voice, posture, gestures, touch, distance and physical appearance. *Prerequisite: Any 200-level SCOM course.*

**SCOM 346. Free Speech in America. 3.00.**

The study of the evolution of freedom of speech in America from Colonial times to the present day. Emphasis on the major periods of development and on the role of courts in defining freedom of speech. Special consideration of contemporary freedom of speech controversies.

**SCOM 347. Communication, Diversity and Popular Culture. 3.00.**

Study of the rhetorical dimension of communication practices and texts found in popular culture. Emphasis on issues of diversity as they are manifested in the communication practices found in popular culture. Emphasis on strategic communication choices in a diverse, multicultural world. Emphasis on critical thinking, self-reflexivity and communication analysis. *Prerequisite: SCOM 121, SCOM 122 or SCOM 123.*

**SCOM 347L. Communication, Diversity and Popular Culture. 3.00.**

Study of the rhetorical dimension of communication practices and texts found in British popular culture. Emphasis on issues of diversity as they are manifested in the communication practices found in British popular culture. Emphasis on strategic communication choices in a diverse, multicultural world. Emphasis on critical thinking, self-reflexivity and communication analysis.

**SCOM 348. Communication and Gender. 3.00. Crosslisted with WGSS 348.**

Study of theories and research regarding the influence of gender in various human communication contexts, both public and private. Emphasis on the critical analysis of existing theory and empirical research and the potential competent uses of communication for social change. *Prerequisite: Any 100-level SCOM course.*

**SCOM 349. Ethnographic Approaches to Communication Studies. 3.00.**

This course offers an examination of ethnographic approaches to interpersonal, organizational, health and public communication studies. Students will analyze the role of ethnographic methods and inductive research processes toward building theories of communication and assessing communication practices. *Prerequisite: Any 100-level SCOM course or permission of the instructor.*

**SCOM 350. Organizational Communication. 3.00.**

Students gain a complex understanding of organizing practices by investigating the evolution of how historical events have influenced organizational communication and managerial practices at work. Drawing upon communication theory, students analyze various organizational communication practices such as the management of workers, development of organizational culture, and interaction with larger systems. Learning is complemented by an experiential learning project.

**SCOM 351. Visual Rhetoric. 3.00. Crosslisted with WRTC 351, WRTC 351L.**

A study of the rhetorical foundations of visual and verbal arguments in academic disciplines and popular culture. Students will analyze and produce visual and verbal arguments in a variety of rhetorical contexts. *Prerequisite: WRTC 103 and any 100-level communication studies course or permission of the instructor.*

**SCOM 352. Communication and Social Movements. 3.00.**

A study of the use of communication in social movements. Emphasis on the types of communication used in social movements and on ways to produce and respond to such messages. This course examines a variety of different social movements within the political process including nonprofit organizations.

**SCOM 353. American Political Culture and Communication. 3.00.**

Study of functions performed by communication in politics. Emphasis on a variety of communication forms and techniques used by advocates both in campaigning and governing. Consideration of contemporary campaigns and the role of communication in their successes and failures. *Prerequisite: SCOM 240 and POSC 225 are recommended.*

**SCOM 354. Environmental Communication and Advocacy. 3.00.**

An exploration of the multifaceted aspects of environmental controversies including the rhetoric, advocacy campaigns, and decision-making processes that produce and attempt to manage environmental conflict. Emphasis on persuasive efforts by interest groups, corporations, resource managers, government agencies, scientific experts, politicians and citizens to influence public understanding of environmental issues, adoption of sustainable behavior and lifestyles and public policy outcomes.

**SCOM 355. Food as Communication. 3.00.**

This course examines food as symbolic in everyday life, with attention to negotiated understandings of identities, communities, cultures and environments. The course focuses on issues such as how we communicate identity through food consumed and not consumed; how food choices create, shape and reflect communities and cultures; how messages from mass media and government frame, influence and shape food practices; and how food practices intersect, communicate and impact surrounding environments. *Prerequisite: SCOM 121, SCOM 122 or SCOM 123.*

**SCOM 357. Youth, Communication and Culture. 3.00. Crosslisted with SMAD 357.**

Grounded in the cultural communication perspective, the course examines the relationship between communication, youth and popular culture. Defining youth as children, tweens, teens and college-aged young people, this course focuses on communication issues such as how youth are represented in various forms of popular culture; how they are defined by corporate discourse; how young people make sense of popular culture artifacts; and how they become cultural communicators as well as consumers.

**SCOM 358. Business and Professional Communication Studies. 3.00.**

Students investigate the nuance and complexity of communication in modern organizational life. A portion of the class is dedicated to the skills involved in a competitive, successful career search. In addition, students develop the skills to become an ethical and effective organizational citizen. *Prerequisite: Junior or senior status.*

**SCOM 359. Digital Communications Consulting. 3.00. Crosslisted with SMAD 359, WRTC 359.**

This class will train students to become effective tutors of digital communication. The class will frame that expertise with the training of the best strategies for college tutors, via theory, research and practice. Tutors for the Learning Centers develop vital professional skills: pedagogical aptitude, professional interpersonal communication, and experience with cross disciplinary perspective on digital texts. *Prerequisite: Admission to the WRTC, SCOM, SMAD major.*

**SCOM 360L. British Media and Society. 3.00. Crosslisted with HUM 251L, SMAD 360L, WRTC 360L.**

Study the history, nature, and impact of mass media in the United Kingdom. Emphasis on the impact modern media has on society, and society has on media. Consideration of similarities and differences in mass media in the United States and Great Britain. Consideration of the relationship between mass media and the arts. Focus on 20th century mass media in London, one of the world's preeminent and most influential centers.

**SCOM 361. Public Relations Techniques II: Visual. 3.00.**

Study of visual communication techniques for public relations. Survey of design principles and elements used for developing visually effective messages with an emphasis on publication design and production, photography, and computer-mediated presentations. Students should provide a camera and be familiar with desktop publishing and presentational software. *Prerequisite: SCOM 261; open to SCOM public relations concentration students only.*

**SCOM 362. Public Relations Theory and Concepts. 3.00.**

The purpose of this course is to introduce students to the theoretical body of knowledge in public relations. In this course, students will learn core tenants of important theories and concepts and apply these to the ethical practice of public relations. The breadth of theories covered will be useful for any public relations specialization and builds an essential foundation to better understand the research-based character of the public relations process. *Prerequisite: SCOM 260.*

**SCOM 363. International Public Relations. 3.00.**

Explores the special professional challenges and opportunities arising from the dynamic global public relations developments characterizing the beginning of this century, taking into account social, economic, political, legal, and cultural factors as well as new media developments. *Prerequisite: SCOM 260.*

**SCOM 365. Sports Public Relations. 3.00.**

This class is designed to provide students with opportunities to explore the profession of sports public relations. In this class, students will discuss various sports communication issues including media relations, community relations, player relations, fan relations, crisis communication, sports social responsibility and more. *Prerequisite: SCOM 260.*

**SCOM 367. Advanced Public Relations Writing. 3.00.**

Offers advanced public relations students experience in the wide range of writing style and applications that are essential to successfully begin their professional careers. The course focuses on understanding and mastering action-oriented communication methods and best professional practices. Provides both a conceptual framework and in-depth training in advance techniques. *Prerequisite: SCOM 261. Open to SCOM public relations concentration students only.*

**SCOM 369. Topics in Engaged Public Relations. 3.00.**

Students will explore specific context of public relations and how public relations theories, processes, and skills can be used in the context. During the semester, students will discuss specific publics within the context and apply ethical communication strategies and tactics to engage with those publics. Courses provided could include crisis communication, corporate social responsibility, social media management, fashion public relations, etc. based on the expertise of the instructor. *Prerequisite: SCOM 260.*

**SCOM 370. Introduction to Health Communication. 3.00.**

An introduction to the study of communication in health and illness contexts. Covers the impact of interpersonal relationships, sociocultural and organizational influences, and media and health campaigns on health beliefs and behaviors. Emphasizes strategies and approaches that promote effective communication in a variety of health contexts. *Prerequisite: Any 100-level SCOM course.*

**SCOM 381. Rhetorical Research Methods. 3.00.**

The study of rhetorical and critical research methods in various communication contexts. Emphasis is on developing and applying appropriate standards to consider communicative factors such as audience, tone, and rhetorical strategies. Consideration of criticism of public address, mass media, and other forms of persuasive communication. Students will be expected to conduct an original research project and present findings in a paper and/or oral presentation. *Prerequisite: SCOM 280.*

**SCOM 383. Quantitative Experimental Research Methods. 3.00.**

The study of quantitative research methods in various communication contexts. Emphasis is on ability to research literature, develop and evaluate experimental design, and apply and interpret statistical tests. Students will be expected to conduct an original research project and present findings in a paper and/or oral presentation. *Prerequisite: SCOM 280*

**SCOM 385. Qualitative Research Methods. 3.00.**

Study of interpretive approaches to communication research using a variety of qualitative research methods, including field observation, qualitative interviewing, focus groups, narrative analysis and discourse analysis. Students will plan and conduct an exploratory qualitative study, prepare a written research report including a literature review and make a research presentation. *Prerequisite: SCOM 280.*

**SCOM 386. Survey Research Methods. 3.00.**

The study of survey research methods in various communication contexts. Emphasis on using survey research methodology in communication audits, public relations problems and public opinion polling and the ability to research literature, develop and evaluate survey questions, and apply and interpret statistical tests. Students will be expected to conduct an original research project and present findings in a paper and/or oral presentation. *Prerequisite: SCOM 280.*

**SCOM 388. Campaign Research Methods. 3.00.**

The study of research methods in various communication contexts. Emphasis is on ability to use research methods at various stages of communication planning including background research, primary research, strategic planning, monitoring and evaluation. Students will be expected to conduct an original research project and present findings in a paper and/or oral presentation. *Prerequisite: SCOM 280.*

**SCOM 390. Directed Projects. 2.00 - 3.00, repeatable up to 6 credits.**

Supervised projects related to any aspect of human communication. Emphasis on original individual or group programs beyond the school's usual curricular or co-curricular offerings. Formal report(s) required for awarding of credit. *Prerequisite: Permission of the school director.*

**SCOM 395. Study Abroad Seminar. 3.00 - 6.00.**

Intensive examination of specialized international communication topics arranged in cooperation with a faculty member. Prior arrangements must be made with the program director. *Prerequisite: Permission of the program director and school director required.*

**SCOM 413. Advanced Topics in Communication Studies. 1.00 - 6.00, repeatable to 6 credits.**

In-depth exploration and analysis of a communication-related theory, context, topic or problem, culminating in a research project documented in written, oral, visual and/or multimedia presentations. Course content varies based on faculty expertise. *Prerequisite: Senior standing and 15 hours of SCOM courses.*

**SCOM 420. Feminist Rhetorics. 3.00. Crosslisted with WRTC 420.**

Surveys key women figures in classical and contemporary rhetorical traditions and challenges the strategies used to historicize this tradition from feminist perspectives. Explores diverse feminist rhetorical discourses informed by race, sexual orientation, ethnicity and social class. *Prerequisite: WRTC 103 or equivalent and junior or senior standing, or permission of the instructor.*

**SCOM 425. Leadership Communication. 3.00.**

This course promotes understanding and development of organizational leadership through investigation of theory and analysis. Students explore varied and sometimes contradictory models of leadership and learn how to articulate and express ideas that encourage others to advocate for and bring about positive change. *Prerequisite: Junior or senior standing.*

**SCOM 431. Legal Communication. 3.00.**

Study of the role of communication in the legal process. Emphasis on communication questions/problems which litigants, lawyers, judges and jurors face. Consideration of legal argument, negotiation, trial advocacy, decision making and communication technologies.

**SCOM 432. Senior Seminar in Conflict Analysis and Intervention. 3.00.**

An advanced seminar, capstone course open to all junior and senior SCOM students, and required for conflict majors and minors. Special topics are developed to include research in conflict analysis and intervention, current trends in dispute resolution, evolving practices in conflict transformation, peacemaking, and mediation, as well as other relevant and timely issues.

**SCOM 440. Family Communication. 3.00.**

Study of the processes and functions of family communication, including managing dating, marital, parent-child and intergenerational relations. Theoretical and applied examination of communication and cultural processes that define and construct family structures, systems and boundaries. Course also examines histories of family communication as constructed in popular culture. *Prerequisite: SCOM 280.*

**SCOM 441. Oral History. 3.00. Crosslisted with HIST 441.**

This course will explore the theory and practice of oral history. Through a series of readings, students will consider the many promises and challenges of the discipline, including

issues related to memory, objectivity, ethics, the law, and technology. Students will also engage in an experiential learning exercise in which they collaborate to produce an oral history project. *Prerequisite: HIST 395 or permission of the instructor.*

**SCOM 442. Advanced Topics in Advocacy Studies. 3.00.**

Advanced topics in advocacy studies is the concentration's capstone. Through case studies, readings, discussions and experiential activities students investigate complex issues in the field of advocacy. Students apply theoretical knowledge and skills as they explore the interaction between advocacy and communication. *Prerequisite: Senior standing.*

**SCOM 447. Facilitating Public and Organizational Engagement Processes. 3.00.**

Students will learn theories and tools that help organizations and communities think through difficult issues in ways that are productive. Dialogue, deliberation, strategic planning and collaboration are communicative tools that help people deal with complex issues by promoting understanding of multiple viewpoints of the issues, engaging in processes to facilitate choice-making and ways to act together to implement these decisions. Hands-on experiences will be utilized. *Corequisite: Communication majors or minors who have completed 12 credits in communication.*

**SCOM 448. Communication, Culture and Identity. 3.00.**

This class examines theory and research of cultural communication, and reflexively considers how communication practices construct identities and arrange social relations within diverse contexts and applied settings. *Prerequisite: Any one of the following courses: SCOM 305, SCOM 347, SCOM 348, SCOM 349, SCOM 352, or SCOM 357.*

**SCOM 449. Communication Training. 3.00.**

Students learn to analyze organizations to manage and solve communication problems and improve organizational life. Through experiential learning students will become familiar with strategies and activities designed to help others improve their communication skills. Students gain experience leading meetings, engaging an audience, collaborating, and facilitating difficult conversations. *Prerequisite: SCOM 242, junior standing and 12 hours in speech communication.*

**SCOM 450. Advanced Studies in Organizational Communication. 3.00.**

Advanced studies in organizational communication is the concentration's capstone. Through case studies, readings, discussions, and experiential activities students investigate complex issues that emerge for organizations and their members. Students apply theoretical knowledge and skills as they develop organizational communication concepts to analyze a communication problem. Expertise is showcased through an applied field study in an active organization. *Prerequisite: SCOM 350 and senior standing.*

**SCOM 453. Political Campaign Communication. 3.00.**

An advanced study of communication techniques, procedures and processes as they relate to political campaign communication. Emphasis upon the design, execution and production of various communication messages. Consideration of the impact and utilization of various technologies in political campaigns.

**SCOM 460. Public Relations Management. 3.00.**

Intensive study and research of advanced communication management skills, theory and principles using case and field studies. Special attention to systematic and ethical management of communication and action affecting an organization's internal and external publics. *Prerequisite: SCOM 260.*

**SCOM 461. Public Relations Campaigns. 3.00.**

The capstone course for the public relations program of study. Students further their theoretical understanding and practical skills in the processes of research, planning, communication/action, and evaluation by conducting campaigns for specific organizations. *Prerequisite: SCOM 362, one advanced public relations technique course (SCOM 361 or SCOM 367), one advanced research method course (SCOM 381, SCOM 383, SCOM 385, SCOM 386, or SCOM 388), and one public relations context course (SCOM 363, SCOM 365, SCOM 369, or SCOM 460).*

**SCOM 464. Communication, Culture and Sports. 3.00.**

This course examines the interrelationship between communication, culture and sports in today's society and how that interrelationship reinforces social values and norms, and the impact of cultural identification of class, race, and gender in connecting sports values with cultural values. Drawing on theories of rhetoric and social criticism, students will study several critical approaches to sports and public discourse and will apply those approaches to sports coverage and organizations. *Prerequisite: Junior or senior standing.*

**SCOM 465. Rhetoric of Environmental Science and Technology. 3.00. Crosslisted with WRTC 416.**

This course offers an advanced study of the way the public receives, makes sense of, and influences scientific and technical information about environmental issues. Implications of these processes on environmental policy will be analyzed. Readings and assignments will concentrate on the interactions between technical and public spheres of communication, with an in-depth examination of the way the media facilitates the transfer of information between scientific communities and public audiences. *Prerequisite: WRTC 103 or equivalent and junior or senior standing, or permission of the instructor.*

**SCOM 468. Patient-Provider Communication. 3.00.**

This course prepares students to be effective communicators in the patient-provider context, whether they are in the patient or the provider role. Students will examine communication from the standpoint of the provider as well as the patient, and they will learn strategies to facilitate provider-patient collaboration and shared decision-making.

**SCOM 470. Health Communication Campaigns. 3.00.**

Focuses on the theoretical principles and practical considerations relevant to designing, implementing and evaluating health communication campaigns. Emphasis on the collection and analysis of formative research. The final project for the course involves designing a health campaign targeting a specific audience. *Prerequisite: SCOM 370 or permission of the Instructor.*

**SCOM 471. Culture and Health Communication. 3.00.**

This course explores the relationship between culture and health in different contexts. In particular, the course focuses on the role of communication in understanding diverse health beliefs and engaging in dialogue about our own health beliefs.

**SCOM 472. Media and Politics. 3.00. Crosslisted with POSC 472, POSC 472L, POSC 472W, SCOM 472L, SMAD 472, SMAD 472L.**

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary.

**SCOM 472L. Media and Politics. 3.00. Crosslisted with POSC 472, POSC 472L, POSC 472W, SCOM 472, SMAD 472, SMAD 472L.**

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary. *Prerequisite: Studies Abroad-London*

**SCOM 490. Special Studies in Communication Studies. 1.00 - 3.00.**

An independent study for students to pursue individual research under the guidance of faculty. Limited to senior communication studies majors in good standing with permission of school director.

**SCOM 495. Internship in Communication Studies. 3.00-6.00, repeatable to 6 credits**

Credit for the application of communication theory and skills in a directed, on-the-job learning experience. Open only to communication studies majors who meet specific criteria (see the school website). Up to six credits may be applied as electives in the communication studies' major. *Prerequisite: Permission of the school director.*

**SCOM 495A. Internship in Communication Studies. 3.00 - 6.00**

Credit for the application of communication theory and skills in a directed, on-the-job learning experience. Open only to communication studies majors who meet specified criteria (see <http://cal.jmu.edu/scominternships>). Up to six credits may be applied as electives in the communication studies' major. Prerequisite: Permission of the School Director.

**SCOM 495B. Internship in Communication Studies. 3.00 - 6.00**

Credit for the application of communication theory and skills in a directed, on-the-job learning experience. Open only to communication studies majors who meet specified criteria (see <http://cal.jmu.edu/scominternships>). Up to six credits may be applied as electives in the communication studies' major. Prerequisite: Permission of the School Director.

**SCOM 495C. Internship in Comm Studies. 3.00 - 6.00**

Credit for the application of communication theory and skills in a directed, on-the-job learning experience. Open only to communication studies majors who meet specified criteria (see <http://cal.jmu.edu/scominternships>). Up to six credits may be applied as electives in the communication studies' major. Prerequisite: Permission of the School Director.

**SCOM 499A. Honors in Communication Studies. 6.00.**

Year course. Prerequisite: Permission of the school director.

**SCOM 499B. Honors in Speech Comm. 3.00.****SCOM 499C. Honors in Speech Comm. 2.00.****Computer Information Systems****CIS 204. Computer Information Systems Fundamentals for Non-Business Majors. 3.00.**

An introduction to computer-based information systems. Emphasis is placed on the role of computers in organizations and society, computer hardware and software, uses of information systems, computer ethics, and collaboration using computers. Students will use typical business applications. This course is designed to fulfill requirements for the General Business Minor. Not open to business majors. This course may NOT be substituted for COB 204 by business majors or CIS minors. Not open to students who have completed COB 204 with a passing grade.

**CIS 221. Principles of Programming. 3.00.**

Students will be required to solve real-world business problems using a programming language. Projects will include the use of control structures (selection and iteration), collections/lists of data, functions and file processing logic. Students will also be introduced to objects and graphical user interfaces. *Prerequisite: Not open to students who have taken CS 139 or CS 149; or ISAT 252 or IA 241 with a grade of "C" or better; or are taking or have taken CS 159.*

**CIS 301. Cloud Server Management. 1.00.**

This is a lab-based course that introduces the student to operating systems and server administration in a business environment. Students will learn the basic functions of managing cloud servers through the hands-on use of cloud resources. Additionally, students will acquire hands-on server administration skills in order to better understand the operational and security demands of business applications. *Prerequisite: For declared CIS minors: CIS 204 and junior or senior standing. For CIS majors: COB 300. Corequisite: For CIS majors: COB 300.*

**CIS 304. Enterprise Architecture. 3.00.**

This course explores the analysis, design, implementation, evaluation and management of enterprise IT solutions. Emphasis will be placed on planning and modeling the enterprise. Topics include functional modeling, physical architecture design, security planning and recovery issues, project management, emerging technologies, and ethical, financial and global considerations. *Prerequisite: For CIS majors: COB 300. For CIS minors: Junior or senior standing. Corequisite: For CIS majors: COB 300.*

**CIS 311. Analyzing Data in Organizations. 3.00.**

This course provides an overview of how to work with databases and other data sources in order to access relevant information in a timely and user-friendly manner. It includes discussions of a variety of data representation types, including relational databases, XML documents and cloud data. Students learn essential database concepts and gain practical experience in querying, reporting, and analyzing data. *Prerequisite: CIS 204 or equivalent knowledge (instructor permission is needed). Open only to Adult Degree Program students.*

**CIS 312. Systems Planning and Analysis. 3.00.**

Information systems couple both technical (hardware, software, database, telecom) and socio-organizational (business processes, ethics, knowledge, users, developers) subsystems to create rich and available information for the purpose of optimizing business decisions. This course covers the techniques and common tools employed for planning and analyzing these systems. Emphasis will be placed on the system development life cycle, planning and analysis tools, and professional business writing. *Prerequisite: CIS 204 or equivalent knowledge (instructor permission is needed). Open only to Adult Degree Program students.*

**CIS 313. Designing for the Web. 3.00.**

This course is an introduction to the design and development of web pages and web sites. Major topics to be covered include: Hypertext Markup Language (HTML5), Cascading Style Sheets (CSS), the principles of design for user experience, responsive design, and JavaScript. *Prerequisite: CIS 204 or equivalent. Not open to CIS majors or minors.*

**CIS 320. Computing and Telecommunications Networks. 3.00.**

This course focuses on the underlying principles of telecommunications and how these principles are deployed to provide efficient and secure networks for providing voice, data, and video services. Emphasis is placed on understanding basic routing, switching, and data aggregation techniques; information security strategies; and understanding how basic information systems applications utilize telecommunications services. *Prerequisite: CIS majors and minors: CIS 304. ISAT majors: ISAT 252. CS majors: CS 139 or CS 149. Corequisite: CIS majors and minors: CIS 304.*

**CIS 330. Database Design and Application. 3.00.**

A study of the tools and techniques of database analysis and design including the implementation of the design using common database management system models. Not open to students who have taken CS 474. *Prerequisite: For CIS majors: A grade of "C" or better in one of the following: COB 300, CS 139, CS 149, CIS 221 or ISAT 252. For CIS minors: A grade of "C" or better in one of the following: CS 139, CS 149, CIS 221 or ISAT 252 and junior or senior standing. Corequisite: COB 300.*

**CIS 331. Intermediate Computer Programming. 3.00.**

Study of concepts and techniques used in object-oriented programming for business applications including program specification, design, development, testing, implementation and documentation. Topics include basic programming structures; method, array and memory analysis; object-oriented principles (encapsulation, inheritance, polymorphism); graphical user interface (GUI) design and database connectivity. *Prerequisite: For CIS majors and minors: CIS 330. Corequisite: For CIS majors and minors: CIS 330.*

**CIS 354. Advanced Visual Basic Programming. 3.00.**

Advanced course in Visual Basic programming. Emphasis will be placed on Object-Oriented programming, sequential and random data files and error trapping. Other topics covered will include data access objects, client server, printing in VB and Crystal Reports. *Prerequisite: A grade of "C" or better in one of the following: CIS 221, CS 139, CS 149, or ISAT 252 and CIS 330. Corequisite: CIS 330.*

**CIS 361. Computer Information Systems Internship. 0.00**

To enable students to gain valuable work experience in a CIS-related field. Requires 300 hours of approved computer information systems work experience. All work sites must be pre-approved. Prerequisite: CIS major and COB 300.

**CIS 366. Web Design and Development. 3.00.**

This course is an introduction to the design and development of web pages and websites. Major topics to be covered include: Hypertext Markup Language (HTML5), Cascading Style

Sheets (CSS), the principles of design for user experience, responsive design and a programming language for web development. *Prerequisite: Declared CIS major or CIS minor and a grade of "C" or better in CIS 221, CS 139, CS 149 or ISAT 252. And: CIS majors: COB 300; CIS minors: junior or senior standing.*

**CIS 393. Data Mining for Business Analytics. 3.00. Crosslisted with BSAN 393.**

This course focuses on using statistical and machine learning techniques in computer applications that allow the extraction of useful, previously unrecognized information from large data sets for predictive purposes. By effectively sifting through databases such as those generated by many businesses, data mining allows the analyst to recognize potentially important patterns and clusters and to target business opportunities. *Prerequisite: Declared BSAN minor, BSAN 390 and BSAN 391.*

**CIS 420. Computer-Based Networking. 3.00.**

An introduction to computer-based networks that incorporates data, voice and video traffic between computer systems and users. Topics include the theory, design and operation of local area networks, wide area networks and private branch exchange systems. *Prerequisite: CIS 320.*

**CIS 424. Computer Security Management. 3.00.**

Instruction and discussion in the design, development and implementation of a computer security program including legal and ethical considerations. *Prerequisite: CIS 304 and a grade of "C" or better in one of the following: CIS 221, CS 139, CS 149 or ISAT 252.*

**CIS 425. Defensive Cybersecurity. 3.00.**

This course introduces the concepts of offensive web security through a series of hands-on labs that are built upon real world examples. Doing so allows students to understand the mechanisms of online attacks and learn how to respond to IT security breaches with counter measures. *Prerequisite: CIS 320 or permission of the instructor. Corequisite: CIS 320 or permission of the instructor.*

**CIS 428. Mobile Computing and Security. 3.00.**

The development of mobile software applications using current environments and frameworks is the primary objective of the class. Several different development and programming environments and platforms will be included as will the actual deployment of the application to a wireless device. An important aspect of the class will be the security implications of deploying mobile devices. *Prerequisite: A grade of "C" or better in one of the following: CIS 221, CS 139, CS 149, or ISAT 252 and CIS 331. Corequisite: CIS 331.*

**CIS 434. Information Technology Consulting. 3.00.**

This course investigates the tools used by and skills necessary for information technology consultants. The class will use a team-oriented project approach. Teams will be assigned professional consulting firms as manager/mentors and will work with their manager/mentor firm to complete projects that cover each phase of the consulting life cycle. *Prerequisite: Permission of the instructor.*

**CIS 454. Systems Analysis and Design. 3.00.**

An introduction to the techniques of systems analysis and design. Emphasizes concept of system life cycle and importance of users in system design. *Prerequisite: Declared CIS major or minor; CIS 304 and CIS 330. Corequisite: CIS 304 and CIS 330.*

**CIS 463. Business Intelligence. 3.00.**

This course provides a comprehensive discussion of advanced database techniques, data warehousing, online analytical processing (OLAP), data mining, data visualization, decision support systems (DSS), artificial intelligence (AI) methods and other business intelligence (BI) topics. Students gain practical experience using contemporary BI tools and technologies, and apply sound design principles for creating intelligent solutions to realistic business problems. *Prerequisite: Grade of "C" or better in CIS 330.*

**CIS 464. Information Systems Project Management. 3.00.**

Students will develop knowledge and expertise applying techniques and tools used by systems analysts and project managers to plan and manage information systems implementations. *Prerequisite: For CIS majors: COB 300, and a grade of "C" or better in one of the following: CIS 221, CS 139, CS 149, or ISAT 252. For declared CIS minors: A grade of "C" or better in one of the following: CIS 221, CS 139, CS 149, or ISAT 252, and junior standing. Corequisite: For CIS majors: COB 300.*

**CIS 484. Information Systems Development and Implementation. 3.00.**

Comprehensive development and implementation of enterprise-level systems using object-oriented methodologies, database driven architectures, systems analysis and design procedures, and project management skills. Topics covered will include advanced programming techniques, database processing, GUI design, object communication and a comprehensive group capstone project. *Prerequisite: CIS 331 with a grade of "C" or better and CIS 330 with a grade of "C" or better. Corequisite: CIS 454*

**CIS 490. Special Studies in Computer Information Systems or Business Analytics. 1.00 - 3.00. Crosslisted with BSAN 490.**

An advanced course in information and/or business analytics designed to give qualified students an opportunity to complete independent study under faculty supervision. *Prerequisite: Senior standing, recommendation of the instructor and written approval of the department head prior to registration.*

**CIS 498. Special Topics in Computer Information Systems. 3.00.**

An advanced course designed to allow exploration of current topics in computer information systems. Course content will vary. See adviser for current content. *Prerequisite: Permission of the instructor.*

**CIS 499. Honors. 1.00-6.00**

**Year course. See catalog section "Graduation with Honors."**

## Computer Science

**CS 101. Introduction to Computer Science. 3.00.**

How to think like a computer scientist. Topics include an overview of the context of computing, computational operations, computational devices, algorithms and data structures, the storage and transmission of data, the presentation of information, and the limits of computing. Students learn about the design and implementation of computational systems, the value of abstraction, problem solving and the ways in which computation impacts society. *Prerequisite: Fully admitted Computer Science majors or minors only.*

**CS 149. Introduction to Programming. 3.00.**

Fundamental problem-solving techniques using a modern programming language. Topics include variables, input/output, decisions, loops, functions, arrays, and objects. Students learn about algorithm development, testing strategies, and software tools. Students may not receive credit for both CS 139 and CS 149. You may only enroll in CS 149 at most twice. *Prerequisite: MATH 155, MATH 156 or sufficient score on the Mathematics Placement Exam.*

**CS 159. Advanced Programming. 3.00.**

Students use advanced problem-solving strategies to develop algorithms using classes and objects and techniques such as recursion, exceptions and file I/O. This course also focuses on designing small applications and effective testing strategies. Students may not receive credit for both CS 159 and CS 239. You may only enroll in CS 159 at most twice. *Prerequisite: A grade of "B-" or better in CS 139 or CS 149 or equivalent.*

**CS 227. Discrete Structures I. 3.00. Crosslisted with MATH 227.**

An introduction to discrete mathematical structures including functions, relations, sets, logic, matrices, elementary number theory, proof techniques, basics of counting, graphic theory, discrete probability, digital logic, finite state machines, integer and floating point representations. *Prerequisite: CS 159. Corequisite: CS 159.*

**CS 240. Algorithms and Data Structures. 3.00.**

Students learn how to implement stacks, queues, lists, sets and maps using arrays, linked lists, binary trees, heaps, binary search trees, balanced trees and hashing. Students study



graph representations and algorithms. Students analyze recursive and non-recursive algorithms, illustrated by various searching and sorting algorithms. Additional topics may be included as time permits. You may only enroll in CS 240 at most twice. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 159, CS 227 /MATH 227 or MATH 245, and MATH 231 or equivalent.*

**CS 260. Technical Communication for Computer Science. 3.00.**

An introduction to the process of planning, researching, producing, and revising technical documents attuned to specific audiences in the computing industry. Document forms studied include definitions, correspondence, descriptions, specifications, instructions, proposals, reports, resumes and plans. *Prerequisite: Fully admitted Computer Science majors or minors only.*

**CS 261. Computer Systems I. 3.00.**

Introduction to the operation of modern interrupt-driven computer systems. Explores the representation of software and information in binary memory, the primary components of a CPU, multithreaded programming and basic interactions with an Operating System. You may only enroll in CS 261 at most twice. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in either CS 227/MATH 227 or MATH 245, and in CS 159.*

**CS 280. Projects in Computer Science. 1.00 - 3.00**

Projects or topics in computer science which are of interest to the lower division student. May be repeated for credit when course content changes. Topics may vary. *Prerequisite: Fully admitted Computer Science majors or minors only and students should consult the instructor prior to enrolling for the course.*

**CS 327. Discrete Structures II. 3.00.**

This course builds on the theoretical foundation developed in Discrete Structures I. Students study a range of topics from discrete mathematics and theoretical computer science including elementary number theory, matrices, graph theory, automata, computability and complexity theory. *Prerequisite: Fully admitted Computer Science majors or minors only and grade of "C-" or better in CS 227 /MATH 227 or MATH 245, and CS 240.*

**CS 330. Societal and Ethical Issues in Computing. 3.00.**

Overview of philosophical and professional ethics, and a survey of societal and ethical issues in computing such as privacy, intellectual property, computer security, computer crime, product liability, and the societal, environmental, and economic impact of computers. Students develop skills in assuming and defending positions on societal and ethical issues through oral presentations and written reports. *Prerequisite: Fully admitted Computer Science majors or minors only.*

**CS 332. Technical Communication for Computer Science. 3.00.**

A study of the process of planning, researching, producing and revising technical documents for specific audiences in the computing industry. Document forms studied include definitions, requirements specifications, design specifications, instructions, correspondence, descriptions, plans and reports. Specialized notations and languages are also considered. *Prerequisite: Fully admitted Computer Science majors or minors only.*

**CS 345. Software Engineering. 3.00.**

Study of modern methods and tools for the development of software products. Topics include software development process models, software development tools, design and construction principles and practice, software quality assurance and program management. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 159.*

**CS 347. Web Development. 3.00.**

This course covers design and development of World Wide Web applications. Students examine protocols, architectures, development languages and facilities, and issues such as accessibility, usability, security, and reliability. Students work with a suite of development tools and languages to construct a client or server application that includes a GUI and a database. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 345.*

**CS 347. Web-Based Information Systems. 3.00.**

This course covers the design and development of applications intended for deployment over the World Wide Web. Students will examine Web protocols, the architecture of Web-based applications, the languages and facilities with which they are developed, and related issues such as security and reliability. Students will also work in teams using a representative suite of development tools and languages to design and construct a simple client/server application that includes a GUI and a database interface. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 345 and CS 159.*

**CS 349. Developing Interactive Multimedia. 3.00.**

Students learn the concepts of multimedia, the issues in designing multimedia to interact effectively with users, the performance and speed issues in designing multimedia and how to implement interactive multimedia applications. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 240.*

**CS 354. Introduction to Autonomous Robotics. 3.00.**

A hands-on introduction to programming autonomous mobile robots. The focus of this course is on designing robotic systems that navigate independently in complex environments. Specific topics include localization, mapping, kinematics, path planning and computer vision. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 240.*

**CS 361. Computer Systems II. 3.00.**

Intermediate exploration of modern interrupt-driven computer systems. Explores models of computation and complex systems, techniques for communication and synchronization of parallel and concurrent software, and the protocols that make up the Internet. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 240 and CS 261.*

**CS 374. Database Systems. 3.00.**

An introduction to database design and management with emphasis on data definition, data manipulation and query languages found in modern database management systems. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in either CS 240 or CS 345 or equivalent.*

**CS 412. Applied Algorithms. 3.00.**

A practical study of algorithms and their use in problem solving. Algorithms are selected from categories including divide-and-conquer, greedy, backtracking, network flow and dynamic programming. The classes P and NP are introduced and intractable problems discussed. This is a programming intensive course. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 327. Students may not receive credit for both CS 412 and CS 452.*

**CS 430. Programming Languages. 3.00.**

Several actual programming languages are studied in terms of the fundamental principles of computer programming language design, including object-oriented programming, functional programming, concurrent programming and logic programming. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 240 and CS 261.*

**CS 432. Compilers. 3.00.**

Introduction to the theory and implementation of compilers. Explores the lexical, syntactic, and semantic analysis of high-level language code as well as code generation, optimization techniques, and architectural or operating system considerations. Course work includes a significant programming component. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 327 and CS 361.*

**CS 442. Logic in Computer Science. 3.00.**

An exploration of some of the many connections between logic and computing, such as the application of classical and temporal logic in program verification, logic and logic programming, decidability, computability, automatic theorem proving, the computational complexity of logic algorithms, and applications of logic in artificial intelligence. A course in discrete mathematics or logic is recommended as preparation for this course. *Prerequisite: Fully admitted Computer Science majors and minors only and junior or senior standing.*

**CS 444. Artificial Intelligence. 3.00.**

Students will study the history, premises, goals, social impact and philosophical implications of artificial intelligence. Students will study heuristic algorithms for large state spaces and learn to develop recursive and non-deterministic algorithms. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 240*

**CS 446. Software Analysis and Design. 3.00.**

Contemporary software analysis and design methods, tools, notations, techniques, processes, principles and practices. Students solve analysis and design problems alone or in teams and present their work to their peers and the instructor. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 240 and CS 345.*

**CS 447. Interaction Design. 3.00.**

Study of and practice with processes, principles, tools, models and techniques for designing interactions between humans and digital products and systems. Topics include physiological and psychological factors affecting interaction design, interaction design processes, interaction models, styles and paradigms, design notations and representations, prototyping, and interaction design evaluation. *Prerequisite: Fully admitted Computer Science majors or minors and a grade of "C-" or better in CS 345.*

**CS 448. Numerical Analysis. 3.00. Crosslisted with MATH 448.**

Study and analysis of algorithms used to solve nonlinear equations and systems of linear and nonlinear equations. Iterative methods for matrices and Newton-type methods. Numerical differential and integral calculus. Programming using a high-level language and/or software packages. *Prerequisite: Fully admitted Computer Science majors or minors only and MATH 237, MATH 238 or MATH 300; and MATH 248.*

**CS 449. Numerical Analysis for Differential Equations. 3.00.**

Study and analysis of numerical techniques to solve ordinary and partial differential equations, including Euler, Runge-Kutta, Picard, finite-difference and finite-element methods. Programming using a high-level language and/or software packages. *Prerequisite: Fully admitted Computer Science majors or minors only and MATH 237, MATH 238 or MATH 336, and MATH 248.*

**CS 450. Operating Systems. 3.00.**

Introduction to the design and implementation of modern operating systems. Explores fundamental concepts of operating systems, memory management, virtualization, resource allocation, file systems and system protection mechanisms. Course work includes a significant programming component. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 361.*

**CS 452. Design and Analysis of Algorithms. 3.00. Crosslisted with MATH 452.**

An introduction to algorithm design techniques and the mathematical analysis of algorithms. Techniques covered include divide-and-conquer, greedy, backtracking, network flow and dynamic programming. The classes P and NP are introduced and intractable problems discussed. This is a proof intensive course. Students may not receive credit for both CS 412 and CS 452. *Prerequisite: CS 327 with a grade of "C-" or better in CS 327.*

**CS 456. Computer Architecture. 3.00.**

Introduction to the design and implementation of modern CPU architectures. Explores hardware-based parallel execution, quantitative performance evaluation, I/O interfacing techniques and hardware descriptor languages. Course work includes a significant programming component. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 361.*

**CS 457. Information Security. 3.00.**

This course covers the basic issues of information system security. The roles of planning, management, policies, procedures and personnel in protecting the confidentiality, integrity and availability of information are described. Specific threats (malicious code, network attacks and hostile content) and widely used countermeasures (access control, mechanisms, firewalls and intrusion detection systems) are also discussed. *Prerequisite: Fully admitted Computer Science majors or minors only and CS 361. Corequisite: CS 361.*

**CS 458. Cyber Defense. 3.00.**

A hands-on, lab-based learning experience in which the students engage in a series of mini projects to perform security assessment, penetration testing and hardening of networked systems. Students also participate in a cyber defense exercise. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 457 and CS 361.*

**CS 461. Internetworking. 3.00. Crosslisted with ISAT 461.**

Wide Area Network (WAN) and Metropolitan Area Network (MAN) design. Audio, voice, data and TV transmission over ATM/B-ISDN networks. The SONET signal hierarchy and Q3 standard interface model. Network security. Performance analysis of a given network. *Prerequisite: Fully admitted Computer Science majors or minors only and CS 361 or ISAT 460.*

**CS 462. Network Applications Development. 3.00.**

Design and implementation of network-based applications using languages and architectures such as sockets, JAVA, TL1 and CORBA. Concepts in distributed processing, including synchronization of interprocess communication and management of replicated data. Analysis of performance issues related to distributed applications. *Prerequisite: Fully admitted Computer Science majors or minors only and CIS 361.*

**CS 470. Parallel and Distributed Systems. 3.00.**

Introduction to parallel and distributed systems. Explores shared memory, cluster, grid, peer-to-peer, and cloud computing models along with parallel software patterns, distributed file systems and performance considerations. Course work includes a significant programming component. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 361.*

**CS 474. Database Design and Application. 3.00.**

Students study database design and management with emphasis placed on data definition languages, data manipulation languages, query languages and management of the database environment. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 345 and either CS 159 or equivalent.*

**CS 476. Database Administration. 3.00.**

Students learn to administer a database by manipulating physical and logical components of a database management system. Topics include creation of an instance, managing of tables, indexes, privileges, profiles and roles. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 474.*

**CS 480. Selected Topics in Computer Science. 1.00 - 3.00.**

Topics in computer science which are of interest but not otherwise covered in the regular computer science offerings of the department. Offered only with the approval of the department head; may be repeated for credit when course content changes. *Prerequisite: Fully admitted Computer Science majors or minors only and a grade of "C-" or better in CS 159. Topics selected may dictate further prerequisites; students should consult the instructor prior to enrolling for course.*

**CS 482. Selected Topics in Information Security. 1.00 - 3.00.**

Topics in information security. Offered only with the approval of the department head; may be repeated for credit when course content changes. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 240 and CS 261. Topics selected may dictate further prerequisites; students should consult the instructor prior to*

enrolling for the course.

**CS 488. Computer Graphics Applications. 3.00.**

This course develops a computer graphics application package based on standard graphics functions as well as attributes of a graphical user interface. It includes experience in applying interactive computer graphics techniques to industrial problems. *Prerequisite: Fully admitted Computer Science majors or minors only and grades of "C-" or better in CS 240 and CS 261.*

**CS 497. Independent Study. 1.00 - 3.00.**

An advanced course to give independent study experience under faculty supervision. May be taken multiple times for credit, but no more than three credits may be used in the computer science program graduation requirements. *Prerequisite: Fully admitted Computer Science majors or minors only and junior standing, and permission of the program coordinator.*

## Continuing Education

**CE 490. Special Studies in Continuing Education. 1.00 - 3.00.**

This course is designed to allow exploration of current topics of interest including various trends and issues in a given field of study. *Prerequisite: Continuing Education Students only.*

## Criminal Justice

**CRJU 215. Introduction to Criminal Justice. 3.00.**

An introduction to the development of the American criminal justice system from early English beginnings to the present in its three dimensions: police, courts and corrections.

**CRJU 225. Ethics in Criminal Justice. 3.00.**

This class offers an overview of ethical issues in the various branches of the criminal justice system, and reviews approaches to establishing and using ethical practices. *Prerequisite: CRJU 215.*

**CRJU 301. Special Topics in Criminal Justice. 3.00.**

This course provides an examination of topics that are of current interest in the field of criminal justice. The class may be repeated for credit when course content changes. *Prerequisite: CRJU 215.*

**CRJU 321. Criminalistics. 3.00.**

This course introduces student to crime scene investigation and the major disciplines of modern forensic science. Topics include an examination of the historical background of forensic science in the criminal justice system, an assessment of general principles of the current practice of forensic science, examination of the role of expert testimony and likely interaction(s) of the forensic scientist with other individuals and components of the criminal justice system. *Prerequisite: CRJU 215.*

**CRJU 325. Criminology. 3.00.**

Study of the extent, causes and possible deterrents to crime including murder, assault, white-collar offenses and organized crime with attention to the role of the victim and policy implications. *Prerequisite: CRJU 215.*

**CRJU 328. Criminal Procedure. 3.00.**

Study of the criminal justice process from arrest through appeal with emphasis upon the rights of the accused including due process, the right to counsel, search and seizure, and the privilege against self-incrimination. *Prerequisite: CRJU 215.*

**CRJU 329. Criminal Investigation and Evidence. 3.00.**

Characteristics, legal aspects, organizational objectives, theories and systematic procedure of criminal investigation. Includes a survey of the investigative function, interviewing witnesses, interrogation, physical evidence, the investigation of common serious offenses and the principles of evidence, including the legal rules controlling the presentation of evidence in court.

**CRJU 335. Law Enforcement. 3.00.**

This course provides students with an overview of the practice of law enforcement, the legal and social issues associated with this work in the United States. *Prerequisite: CRJU 215.*

**CRJU 337. Courts and the Judiciary. 3.00.**

This class offers students an in-depth introduction to the workings of the Court system in the United States.

*Prerequisite: CRJU 215 and CRJU 225.*

**CRJU 340. Administration of Justice. 3.00.**

This course is designed to identify unique challenges to administrators of criminal justice organizations. The structures, functions, and processes in the administration of criminal justice organizations is examined. Topics of interest include a variety of public management theories, the role of leadership, and communication as it relates to criminal justice organization. *Prerequisite: CRJU 215*

**CRJU 401. Internship in Criminal Justice. 4.00.**

This course allows students to receive academic credit for work experienced in an agency or organization related to the criminal justice minor. Students should consult the director of the criminal justice minor for assistance in arranging approved internships. *Prerequisite: CRJU 215 and permission of the instructor.*

## Cross Disciplinary Studies

**CDS 301. Special Topics. 1.00 - 3.00.**

This course allows instructors working through recognized university centers or institutes to offer an examination of current topics that are cross disciplinary in nature and not covered elsewhere in the curriculum. The course may be repeated for credit when course content changes.

**CDS 401. Internship. 1.00 - 3.00.**

This course allows students to receive academic credit for work experienced in a recognized JMU center or institute. Internships must be approved in advance by the center director and follow the guidelines established by the participating center or institute. Internship is granted at the discretion of the center director. *Prerequisite: Junior or senior standing and permission of the director.*

## Dance

**DANC 100. Theatre and Dance Colloquium. 0.00. Crosslisted with THEA 100.**

Weekly department colloquium; work in progress presented, viewed and discussed by student body, faculty and guests. Professionals in the field frequently hold masterclasses. All majors in the School of Theatre and Dance are required to enroll in and pass two semesters in the freshman/first transfer year and two additional semesters during the student's progression in their major. *Prerequisite: School of Theatre and Dance majors only.*

**DANC 110. Associate Group Dance Repertory I (0, 4). 1.00.**

Introduction to group dance experiences through rehearsal, performance, dance technique training and technical theatre practice. *Prerequisite: Dance majors only and concurrent enrollment in a dance technique course.*

**DANC 140. Elementary Modern Dance (0, 4). 2.00.**

Emphasis on modern dance technique and fundamentals of improvisation and choreography. May be repeated for credit.

**DANC 142. Elementary Ballet (0, 4). 2.00.**

Fundamentals of ballet technique, basic vocabulary and combinations. May be repeated for credit.

**DANC 143. International Folk Dance (0, 4). 2.00.**

Traditional folk dance steps and international folk dances. Emphasis on dances from eastern and western Europe, Mexico and Israel. May be repeated for credit.

**DANC 144. Ballroom Dance (0, 4). 2.00.**

Ballroom dance skills including steps, styling and leading, and following for American and Latin ballroom dance forms. May be repeated for credit.

**DANC 146. Jazz Dance (0, 4). 2.00.**

Fundamentals of jazz technique, basic vocabulary and combinations. May be repeated for credit. *Prerequisite: School of Theatre and Dance majors and minors only.*

**DANC 147. Tap Dance (0, 4). 2.00.**

Fundamentals of tap dance, basic vocabulary and combinations. May be repeated for credit. *Prerequisite: School of Theatre and Dance majors and dance minors only.*

**DANC 210. Associate Group Dance Repertory II (0, 4). 1.00.**

Practice in group dance experiences through rehearsal, performance, dance technique training and technical theatre practice. *Prerequisite: DANC 110. Associate Group Dance Repertory I (0, 4). Dance majors only and concurrent enrollment in a dance technique course.*

**DANC 211. Contemporary Dance Ensemble Repertory I (0, 4). 2.00.**

Introduction to a modern dance ensemble with performance, choreographic and technical theatre experiences. May be repeated for credit. *Prerequisite: Dance majors only and concurrent enrollment in a dance technique course.*

**DANC 212. Virginia Repertory Dance Company I (0, 4). 2.00.**

Rehearsal, performance and technical theatre experiences in a modern dance company. May be repeated for credit. *Prerequisite: Dance majors only and concurrent enrollment in a dance technique course.*

**DANC 240. Intermediate Modern Dance I (0, 4). 2.00.**

Intermediate skills in modern dance technique. May be repeated for credit. *Prerequisite: None for School of Theatre and Dance majors and dance minors. Non-majors: DANC 140 or permission of the instructor.*

**DANC 242. Intermediate Ballet I (0, 4). 2.00.**

Intermediate skills in ballet technique. May be repeated for credit. *Prerequisite: DANC 142. Elementary Ballet (0, 4) None for School of Theatre and Dance majors and dance minors. Non-majors: DANC 142 or permission of the instructor.*

**DANC 245. Dance Improvisation (0, 4). 2.00.**

Development of individual, group and environmental awareness; extension of individual movement vocabulary; and theory and exploration of the interrelationships of the visual and theatre arts through structured improvisation. *Prerequisite: School of Theatre and Dance majors and dance minors only.*

**DANC 246. Intermediate Jazz. 2.00.**

Intermediate skills in jazz dance technique, vocabulary and movement combinations. May be repeated for credit. *Prerequisite: DANC 146. Jazz Dance (0, 4) None for School of Theatre and Dance majors and dance minors. Non-majors: DANC 146 or permission of the instructor.*

**DANC 247. Intermediate Tap. 2.00.**

Intermediate skills in tap dance technique, vocabulary and models of sequencing. May be repeated for credit. *Prerequisite: DANC 147. Tap Dance (0, 4) None for School of Theatre and Dance majors and dance minors. Non-majors: DANC 147 or permission of the instructor.*

**DANC 248. History of Dance: Renaissance Through the 20th Century. 3.00.**

A survey of dance history in Western civilization from the Renaissance to the present. Emphasis is on the dance idioms of ballet and modern.

**DANC 250. The Collaborative Artist: Sophomore Studio. 3.00. Crosslisted with THEA 250.**

The course explores the creative and collaborative processes within the development of performance events. Emphasis is placed upon the role of the artist as a social and artistic force in society. Studio-based creative explorations along with the viewing and discussion of live and recorded performances are integral to the course in order for students to investigate, experience, and devise collaboratively within the context of various performance forms across multiple disciplines and cultures. *Prerequisite: School of Theatre and Dance majors only and sophomore standing.*

**DANC 303. Topics in Dance. 1.00 - 3.00.**

Study of selected timely topics in dance. May be repeated when course content changes. See MyMadison for current topic.

**DANC 311. Contemporary Dance Ensemble Repertory II (0, 4). 2.00.**

Intermediate-level experiences in performance, choreography and technical theatre with a modern dance ensemble. May be repeated for credit. *Prerequisite: DANC 211 or the equivalent and concurrent enrollment in a dance technique course.*

**DANC 312. Virginia Repertory Dance Company II (0, 4). 2.00.**

Advanced rehearsal, performance and technical theatre experience in a modern dance company. May be repeated for credit. *Prerequisite: DANC 212 or the equivalent and concurrent enrollment in a dance technique course. Corequisite: No changes.*

**DANC 320. Anatomy and Somatic Studies for the Dancer. 3.00.**

An introduction to the structure and function of the human body, along with an overview of contemporary bodywork theories and techniques essential to the education of dancers. Emphasis will be on the application of knowledge within the context of dance technique. *Prerequisite: Sophomore, junior and senior dance majors only.*

**DANC 325. Dance in Community. 3.00.**

This course introduces students to the use of creative movement and dance in community settings. Emphasis is on concepts and skills utilized in designing and implementing movement experiences for diverse populations.

**DANC 340. Intermediate Modern Dance II (0, 4). 2.00.**

Modern dance technique on an accelerated intermediate level. May be repeated for credit. *Prerequisite: DANC 240 or permission of the instructor.*

**DANC 342. Intermediate Ballet II (0, 4). 2.00.**

Ballet technique on an accelerated intermediate level. May be repeated for credit. *Prerequisite: DANC 242 or permission of the instructor.*

**DANC 345. Dance Composition I (2, 2). 3.00.**

Introductory studies of dance composition with focus on the learning and development of choreographic techniques and styles. Compositional movement studies and solo/duet dances will be utilized for exploring and developing the student's individual creativity. *Prerequisite: DANC 245. Dance Improvisation (0, 4) Dance majors only.*

**DANC 346. Intermediate Jazz II/Musical Theatre Styles. 2.00.**

Intermediate Jazz II / Musical Theatre Styles is a continuation of the jazz dance techniques in the dance program at the upper-intermediate level. The primary focus of this class will be on the study and training of historic and contemporary musical theatre jazz movement and its cultural influences. The course may be repeated for credit. *Prerequisite: DANC 246 or permission of the instructor.*

**DANC 390. Directed Projects. 1.00 - 3.00.**

Supervised projects related to the study of dance. Credit given for original, individual or group programs beyond the usual course offerings in dance. A suitable completed project or report is required before credit will be given. Teaching assistantships are also registered as directed projects. May be repeated multiple times. *Prerequisite: Dance majors only.*

**DANC 411. Contemporary Dance Ensemble Repertory III (0, 4). 2.00.**

Advanced-level experiences in performance, choreography and technical theatre with a modern dance ensemble. May be repeated for credit. *Prerequisite: DANC 211. Contemporary Dance Ensemble Repertory I (0, 4) DANC 311 or the equivalent and concurrent enrollment in a dance technique course.*

**DANC 412. Virginia Repertory Dance Company III (0, 4). 2.00.**

Advanced rehearsal, performance and technical theatre experience in a modern dance company for the professional level dancer. May be repeated for credit. *Prerequisite: DANC 312 or the equivalent and concurrent enrollment in a dance technique course.*

**DANC 440. Advanced Modern Dance (0, 4). 2.00.**

Modern dance technique on an advanced level. May be repeated for credit. *Prerequisite: DANC 340 or the equivalent.*

**DANC 442. Advanced Ballet (0, 4). 2.00.**

Ballet technique on an advanced level. May be repeated for credit. *Prerequisite: DANC 342 or the equivalent.*

**DANC 445. Dance Composition II (2, 2). 3.00.**

Dance composition study involving the development and use of complex choreographic structures with emphasis on creating small and large group dance compositions, as well as the exploration of contemporary choreographic styles and techniques. *Prerequisite: DANC 345 or permission of the instructor.*

**DANC 446. Advanced Jazz. 2.00.**

A continuation of the dance technique in the dance program. Advanced skills in jazz technique with special emphasis on the development of performance skills. May be repeated for credit.

**DANC 449. The Dance Professional. 3.00.**

Introduction to the professional dance world through lectures, discussions and research. Emphasis will be placed on the preparation of skills and materials necessary to pursue dance as a career. Contemporary dance trends and issues will also be explored. *Prerequisite: Senior dance majors only.*

**DANC 471. Stage Management. 3.00. Crosslisted with THEA 471.**

Study and analysis of stage management. Consideration given to the methods and strategies for successful stage management for theatre, dance and other performances. Emphasis on developing management and organizational skills. *Prerequisite: DANC 171.*

**DANC 479. Methods of Teaching Dance. 3.00.**

An introduction to the theory and practice of teaching dance. Course will provide introductory level teaching experiences and will encourage the development of the student's personal educational philosophy. *Prerequisite: Junior and senior dance majors only.*

**DANC 480. Student Teaching. 3.00 - 12.00.**

Enables students to apply, in the public school classrooms and the comprehensive child development programs, those skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors, students are provided activities designed to familiarize them with the classroom teacher's role. *Prerequisite: PSYC 160, EDUC 300 or EDUC 360, appropriate methods courses, and permission of the coordinator of field experiences.*

**DANC 490. Special Studies in Dance. 1.00 - 3.00.**

Special studies are independent studies for students to pursue individual research under the guidance of a faculty adviser. Special studies differ from directed projects in that they are more research-based than project-based, although some student mainstage designs might also be undertaken as special studies. Based on the agreed upon workload, this course may be assigned credit hours of 1-3 credits. *Prerequisite: Permission of the dance program coordinator.*

**DANC 495. Internship. 3.00 - 6.00.**

Internships may be registered for credit at the discretion of the individual faculty adviser. Overrides for internships must be completed no later than four weeks prior to the internship start date. Based on the agreed upon workload, this course may be assigned credit hours of 3-6 credits. *Prerequisite: Permission of dance area coordinator.*

**DANC 499. Honors. 1.00 - 3.00.**

Repeatable for a maximum of 6 credits.

## Early Childhood Education

**ECED 310. Diversity in Early Childhood Education. 3.00.**

This course guides students in critically examining their own perspectives regarding diversity, seeks to expand students' awareness and understanding of individuals and groups representing differences, and explores pedagogical issues and practices essential for embracing the whole community of learners and families.

**ECED 371. Practicum in Early Childhood Education. 1.00.**

Preschool and kindergarten placements will provide for extensive observation and experience with young children and the opportunity to assist teachers as they facilitate children's growth and learning in contexts that are culturally varied. *Prerequisite: Admission to teacher education. Corequisite: ECED 372.*

**ECED 372. Introduction to Early Childhood Education. 3.00.**

Introductory study of the role of the teacher, the role of the learner and the developing child as the basis for designing programs and developing curriculum for children 0-8 with different abilities and from various cultures. *Prerequisite: Admission to teacher education. Corequisite: LED 366.*

**ECED 401. Problems in Early Childhood Education. 1.00 - 3.00**

Considers current problems and issues in early childhood education. *Prerequisite: Permission of the program coordinator.*

**ECED 443. Practicum in Primary Grades. 1.00.**

This two-hour, weekly practicum in first or second grade will provide students with experience in planning and implementing math and literacy experiences for young children. *Prerequisite: Grades of "C" or better in ECED 371, ECED 372 and LED 366. Corequisite: ECED 441, ECED 442 ; ELED 444 and LED 436.*

**ECED 480. Student Teaching ECED. 8.00.**

Enables students to apply in public school classrooms those understandings, skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors and cooperating teachers, students engage in full-time teaching responsibilities. *Prerequisite: Teacher Ed Program Flag 03.*

**ECED 481. Fieldwork in Family and Community. 2.00.**

This fieldwork is designed to provide support for students and reinforces skills and concepts learned during the education program which are being applied during student teaching. Particular attention is given to school and family/community unity. *Prerequisite: Grades of "C" or better in ECED 361, ECED 372, ECED 441, ECED 442, ECED 443, ECED 454, ECED 461, LED 366, LED 436, ELED 444 and ELED 462. Corequisite: ECED 480.*

**ECED 490. Special Studies in Early Childhood Education. 1.00 - 3.00.**

Designed to give capable students opportunities to complete independent research on educational problems under faculty guidance. The plan for the study must be presented to the department head in prescribed form for approval prior to registration.

**ECED 499. Honors in Early Childhood Education. 1.00.****Economics****ECON 200. Introduction to Macroeconomics [C4GE]. 3.00.**

Behavior of systems at the national and international levels. Topics include the methodology of economics as a social science, supply and demand, definition and measurement of important macroeconomic variables, and theoretical models of growth, inflation, interest rates, unemployment, business cycles, stabilization policy, exchange rates and the balance of payments. Not open to students who are enrolled in or who have received credit for ECON 332. May be used for general education credit.

**ECON 200H. Introduction to Macroeconomics - Honors [C4GE]. 3.00.**

Behavior of systems at the national and international levels. Topics include the methodology of economics as a social science, supply and demand, definition and measurement of important macroeconomic variables, and theoretical models of growth, inflation, interest rates, unemployment, business cycles, stabilization policy, exchange rates and the balance of payments. May be used for general education credit. *Prerequisite: Honors Student; Not open to students who are enrolled in or who have received credit for ECON 332.*

**ECON 201. Introduction to Microeconomics. 3.00.**

Topics covered include supply and demand, consumer choice, economics of the firm and industry, production costs, distribution theory, international trade, comparative economic systems and the philosophy of economics. Not open to students who are enrolled in or who have received credit for ECON 331.

**ECON 222. Contemporary Economic Issues and Policy Alternatives. 3.00.**

Application of elementary economic theory to current economic issues. Special emphasis is placed on public policy alternatives. *Prerequisite: ECON 200 and ECON 201.*

**ECON 270. International Economics. 3.00.**

A survey of the relationships among national economies, including trade theory, trade policy, international monetary relations and the balance of payments. Not open to students who are enrolled in or have already received credit in ECON 370 or ECON 372. *Prerequisite: ECON 200 and ECON 201.*

**ECON 300. Special Topics in Economics. 3.00.**

Examination of special topics in theoretical or applied economics not covered in the current economics curriculum. Specific topics to be determined by the instructor. *Prerequisite: ECON 200 and ECON 201 or equivalent.*

**ECON 302. History of Economic Thought. 3.00.**

Major contributions within the history of economic thought are studied in relation to both the historical circumstances within which they arose and the role each played in shaping contemporary, competing economic doctrines. *Prerequisite: ECON 200 and ECON 201.*

**ECON 305. Environmental Economics. 3.00.**

An analysis of the problems of the environment, their causes and alternative proposed methods of solution. Air and water pollution will be stressed as case studies of environmental problems. *Prerequisite: ECON 201.*

**ECON 310. Economic History of the United States. 3.00.**

A survey of the economic growth and development of the United States from Colonial times to the present. *Prerequisite: ECON 200 and ECON 201.*

**ECON 312. Comparative Economic Systems. 3.00.**

An examination of the distinguishing characteristics, institutions and performances of the various types of major economic systems in the world today. *Prerequisite: ECON 200 and ECON 201.*

**ECON 325. Money and Banking. 3.00. Crosslisted with FIN 325.**

Examines the economic role of money, banking and monetary policy within current institutional settings and under alternative theories explaining the interrelationships between money, the financial system and economic activity. *Prerequisite: ECON 200 and ECON 201.*

**ECON 326. Public Finance. 3.00.**

Introduction to the field of public finance including theories and principles of taxation, government expenditure, public debt and fiscal administration. Studies interrelationships between federal, state and local finance, shifting and incidence of tax, and the burden of public debt. *Prerequisite: ECON 200 and ECON 201.*

**ECON 327. Game Theory. 3.00.**

Examines interdependent decision making in economics and other social sciences and covers both non-cooperative and cooperative games. Topics may include applications of game theory to industrial organization, law and economics, public choice, political economy, evolutionary biology, international affairs and theories of justice. *Prerequisite: ECON 200 and ECON 201 or permission of the instructor.*

**ECON 328. Behavioral Economics. 3.00.**

An introductory course in behavioral economics that combines insights from psychology with economics. Using data from field and lab experiments, we will examine the explanatory power of the standard economic model and learn new frameworks that incorporate psychologically realistic assumptions grounded in observed behavior. Among the topics studied are decision-making under uncertainty, intertemporal choice and others regarding preferences. The course will conclude by examining implications this approach to economic analysis has for public policy. *Prerequisite: ECON 201.*

**ECON 329. Health Economics. 3.00.**

This course explores the structure, conduct, and performance of hospitals, physician practices, pharmaceutical and medical device manufacturers, and long-term care facilities. The demand for healthcare and insurance is presented using economic theories of risk and uncertainty. Economic evaluation of healthcare treatments and contemporary policies are examined. *Prerequisite: ECON 200 and ECON 201.*

**ECON 331. Intermediate Microeconomic Theory. 3.00.**

Intermediate analysis of the determination of price, resource allocation and product distribution in a free enterprise economy. *Prerequisite: "C" or better in ECON 200, ECON 201 and MATH 205, MATH 231, MATH 235 or ISAT 151.*

**ECON 332. Intermediate Macroeconomic Theory. 3.00.**

Intermediate-level analysis of the major approaches to the determination of economic aggregates, with emphasis given to structuring a common analytic framework. *Prerequisite: "C" or better in ECON 200, ECON 201 and MATH 205, MATH 231, MATH 235 or ISAT 151.*

**ECON 340. Economics of Natural Resources. 3.00.**

Emphasizes availability of exhaustible resources and optimum utilization rates. Examines questions of intertemporal allocation and costs of growth. *Prerequisite: ECON 200 and ECON 201.*

**ECON 345. Industrial Organization. 3.00.**

An examination of contemporary U.S. industrial concentration both in the aggregate and within particular industries with emphasis on public policy implications. Alternative theories of the firm are considered in relation to different market structures. *Prerequisite: ECON 200 and ECON 201.*

**ECON 360. Labor Economics. 3.00.**

Study of the economics of labor markets. Attention is given to the structure and operation of labor markets, wage determination, employment, unions, and contemporary labor problems and policies. *Prerequisite: ECON 200 and ECON 201.*

**ECON 365. Economic Development. 3.00.**

A study of the characteristics of under-development, theories of economic development and the underlying causes for varying standards of living among the world's people. Considerable time will be spent on studying social and cultural factors that influence economic growth and their potential effect on the economic progress of the less-developed countries. *Prerequisite: ECON 200 and ECON 201.*

**ECON 370. International Trade and Trade Policies. 3.00.**

An examination of the classical and modern theories of international trade, the effects of such trade on the domestic economy, the effects of barriers to free trade and an appraisal of U.S. commercial policy since 1948. *Prerequisite: ECON 200 and ECON 201.*

**ECON 372. International Finance and Payments. 3.00. Crosslisted with FIN 372.**

Examines international financial markets, instruments and institutions; determination of spot and forward exchange rates, interest arbitrage, hedging and speculation; and alternative policies for achieving equilibrium in international payments. *Prerequisite: ECON 200 and ECON 201.*

**ECON 382. Urban Economics. 3.00.**

A detailed examination of the economic aspects of urbanization with emphasis on metropolitan land use and location theory. Urban problems considered include housing, poverty, labor markets and municipal finances. *Prerequisite: ECON 200 and ECON 201.*

**ECON 384. Mathematical Economics. 3.00.**

Course will provide basic mathematical tools for microeconomic and macroeconomic analysis. Topics covered include linear algebra, univariate and multivariate differentiation, economic interpretation of the derivatives, constrained and unconstrained optimization, expected utility model, and dynamic analysis of economic models. *Prerequisite: ECON 200, ECON 201, and either ISAT 151, MATH 205 or MATH 235.*

**ECON 385. Econometrics. 3.00.**

Course discusses construction of models based on economic theory including identification of variables, development and testing of hypotheses for single- and multi-equation systems. *Prerequisite: "C" or better in ECON 200, ECON 201 and COB 191, MATH 220 or MATH 318 and MATH 205, MATH 231, MATH 235 or ISAT 151.*

**ECON 394. Economics Internship. 3.00.**

Academic credit for an approved internship experience. Registration for the course must be concurrent with the internship. An application showing how all requirements for the internship will be met must be approved prior to registration. May be taken on a credit/no credit basis only. *Prerequisite: ECON 200 and ECON 201.*

**ECON 399. Career Preparation in Economics. 0.00.**

Students participate in a number of activities designed to enhance career preparedness and job search outcomes in economics as approved by the economics program (including attending workshops and registering to be informed of job opportunities). *Prerequisite: ECON 331, ECON 332, ECON 385 and senior standing.*

**ECON 400. Advanced Topics in Economics. 3.00.**

Examination of special topics in theoretical or applied economics not covered in the current economics curriculum. Specific topics to be determined by the instructor. *Prerequisite: ECON 331 and ECON 332 or permission of the instructor.*

**ECON 405. Political Economy. 3.00.**

Evaluation and critique of mainstream and nontraditional economic paradigms. The interaction of economics and politics in the United States as it affects the distribution of wealth and domestic and international economic policies. *Prerequisite: ECON 200, ECON 201, and junior or senior standing.*

**ECON 426. Theory of Public Choice. 3.00.**

Examines the justification for and nature of public sector activity in a market-based mixed economy. Emphasis is placed on theories of market failure, voting models, conditions of production and provision in the public sector, and models of bureaucratic behavior. *Prerequisite: ECON 326 or ECON 331.*

**ECON 430. Monetary Theory. 3.00.**

Examines alternative theories of the relationships between money, interest rates, price levels, employment and output in order to assess the effectiveness of monetary policy for economic stabilization. *Prerequisite: ECON 332 and either MATH 205 or MATH 235.*

**ECON 431. Advanced Microeconomic Theory. 3.00.**

Examines theories of general equilibrium and the distribution of income, welfare economics, capital theory and information theory. *Prerequisite: ECON 331, ECON 332 and either MATH 205 or MATH 235.*

**ECON 432. Advanced Macroeconomics. 3.00.**

Study of macroeconomics at an advanced level. Particular attention will be given to the theory and models of economic growth as well as the potential for policies to improve growth. Topics may also include the theory of economic fluctuations within the growth paradigm and comparative analysis of the U.S. and other economies with respect to growth. *Prerequisite: ECON 332 and either MATH 205 or MATH 235.*

**ECON 455. Economics of Regulated Industries. 3.00.**

A study of the rationale, methods and impact on industry behavior of government regulations including public utility regulation and antitrust policies relating to monopoly and competition in the United States. *Prerequisite: ECON 385 or permission of instructor; and ECON 331 or ECON 345 (to use ECON 345, students must have permission of the ECON 455 instructor).*

**ECON 331. Intermediate Microeconomic Theory****ECON 475. Regional Economics. 3.00.**

A study of local and subnational economics viewed as integral parts of a unified system. Emphasis will be given to the basic economic forces associated with regional growth and decline and related public policy considerations. *Prerequisite: ECON 200 and ECON 201.*

**ECON 483. Applied Time Series Analysis. 3.00.**

This is an advanced level class in Econometrics with an emphasis on time series techniques. This course covers a broad range of time series methods commonly used in research and industry for generating short-term forecasts for important economics and financial variables. Some of the topics covered are time series decomposition methods, smoothing

methods, ARIMA, ARCH/GARCH and VAR. *Prerequisite: ECON 384 (or professor approval) and a minimum grade of "B-" in ECON 385.*

**ECON 485. Advanced Econometrics. 3.00.**

Theory and application of statistical techniques to study empirical relationships among economic variables. This course will cover a range of econometric techniques to estimate economic models including panel data, limited dependent variable, and simultaneous equation models. In addition, the course will cover the assembly and analysis of requisite data sets, and the preparation and presentation of empirical results. *Prerequisite: Minimum grade of "B-" in ECON 385.*

**ECON 487. Economic Consulting. 3.00.**

A research-oriented, senior-level course that provides students an opportunity to integrate theoretical knowledge, quantitative techniques and writing skills through research on a set of simulated consulting projects. *Prerequisite: ECON 331, ECON 332, ECON 385 and senior standing.*

**ECON 488. Senior Capstone Seminar in Economics. 3.00.**

This course is a writing-intensive seminar offering a student the opportunity to integrate many of his/her undergraduate studies in economics. Its substantive content will emphasize applying the methods of theoretical and empirical analyses employed by all economists. The seminar will be structured so as to contain embedded assessment measures of the learning objectives specified by the department of economics, including those related to command of basic economic theory and of quantitative methods used in quantifying empirical relationships and testing hypothesis. *Prerequisite: Senior standing and completion of each of the following courses with a grade of at least "C": ECON 331, ECON 332 and ECON 385.*

**ECON 490. Special Studies in Economics. 1.00 - 3.00.**

Designed to give capable students in economics an opportunity to complete independent study under faculty supervision. Admission by recommendation of the instructor and written permission of the director of economics prior to registration. May not be used toward fulfillment of the 400-level requirement for a major in economics.

**ECON 499A. Honors. 1.00 - 3.00.**

Year course. See catalog section "Graduation with Honors."

**ECON 499B. Honors. 3.00.**

**ECON 499C. Honors. 2.00.**

## Education

**EDUC 100. The Study of the Future: An Interdisciplinary Approach. 3.00.**

Introduces the students to an interdisciplinary study of the future within the context of education. Various topic areas, such as population, science/technology, lifestyle, economics, international relations, energy and religion will be explored in terms of future trends and how education responds to these trends and their impacts.

**EDUC 165. Social Foundations of Exceptionalities. 3.00.**

This course examines the social, cultural, and educational contexts - through the lifespan - of individuals with exceptionalities. Specific focus will be given to the study of historical perspectives, models, theories, philosophies and trends in the field of special education. In addition, the role of culture, environment, family and individual differences will be explored.

**EDUC 300. Foundations of American Education. 3.00.**

A study of the practices and issues that affect American education. Consideration is given to such topics as philosophical approaches to education, history of American education, and the organizational and cultural aspects of schools which influence educational practices.

**EDUC 303. Foundations of Curriculum and Instruction. 2.00.**

This is an introductory course that examines the historical, sociological, philosophical and psychological perspectives that influence and support the curricular and instructional structures of general education. Throughout the course the implementation of those structures through a systematic process of planning for effective classroom instruction and evaluation will be examined. Connections to how they reflect an understanding of various models of learning and cognition and their implications for educational practice will be established. *Prerequisite: EDUC 300.*

**EDUC 310. Teaching in a Diverse Society. 3.00.**

This course will examine how personal and professional values, attitudes, beliefs and behaviors affect teaching and learning. The pre-service teachers will develop an understanding of similar unique characteristics of Pre-K to 12 grade students and their families, including culture, race, ethnicity, heritage language and learning abilities, gender socialization and sexual orientation. *Corequisite: MIED 311 and LED 312 for middle students.*

**EDUC 370. Instructional Technology. 3.00. Crosslisted with LTLE 370.**

This course introduces educators to the concept of content knowledge, pedagogical knowledge and technological knowledge acting together as one unit to provide successful learning opportunities with educational technology. Learners will develop competencies that will enable them to appropriately select and integrate technology into the teaching and learning process.

**EDUC 401. Problems in Education. 1.00 - 3.00.**

Workshop experiences for the development and training of teachers. *Prerequisite: EDUC 360 and permission of the program coordinator.*

**EDUC 455. Perspectives in Environmental Education. 3.00.**

This course illuminates the role of educators in presenting environmental topics in learning communities. Activities will include principles for formal classrooms and other educational settings, such as museums, parks and zoos. In a local classroom /learning environment, participants will collaborate with practicing educators to teach learners about local environmental topics.

**EDUC 480. Student Teaching. 6.00 - 12.00.**

Enables students to apply, in the public school classrooms and the comprehensive child development programs, those skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors, students are provided activities designed to familiarize them with the classroom teacher's role. *Prerequisite: PSYC 160, EDUC 300 or EDUC 360, appropriate methods courses, and permission of the coordinator of field experiences.*

**EDUC 482. Professional Development, Partnership and Advocacy. 1.00 - 3.00.**

Students examine opportunities for professional development from professional associations, universities and other organizations across PK-6. Strategies to build partnerships with colleagues, families and communities are presented. Important social and political issues affecting education of majority and minority students and models of advocacy for students and their families are presented.

**EDUC 490. Special Topics in Education. 1.00 - 4.00.**

In-depth examination of selected topics which are of current importance in the field of education. Offered only with approval of School of Education director. May be repeated for credit when course content changes. *Prerequisite: At least junior standing and consent of the instructor.*

**EDUC 499A, B, C. Honors. 1.00 - 6.00. Crosslisted with EDUC 499B, EDUC 499C.**

Independent research topic initiated and completed by qualified upper-division students. See catalog descriptions entitled "Graduation with Distinction" and "Graduation with Honors."

## Elementary Education

**ELED 308. Child Development: Birth Through Adolescence. 3.00.**

Skills for observing, recording and interpreting the behavior of children ages three through 12 will be developed so that adult intervention and guidance is appropriate and meaningful.



*Prerequisite: PSYC 160 and admission to teacher education. Corequisite: ECED 372, ELED 310, ELED 311 and LED 366.*

**ELED 310. Diversity in Elementary Education with Service Learning. 3.00.**

This course guides students in critically examining their own perspectives regarding diversity in our society. Through this course, students will expand their awareness and understanding of individuals and groups apparently different from themselves. Students will explore pedagogical issues and practices in the classroom that embrace the whole community of learners and their families. *Prerequisite: Admission to teacher education. Corequisite: ECED 372, ELED 308, ELED 311 and LED 366.*

**ELED 311. Practicum with a Focus on Learners and Learning. 1.00-3.00.**

This field experience and seminar support the study of child development and learning in an organized environment. Through direct observation and interactions with children in a classroom setting, candidates will examine and reflect on how children develop and learn. Candidates will explore how their own personal attitudes, assumptions and behaviors toward students and their families are influenced by class, cultural and linguistic backgrounds. *Prerequisite: Admission to teacher education. Corequisite: LED 366.*

**ELED 411. Practicum with a Focus on Curriculum Integration and Guiding Behavior. 1.00.**

This field experience provides candidates with a classroom of students and a mentor teacher with whom to practice the teaching of reading, math, science and social studies. The accompanying seminar explores the integration and construction of meaningful curriculum in elementary education contexts and supports students in their ongoing professional development. *Prerequisite: ELED 311. Corequisite: READ 436.*

**ELED 432. Children and Science. 3.00.**

This course is a study of content, processes, pedagogy and materials for teaching science in the elementary classroom. Knowledge of cognitive development as applied to the selection of content and methodology for elementary learners will be examined. *Prerequisite: ELED 308, ECED 372, ELED 310, ELED 311 and LED 366. Corequisite: LED 436, ELED 411, ELED 433 and ELED 434.*

**ELED 433. Children and Mathematics: Number, Operations, Algebraic and Geometric Reasoning. 3.00.**

The first of two courses that provides students with knowledge, skills and understanding of design and implementation for effective, developmentally appropriate mathematics instruction for grades PreK-6. Emphasis is on children's mathematical learning and pre-numerical stages through the acquisition of advanced numerical processes and operations and connections to geometric and algebraic reasoning. *Prerequisite: MATH 107, MATH 108, MATH 207 and LED 366. Corequisite: LED 436, ELED 411, ELED 432 and ELED 434.*

**ELED 434. Children and Social Studies. 3.00.**

This course focuses on the content, processes, pedagogy and materials for teaching social studies in the elementary classroom. Knowledge of cognitive development as applied to the selection of content, methods, materials and strategies for organizing the learning environment for elementary learners will be examined. *Prerequisite: ELED 311. Corequisite: ELED 411, ELED 432, ELED 433 and LED 436.*

**ELED 443. Children and Mathematics II. 3.00.**

The second of two courses that provides students with knowledge, skills, and understanding to design and implement effective, developmentally appropriate mathematics instruction for grades PreK-6. Emphasis is on children's mathematical learning about geometry, measurement, data analysis and probability. *Prerequisite: MATH 108. Corequisite: ELED 432.*

**ELED 450. Planning Instruction and Assessment. 3.00.**

Elementary education teacher candidates will learn the process of planning, implementing curriculum, and using instructional strategies and assessments that promote and monitor students' understanding of content beyond memorization. Students will design units of instruction that utilize evidence-based practices for active engagement strategies, specifically for providing an inclusive environment for a diverse student population. Students will gain the knowledge and skills necessary to use assessments that allow for data-driven instructional decisions and inform subsequent teaching and learning.

**ELED 455. Home, School, Communities. 3.00.**

Study of the role of the teacher in relating to and working with families, school personnel and communities. Methods of involving stakeholders and providing effective communication among groups are emphasized. Resources for supporting parents and engaging community stakeholders are examined. *Prerequisite: ELED 411.*

**ELED 480. Student Teaching in Elementary Education. 8.00.**

This internship provides a context in which to demonstrate and integrate the skills, knowledge and dispositions that are essential for success as an elementary classroom teacher. Under the guidance of a university supervisor students are expected to reflect on the teaching role as they assume the full responsibilities of teacher in grade PreK-6. Students majoring in elementary education must complete this course twice for a total of 16 credit hours. *Prerequisite: ELED 311 and ELED 411.*

**ELED 490. Special Studies in Elementary Education. 1.00 - 3.00.**

Designed to give students opportunities to complete independent research on educational problems under faculty guidance. The plan for the study must be presented to the department head in prescribed form for approval prior to registration. *Prerequisite: Teacher Ed Program 02 Flag.*

## Engineering

**ENGR 101. Engineering Opportunities. 1.00.**

This is the introductory course in the engineering curriculum. In this course, students work in teams to identify problems in order to create opportunities for the betterment of society using a design process. Students are introduced to the Madison engineering values and curriculum, and they have opportunities to relate them to personal and academic goals. Techniques and tools for developing a professional identity will be shared. The activities in the course are aimed at assisting students in successfully making the transition from high school to college.

**ENGR 112. Engineering Decisions. 3.00.**

This course focuses on teaching first year engineering students the processes associated with making decisions in the field of engineering. Topics of coverage include problem solving, engineering fundamentals, ethics and society, and analytical and physical modeling.

**ENGR 212. Statics and Dynamics (3,1). 4.00.**

This course provides the fundamental and governing principles of particles and rigid bodies for the analysis of these structures. Topics include equilibrium of particles and rigid bodies, force and moment vectors, kinematics, and dynamics of particles, work and energy. An included laboratory component provides reinforcement of course material through experiments. *Prerequisite: Grade of "C" or better in ENGR 112; grade of "C-" or better in each of PHYS 240, PHYS 140L and MATH 237.*

**ENGR 221. Management of Technology I: Product Development and Entrepreneurial Engineering. 3.00.**

This course provides the fundamental and governing principles of management of technology including general business functions of management, marketing, finance, accounting and operations; system analysis skills; and an introduction to project management. Students develop an understanding and appreciation for the importance of technology and innovation in organizations. *Prerequisite: Grade of "C" or better in ENGR 112 and ENGR 231. Corequisite: ENGR 232.*

**ENGR 231. Engineering Design I. 2.00.**

This course provides students with an overview of the engineering design process with a focus on early phase design including: understanding and detailing customer requirements, exploring the engineering solution space and down-selecting conceptual design solutions. This course includes significant team and project-based components and provides an introduction to interpersonal communication skills that lead to effective problem solving, idea generation and decision making. *Prerequisite: Grade of "C" or better in ENGR 112, grade of "C-" or better in MATH 236. Corequisites: PHYS 140L and PHYS 240.*

**ENGR 232. Engineering Design II. 2.00.**

This course provides students with an overview of the engineering design process with a focus on late phase design including: embodiment, modeling and prototyping, and testing and refinement of design solutions. This course includes significant team and project-based components and provides an introduction to interpersonal communication skills that lead to effective problem solving, design embodiment and decision making. *Prerequisite: Grade of "C" or better in ENGR 231.*

**ENGR 280. Projects in Engineering. 1.00 – 4.00.**

Research projects, design projects, or special topics in engineering which are of interest to the lower-division student. May be repeated for credit when course content changes. Projects or topics selected may dictate prerequisites. Students should consult the instructor prior to enrolling in the course. *Prerequisite: Permission of the instructor.*

**ENGR 301. Engineering Bridge Course for Transfer Students. 3.00.**

This course provides transfer students with an introduction to the JMU engineering program. The purpose is to familiarize our students with our curriculum and sustainability vision. The course will also provide design instruction while introducing transfer students to the specific software tools and machine tools they will use over the remainder of their curriculum. *Prerequisite: Permission of the instructor.*

**ENGR 311. Thermal-Fluids I. 4.00.**

This is the first course of a two-part sequence focused on the fundamental principles of thermodynamics, heat transfer and fluid mechanics using a unified approach. Coverage includes the 1st law of thermodynamics, basic heat transfer and fluid statics. Wide-ranging applications of these principles to thermal-fluid systems across engineering disciplines are emphasized. Reinforcement of course material is provided through experiential learning opportunities and in-depth problem solving. *Prerequisite: Admission to engineering major.*

**ENGR 312. Thermal-Fluids II. 4.00.**

The second of a two-part sequence focuses on the fundamental principles of thermodynamics, heat transfer and fluid mechanics in a unified approach. Coverage includes the 2nd law of thermodynamics, transient heat transfer and fluid motion. Applications of principles to thermal-fluid systems across engineering disciplines are emphasized. Reinforcement of course material is provided through experiential learning opportunities and in-depth problem solving. *Prerequisite: Grade of "C" or better in ENGR 311.*

**ENGR 313. Circuits and Instrumentation. 4.00.**

This course presents the fundamentals of circuit analysis and the measurement of physical phenomena. Circuit analysis topics include Kirchhoff's laws, 1st and 2nd order circuits, and AC systems. Instrumentation principles and common measurement devices are discussed. Laboratory investigations provide exposure to common electronic measurement equipment and experience with electronic design and prototyping. *Prerequisite: Admission to engineering major.*

**ENGR 314. Materials and Mechanics. 4.00.**

This course explores the fundamentals of materials science, materials engineering and mechanics of materials. Topics include process-structure-property relationships, crystalline structures, mechanical properties, strength of materials and an introduction to materials processing. An included laboratory component provides reinforcement of course material through experiments. *Prerequisite: Admission to engineering major.*

**ENGR 322. Engineering Management II: Engineering Project Management. 3.00.**

This course provides the fundamentals of project management. Students will identify project requirements, develop a work breakdown structure and network diagram, and apply resources to develop a project schedule. Knowledge is demonstrated through proper application of the decision tools available to project managers, such as determining a project's current status for cost, schedule, and performance. Students will analyze why a project's current status is not according to plan, develop an action plan to resolve cost and scheduling challenges, and project final cost, completion date, and performance. A computer-based project management system is used for managing projects. Completion of this course fulfills the requirement for 23 formal education hours for the Certified Associate in Project Management (CAPM) eligibility. *Prerequisite: Admission to the engineering major. Corequisite: ENGR 331.*

**ENGR 331. Engineering Design III. 3.00.**

This course emphasizes methods and practice in problem discovery, contextualization, stakeholder analysis, requirement and constraint identification, and design codes and standards. Application of course content occurs within the context of the first semester of a four-semester project experience. *Prerequisite: Admission to engineering major. Corequisite: ENGR 322.*

**ENGR 332. Engineering Design IV. 3.00.**

This course emphasizes advanced design concept generation, concept selection and tradeoff analysis methods. Application of course content occurs within the context of the second semester of a four-semester project experience. *Prerequisite: Grade of "C" or better in ENGR 331.*

**ENGR 411. Fundamentals of Sustainable Engineering and Design. 3.00.**

This course is the first in a two-course sequence that provides a foundation in evaluating sustainable design and engineered systems. This course focuses on environmental systems and single factor analysis of common indicators of sustainability. The material presented supports an understanding of the environmental, social and economic impacts of design and technology. *Prerequisite: CHEM 132.*

**ENGR 412. Sustainable Engineering and Design II. 3.00.**

This course is the second in a two-course sequence that provides a foundation in evaluating sustainable design and engineered systems. This course focuses on industrial design and systems and multi-factor analysis of common indicators of sustainability. The material presented furthers the understanding of the environmental, social and economic impacts of design and technology. *Prerequisite: ENGR 411.*

**ENGR 413. Systems Analysis. 3.00.**

This course focuses on the concepts of systems thinking and analysis for complex engineered systems. Students will develop basic knowledge and tools to identify a system, decompose it into parts, define interactions, perform analysis and apply control measures if necessary. Application of computational tools and mathematical modeling will be emphasized. *Corequisite: ENGR 431.*

**ENGR 431. Engineering Design V. 3.00.**

Course instruction focuses on tools and techniques for design embodiment, testing and refinement. Application of course content occurs within the context of the third semester of a four-semester project experience. *Prerequisite: Grade of "C-" or better in ENGR 332.*

**ENGR 432. Engineering Design VI. 3.00.**

Course instruction focuses on reliability and final design communication and presentation. Application of course content occurs within the context of the fourth semester of a four-semester project experience. *Prerequisite: Grade of "C-" or better in ENGR 431.*

**ENGR 440. Mechatronics. 3.00.**

Mechatronics is the synergistic integration of mechanical, electrical, computer and control systems to create intelligent systems. This course explores mechatronics with an emphasis on sensors and automation. Students will learn and apply theoretical and practical knowledge of how sensors work and interface with systems to enable automation. Additional topics covered include industrial controller programming, actuators, signal conditioning and interface circuits, and industrial robotics. *Prerequisite: ENGR 313 or approval of the instructor.*

**ENGR 449A. Honors Engineering Design IV. 2.00.**

This course is fourth in the six-course 10-credit developmental design sequence and first in the three-course 6-credit Honors Capstone project. This project-based course provides instruction in 1) Holistic design principles 2) Aesthetics and human interface in design, 3) Structured and unstructured problem solving, 4) Collaborative design, 5) Writing and

communications, 6) Product modeling and Analytical prototyping.

**ENGR 460. Solid Mechanics. 3.00.**

This course introduces fundamentals of solid mechanics including stress elements and Mohr's circle for stress and strain. This course also introduces related design concepts including stress concentrations and comparison of stress values to failure criteria. The course is enhanced by a laboratory component that is focused on strain gage installation and application. *Prerequisite: ENGR 314.*

**ENGR 471. Water in Africa. 3.00.**

This course has a three-part focus: cross cultural training, promoting health in developing countries and using appropriate technologies for eradicating water-related illnesses. Project teams use course content as the foundation for developing and implementing service projects. This course is a service-learning course and addresses issues of access to water in West Africa.

**ENGR 472. Biological Treatment Processes and Reactor Design. 3.00.**

For engineering and environmental science students interested in biological reactor design. Water, wastewater and air treatment are emphasized. Students must be proficient in mathematics, chemistry and thermal sciences. Quantitative relationships are derived for characterizing water quality, designing biological reactors and modeling treatment systems. Systems are described by mass and energy balances that relate pollutant removal efficiency to process input parameters. *Prerequisite: CHEM 131, CHEM 131L, and either MATH 231 or MATH 235.*

**ENGR 474. Physical Chemical Treatment Processes. 3.00.**

For engineering and environmental science students interested in physical/chemical waste treatment. Wastewater, groundwater, air and hazardous waste treatment is emphasized. Students must be proficient in mathematics, chemistry and thermal sciences. Quantitative relationships are derived for characterizing wastes, designing treatment processes, and modeling treatment systems. Systems are described by mass and energy balances that relate pollutant removal efficiency to process input parameters. *Prerequisite: CHEM 131, CHEM 131L, and either MATH 231 or MATH 235.*

**ENGR 476. Principles of Chemical Processes. 3.00.**

An introduction to basic principles used in chemical, petroleum and environmental engineering. Emphasis on formulating and solving material and energy balances for simple and complex systems. Quantitative models and equilibrium concepts for chemical process systems will be developed and applied to assess product quality, economics, safety and environmental issues. For students interested in careers or graduate studies in chemical, environmental, biochemical, and petrochemical engineering.

**ENGR 478. Water Resources Engineering. 3.00.**

This course will provide an introduction to basic engineering principles used in both water supply management and water excess management. Hydrologic and hydraulic processes will be investigated using the fundamentals of fluid mechanics. Specific emphasis will be placed on water sources flows, distribution and control. *Prerequisite: ENGR 311.*

**ENGR 480. Advanced Projects in Engineering. 1.00 - 4.00.**

Research projects, design projects or special topics in engineering which are of interest to the upper-division student. May be repeated for credit when course content changes. Projects or topics selected may dictate prerequisites. Students should consult the instructor prior to enrolling in the course. *Prerequisite: Permission of the instructor.*

**ENGR 498. Advanced Topics in Engineering. 1.00-3.00.**

This course is designed to provide upper-division students with the opportunity to explore engineering topics in greater depth. The specific topic of interest may dictate prerequisites. Students should consult the instructor prior to enrolling in the course.

**ENGR 498H. Advanced Topics in Engineering Honors. 3.00.**

This course is designed to provide upper-division students with the opportunity to explore engineering topics in greater depth. The specific topic of interest may dictate prerequisites. Students should consult the instructor prior to enrolling in the course.

**ENGR 499A. Engineering Honors I. 1.00.**

First course in a three-course sequence. Student generates an idea for and writes a proposal for an independent research project that meets the requirements set forth by the Honors program and the Department of Engineering. Student must identify and analyze an engineering-based problem, identify potential solutions, recommend an approach and prepare a written proposal.

**ENGR 499B. Honors Engineering Design II. 1.00 - 3.00.**

Second course in a three-course sequence. Student completes the research for and prepares an oral and written presentation of their results for an independent research project that meets the requirements set forth by the Honors program and the Department of Engineering. Student completes and presents (in written and oral form) the project described in his or her proposal from ENGR 499A. *Prerequisite: ENGR 499A or permission of the engineering honors director/department head.*

**ENGR 499C. Honors Engineering Design III. 2.00.**

Third course in a three-course sequence. Student completes the research for and prepares an oral and written presentation of their results for an independent research project that meets the requirements set forth by the Honors program and the Department of Engineering. Student completes and presents (in written and oral form) the project described in his or her proposal from ENGR 499A. *Prerequisite: ENGR 499B.*

## English

**ENG 221. Literature/Culture/Ideas [C2L]. 3.00. Crosslisted with ENG 221H.**

This course will take a thematic approach to literature by examining multiple literary texts that engage with a common course theme concerned with the human experience. Themes address cultural, political, social, religious or philosophical aspect ideas through literature. Specific topics will vary. May be used for general education credit.

**ENG 222. Genre(s) [C2L]. 3.00. Crosslisted with ENG 222H.**

An examination of representative works in a literary genre, in a set of related literary subgenres, or in both a literary genre and one or more closely connected genres in other humanities disciplines. May be used for general education credit.

**ENG 222H. Genre(s) [C2L]. 3.00. Crosslisted with ENG 222.**

An examination of representative works in a literary genre, in a set of related literary subgenres, or in both a literary genre and one or more closely connected genres in other humanities disciplines. May be used for general education credit.

**ENG 235. Survey of English Literature: From Beowulf to the Eighteenth Century [C2L]. 3.00.**

A general survey presented chronologically. May be used for general education credit.

**ENG 236. Survey of English Literature: Eighteenth Century to Modern [C2L]. 3.00.**

A general survey presented chronologically. May be used for general education credit.

**ENG 239. Studies in World Literature [C2L]. 3.00.**

Introduction to masterpieces of world literature with emphasis on non-Western literature. (May be focused regionally or topically.) May be used for general education credit.

**ENG 239H. Studies in World Literature - Honors [C2L]. 3.00.**

Introduction to masterpieces of world literature with emphasis on non-Western literature. (May be focused regionally or topically.) May be used for general education credit. *Prerequisite: Honors Students*

- ENG 247. Survey of American Literature: From the Beginning to the Civil War [C2L]. 3.00.**  
A general survey presented chronologically. May be used for general education credit.
- ENG 247H. Survey of Amer Lit: From the Beginning to the Civil War – Honors [C2L]. 3.00.**  
A general survey presented chronologically. May be used for general education credit. *Prerequisite: Honors Students*
- ENG 248. Survey of American Literature: From the Civil War to the Modern Period [C2L]. 3.00.**  
A general survey presented chronologically. May be used for general education credit.
- ENG 248H. Survey of Amer Lit: From the Civil War to the Modern Period – Honors [C2L]. 3.00.**  
A general survey presented chronologically. May be used for general education credit. *Prerequisite: Honors Students*
- ENG 260. Survey of African-American Literature [C2L]. 3.00.**  
Survey of literature by African-American authors from the 18th century to the present. May be used for general education credit.
- ENG 260H. Survey of African-American Literature – Honors [C2L]. 3.00.**  
Survey of literature by African-American authors from the 18th century to the present. May be used for general education credit.
- ENG 294. Internship in English. 1.00 – 3.00.**  
Provides English majors with work experience in career fields they are interested in pursuing. A journal, internship report, research paper, bibliography and evaluation from the intern provider are required. Does not count as an English elective. *Prerequisite: Major or minor status and approval of the internship director.*
- ENG 299. Writing About Literature. 3.00.**  
This course will provide students with the skills and knowledge necessary for interpreting, researching and writing about literature. Students will learn basic literary terms, acquire an understanding of canon formation and transformation, and gain a knowledge of literary theories. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Declared English major.*
- ENG 301. Old English Language and Literature. 3.00.**  
An introduction to the Old English language through selected readings in poetry and prose.
- ENG 302. Special Topics in Literature and Language. 3.00.**  
Study of a particular literary or linguistics topic. May be repeated for credit when course content changes but not more than once, except with the approval of the department head.
- ENG 302F. Florence in Literature [C2L]. 3.00.**
- ENG 302L. Us Writers in London. 3.00.**
- ENG 303. History of the English Language. 3.00.**  
Introduction to the historical study of English including its Indo-European origins. May be repeated for credit when course content changes.
- ENG 304. Feminist Perspectives on Literature and Religion. 3.00.**  
American authors and their fiction about God, faith and religion in the American experience. Gender and race will provide a constant thematic focus through a variety of novels and short stories.
- ENG 305. Mythology. 3.00.**  
Study of the nature and meaning of myths specific to a particular culture or comparative myths as interpreted and reinterpreted in significant works of ancient and modern literature.
- ENG 306. The Bible as Literature. 3.00.**  
Study of Hebrew and Christian scripture as literary and cultural texts, which have influenced subsequent literature and culture.
- ENG 307. Literature and Ideas. 3.00.**  
Literary treatment of an organizing theme or approach appropriate to the 300-level. The topic may be framed as part of the human experience or within a tradition of studies in the humanities. Course content may include pertinent readings from other disciplines. Possible topics: Disease in literature, literature and the law, literature and psychology. May be repeated as course topic changes.
- ENG 308. Introduction to Linguistics. 3.00.**  
Introduction to the study of the various subfields of linguistics, including questions about the nature and use of language in general, with the English language as the primary example. Formerly ENG 418.
- ENG 309. Traditional English Grammar. 3.00.**  
Introduction to traditional grammar, probing its logic, system and history, with an examination of modern applications of conventional rules.
- ENG 310. Modern English Grammar. 3.00.**  
Introduction to modern English grammar with attention to the structure of the English language from a modern linguistic perspective.
- ENG 311. Medieval Literature and Culture. 3.00.**  
Studies in the literature and culture of the Middle Ages through selected Old English, Norse/Icelandic, Middle English, Old Irish, French, German, Latin and Arabic texts in translation.
- ENG 313. Sixteenth Century British Literature. 3.00.**  
Poetry and prose of the sixteenth century in Britain.
- ENG 315. Seventeenth Century British Literature. 3.00.**  
Poetry and prose of the seventeenth century in Britain.
- ENG 316. Early Modern Drama. 3.00.**  
Major works of British dramatists, excluding Shakespeare, from 1550-1660.
- ENG 317. Shakespeare's Tragedies and Romances. 3.00.**  
A study of selected tragedies and romances; nondramatic work may be considered. Formerly ENG 456.
- ENG 318. Shakespeare's Comedies and Histories. 3.00.**  
A study of selected comedies and histories; nondramatic work may be considered. Formerly ENG 457.
- ENG 319. Teaching Shakespeare. 3.00.**  
A study of Shakespeare's plays, with emphasis on pedagogical techniques for teaching drama in the classroom.
- ENG 321. Restoration and 18th-Century British Prose and Poetry. 3.00.**  
A study of the poetry and prose (other than the novel) from the Age of Satire, including works by Dryden, Swift, Pope and Johnson.
- ENG 322. Restoration and Eighteenth Century British Drama. 3.00.**  
A study of British drama in the eighteenth century.

**ENG 325. Romantic Literature. 3.00.**

A study emphasizing selected works of Romantic literature. Attention given to critical theories, intellectual and cultural movements, or poetic forms.

**ENG 327. Gothic Literature. 3.00. Crosslisted with ENG 327H.**

A study of the origins, influence and transformations of Gothic fiction from the 18th century to the present.

**ENG 329. Victorian Literature. 3.00.**

Study of British literature of the Victorian period with primary emphasis on poetry and nonfiction prose.

**ENG 330. Nineteenth Century British Novel. 3.00.**

The development of the British novel in the nineteenth century and the study of representative works.

**ENG 331. Studies in Poetry. 3.00.**

A study of select poetic works. Specific time periods of genres studied may vary. Course may be repeated as topic changes.

**ENG 332. Studies in Popular Genres. 3.00.**

A study of a select popular or specialized genre, such as speculative fiction, detective fiction or the graphic novel. Course may be repeated as topic changes.

**ENG 334. Contemporary Drama. 3.00.**

Drama from 1960 to the present.

**ENG 340. Modern British and Irish Literature. 3.00.**

Literature from Britain and Ireland, 1900 to 1945.

**ENG 341. Contemporary British and Irish Literature. 3.00.**

Literature from Britain and Ireland, from 1945 to the present.

**ENG 342. Early American Literature. 3.00.**

Significant genres, writers and literary movements of the seventeenth and eighteenth centuries.

**ENG 343. Antebellum American Literature. 3.00.**

American Literature of the early nineteenth century.

**ENG 344. Late Nineteenth Century American Literature. 3.00.**

American literature of the late nineteenth century.

**ENG 348. Studies in Linguistics and the English Language. 3.00.**

Broad study of a particular subfield of linguistics, focusing on the English language, or an application of various linguistic theories and methodologies to the study of literature. Some possible areas of study include semantics, pragmatics and discourse, non-literal language, lexicography, English dialects and variation, language and humor, and linguistic approaches to literature. Course may be repeated as topic changes.

**ENG 352. The American Novel to 1914. 3.00.**

A study of the development of the American novel from its beginnings to the modern period.

**ENG 355. Southern Literature. 3.00.**

Southern authors, especially those of the twentieth century.

**ENG 356. Modern American Novel. 3.00.**

The American novel from 1914 to 1945.

**ENG 357. Contemporary American Literature. 3.00.**

A study of contemporary American literature written since 1945.

**ENG 358. Oral Literature. 3.00.**

This course is a study of oral literature, which may be organized by theme, geography or genre. The course examines the social, political and artistic reasons for the creation and popularity of this literature. May be repeated for credit when course content changes.

**ENG 360. Introduction to Ethnic American Literature. 3.00.**

An overview of the literary production of one group or a variety of ethnic and immigrant American writers, including but not limited to Native American, Asian American, Mexican American, Indian American, Caribbean American, and Latino American literatures. Examines the experience of historically marginalized groups in the United States with a particular emphasis on identity, nationality, tradition, and language.

**ENG 361. African-American Fiction. 3.00.**

Selected works of fiction by major African-American writers.

**ENG 362. African-American Poetry. 3.00.**

Selected works of poetry by major African-American writers. May be repeated for credit when course content changes.

**ENG 363. Native American Literature. 3.00.**

A study of Native American communities' and authors' literatures in North America, with emphasis on the relationship of that literature to their traditions and historical experiences.

**ENG 364. Introduction to Asian-American Literature. 3.00.**

The course is designed to introduce students to a variety of writings by Asian-American authors. It will explore the historical formation of Asian-American identities; issues of immigration, citizenship and race; and the aesthetic forms of representation explored by Asian-American writers and artists.

**ENG 365. History of Literary Criticism. 3.00.**

Survey of the nature, function and development of literary criticism from Aristotle to Eliot. Formerly ENG 425.

**ENG 366. Contemporary Critical Theory. 3.00.**

Study of the major debates in current critical discourse. Formerly ENG 426.

**ENG 368. Women's Literature. 3.00. Crosslisted with WGSS 368.**

A study of literature by women.

**ENG 369. Feminist Literary Theory. 3.00. Crosslisted with WGSS 369.**

An intensive study of a variety of feminist critical approaches and their applications to literature. Formerly ENG 467.

**ENG 370. Queer Literature. 3.00.**

An exploration of texts and issues in literature written by and about lesbian, gay, bisexual, transgender and queer writers, including critical and theoretical issues as well as questions of canon. Text studied may include fiction, poetry, drama, essays and memoirs written primarily, but not exclusively, in the 20th century.

**ENG 371. Literature and the Environment. 3.00.**

A critical examination of literature's representation of the interconnections between human beings, non-human beings and the environment.

**ENG 372. Ecocriticism and Environmental Ethics. 3.00.**

This course will examine ecocriticism, which investigates the interconnections between language, literature, ethics and the environment. A further exploration of environmental ethics will allow students to identify ideas about the purpose and appropriate use of landscape, wilderness and animals. Formerly ENG 471.

**ENG 374. Contemporary Global Anglophone Literature. 3.00.**

This course examines contemporary literature from many parts of the English-speaking world, with special attention to writers' attempts to assess the global legacies of colonialism in the contemporary moment, as well as what it means to participate in a self-consciously global literary culture today.

**ENG 375. Irish and Anglo-Irish Literature. 3.00.**

A study of the works of Irish or Anglo-Irish writers.

**ENG 376. Introduction to Scottish Literature. 3.00.**

An overview of Scottish literature, with an emphasis on fiction, from the Romantic period to the present. Emphasis on the problems of nation, identity and the politics of language and tradition in "minority literature."

**ENG 377. Introduction to African Literature. 3.00.**

An introduction to African literature, tracing its changes over time. Examination of African literary theoretical concepts, literary genres (both oral and written), as well as an examination of Africa's contribution to familiar genres of written and oral literature.

**ENG 378. Studies in South Asian Literature. 3.00.**

A study of selected works of South Asian literature. Formerly ENG 427.

**ENG 379. Literature and Empire. 3.00.**

The course is designed as an overview of writings from regions of the world that were formerly colonized by Britain. It examines the colonial, nationalist and postcolonial shaping of individual and collective identities through literature; the intersections of race, gender and nation; the crafting of a new idiom in English in response to both political and literary histories; and the significance of choices of genre and form.

**ENG 380. Introduction to Film. 3.00. Crosslisted with SMAD 380.**

An introduction to the study of film as an aesthetic practice, including formal and industrial aspects of film analysis, theoretical approaches to film and writing and research methodologies of film and media studies.

**ENG 381. History of Film to 1960. 3.00.**

An analysis of film from its beginnings to the modernism of the 1950s and early 1960s.

**ENG 382. History of Film Since 1960. 3.00.**

An analysis of world cinema from early modernism through the present.

**ENG 383. Film Genre. 3.00.**

Study of film genre through the consideration of one or more film genres.

**ENG 384. Film Authorship. 3.00.**

Study of film authorship through the consideration of one or more directors.

**ENG 385. Special Topics in Film Study. 3.00.**

Study of a particular topic in film. May be repeated for credit when course content changes but not more than once, except with the approval of the department head.

**ENG 390. The Environmental Imagination. 3.00.**

An introductory creative writing class that provides a sampling of American environmental writing, with emphasis on the creative intelligence of the writer's imagination, process, and craft.

**ENG 391. Introduction to Creative Writing – Nonfiction. 3.00.**

A basic workshop in reading and writing works of creative nonfiction.

**ENG 392. Introduction to Creative Writing – Poetry. 3.00.**

A basic workshop in reading and writing poetry.

**ENG 393. Introduction to Creative Writing – Fiction. 3.00.**

A basic workshop in reading and writing fiction. May be repeated for credit when course content changes.

**ENG 396. Advanced Composition. 3.00.**

Extensive exercises in expository writing, with emphasis on rhetorical types of composition, designed to develop sophistication of style in the student's writing.

**ENG 401. Advanced Studies in Medieval Literature. 3.00.**

Advanced literary and philological study of non-British Medieval or British Medieval texts written in cross-cultural dialogue with those written circa 500- 1480 c.e. in Old Irish, Old Norse/Icelandic, Old French, Old and Middle High German, Old Castilian, Classical and Medieval Latin, and Arabic. Readings in the original or in translation. Topics may be determined by period or geography, culture or politics, theme or genre. Course may be repeated as topic changes.

**ENG 402. Advanced Studies in British Literature Before 1700. 3.00.**

British literatures written prior to 1700, both within and without the British isles. Topics may include Anglo-Saxon and Anglo-Norman literature, vernacular literature, neo-Latin literature, Chaucer, late-medieval literature, Tudor and early modern literature, Shakespeare, Milton, and seventeenth century literature. May be repeated as course topic changes.

**ENG 403. Advanced Studies in British Literature After 1700. 3.00.**

Advanced study of British literatures dating from 1700 to the present. Topics may focus on a particular period of literature (eighteenth century, Romantic, Victorian, Modernist, or contemporary), or topics may focus on a genre or them that engages multiple periods. Course may be repeated as topic changes.

**ENG 405. Advanced Studies in Anglophone Literature. 3.00.**

Anglophone (English-speaking) literature from around the globe (including the Caribbean, Canada, Ireland, Australasia, Africa or India), in which identification with a particular nation, colonial status or imperial power is problematic or no longer applicable. Topic may focus on a particular theme or event, genre, time frame, formal or stylistic trend, author or set of authors, issue, or problem. May be repeated as topic changes.

**ENG 407. Advanced Studies in American Literature. 3.00.**

Study of literature(s) of the United States and North America, from the Colonial Period through the 21st Century. May include writing in multiple genres: narrative prose, poetry, drama, nonfiction. Topics may be historically delimited or thematically organized; specific sections may focus on a group of authors, a literary movement, a historical moment, or a broad theoretical question. Course may be repeated as topic changes.

**ENG 408. Advanced Studies in African-American Literature. 3.00.**

Study of literature produced by African-Americans, from the Colonial Period through the 21st century. May include writing in multiple genres: narrative prose, poetry, drama, nonfiction. Topics may be historically delimited or thematically organized; specific sections may focus on a group of authors, a literary movement, a historical moment or a broad theoretical question. Course may be repeated as topic changes.

**ENG 410. Advanced Studies in Author. 3.00.**

Study of the works of one (or two) British, American or Anglophone writers. May be repeated for credit when course content changes.

**ENG 412. Special Topic Seminar. 3.00.**

Study of a literary school, movement, genre or some other significant literary or linguistic topic. May be repeated for credit when course content changes; credit may not be earned in both ENG 412 and ENG 512 unless course content changes.

**ENG 412J. Special Topic Seminar. 3.00.**

**ENG 412N. Special Topic Seminar. 3.00.**

*Prerequisite: Studies Abroad-London*

**ENG 412R. American Theatre History. 3.00.**

**ENG 413. Advanced Studies in Literature and Ideas. 3.00.**

Advanced study of the literary treatment of an organizing theme, which may be framed broadly as part of the human experience or within a tradition of studies in the humanities. Course content may include pertinent readings from other disciplines. Possible themes: love, death, nature, evil, the comic spirit. May be repeated as course topic changes.

**ENG 414. Advanced Studies in Genre. 3.00.**

Advanced study of works drawn from a specific literary or film genre or subgenre or a small, related set of (sub)genres. May be repeated as course topic changes.

**ENG 415. Advanced Studies in Textuality and the History of the Book. 3.00.**

Detailed literary, bibliographical, political and cultural analysis of the material features of texts as physical objects. Topics may include the relation between a book's physical features and its intellectual contexts; the production, dissemination and receptions of texts; the history of manuscript, print and digital text technologies; the material history of reading and of literacy; and so forth. May be repeated as course topic changes.

**ENG 417. Advanced Studies in Linguistics and the English Language. 3.00.**

Advanced study of a particular topic in English linguistics or in English language studies. Course may focus on a particular subfield or linguistics, on particular linguistic theories, on an application of linguistic theory to literary studies or to other related fields, or on specific structural, historical, cultural, or other aspects of the English language. May be repeated as topic changes. ENG 420. Advanced Studies in Theory and Cultural Studies. 3 credits. Advanced study of a topic or debate within contemporary critical theoretical or cultural studies discourses in the humanities. Course may be repeated as topic changes.

**ENG 420. Advanced Studies in Theory and Cultural Studies. 3.00.**

Advanced study of a topic or debate within contemporary critical theoretical or cultural studies discourses in the humanities. Course may be repeated as topic changes.

**ENG 423. Advanced Studies in Gender and Sexuality in Literature. 3.00. Crosslisted with WGSS 423.**

Advanced study of a topic using a gender and sexuality studies approach to literary texts. This course will explore how gender and sexuality and their representation in literature are shaped by social, cultural, historical and political contexts. Course may be repeated as topic changes.

**ENG 430. Advanced Studies in Comparative Literature. 3.00.**

Comparative study of selected world literature. May be repeated as course topic changes.

**ENG 432. Advanced Studies in African Literature. 3.00.**

A study of selected works by African writers, focused by theme, geography or genre. May be repeated for credit when content varies.

**ENG 433. Advanced Studies in Arabic Literature. 3.00.**

A study of Arabic writers. May be repeated for credit when content varies.

**ENG 434. Advanced Studies in Latin American Literature in Translation. 3.00. Crosslisted with SPAN 434.**

This course will study Latin American literature in translation. The course will focus on the work of major Spanish-American authors. May be repeated as course content changes.

**ENG 436. Studies in German Literature. 3.00. Crosslisted with GER 436.**

A study of selected works of German literature. Instruction is in English. May be repeated for credit when course content changes.

**ENG 437. Studies in Italian Literature. 3.00. Crosslisted with ITAL 437.**

A study of selected works of Italian literature. Instruction is in English. May be repeated for credit when course content changes.

**ENG 438. Studies in Russian Literature. 3.00. Crosslisted with RUS 438.**

A study of selected works of Russian literature. Instruction is in English. May be repeated for credit when course content changes.

**ENG 439. Advanced Studies in Major Authors of Literature in Spanish in Translation. 3.00. Crosslisted with SPAN 439.**

This course will study the work of both Peninsular and Latin American authors in translation. The course will focus on major Spanish-speaking authors and their work, both in Latin America and in Spain. May be repeated as course content changes.

**ENG 463L. Film Adaptations. 3.00. Crosslisted with SMAD 463.**

The study of the process of adapting literature into feature films. Consideration is given to the original literary work, as well as to the changes undergone in its adaptation to film. (Taught in London). *Prerequisite: SMAD 301; for nonmajors: ENG 381 or admission to the cross disciplinary minor in creative writing; or permission of the instructor.*

**ENG 466. Advanced Studies in Women's Literature. 3.00. Crosslisted with WGSS 466.**

Advanced study of women's literary achievements in several cultural and historical contexts. May be focused by theme. May be repeated as course content varies. *Prerequisite: ENG 368 or ENG 369.*

**ENG 483. Narrative Form. 3.00.**

The study, development and practice of narrative craft. *Prerequisite: ENG 393 or permission of the instructor.*

**ENG 484. Poetic Craft and Creativity. 3.00.**

The study, development and practice of poetic craft. *Prerequisite: ENG 392 or permission of the instructor.*

**ENG 490. Special Studies in English. 3.00.**

Independent study for students with high academic standing. Students may select work in (1) a literary type, period or author; (2) imaginative writing; or (3) linguistics. Approval of department head required; may be repeated for credit when course content changes.

**ENG 493. Advanced Creative Nonfiction. 3.00.**

An advanced workshop in the writing of creative non-fiction narrative, with emphasis on point of view, form and style. *Prerequisite: ENG 391 or permission of the instructor.*

**ENG 494. Advanced Poetry Writing. 3.00.**

An advanced workshop with emphasis on developing sound poetic form, voice and vision. *Prerequisite: ENG 392 or permission of the instructor.*

**ENG 495. Advanced Fiction Writing. 3.00.**

An advanced workshop with emphasis on developing sound narrative prose form, style and vision. May be repeated for credit when course content changes. *Prerequisite: ENG 393 or permission of the instructor.*

**ENG 496. Advanced Topics in Creative Writing. 3.00.**

Study of a specific and concentrated aspect of creative writing. Topics will vary semester to semester. May be repeated for credit when the topic changes. *Prerequisite: ENG 391, ENG 392 or ENG 393, as appropriate to course content.*

**ENG 499. Honors. 1.00.**

See catalog section "Graduation with Honors."

**ENG 499B. Honors Thesis B. 3.00.****ENG 499C. Honors Thesis C. 2.00.****Environment****ENVT 200. Environmental Systems Theory. 3.00.**

Explores three aspects of understanding the environment. First, the kind of problem the environment is and the thinking strategies that will best yield insights and understanding. Second, how humans create and/or respond to environmental issues and crises. Third, examination of past environmental changes and how humans have been affected by and responded to those changes. Final synthesis explores what we can and cannot do practically to respond to future changes. Does not satisfy elective credit or count as credit for geology or earth science majors.

**ENVT 300. Topics in Environmental Humanities. 3.00.**

Special topics in the humanities and arts that enhance the study of environmental humanities and are not currently taught in the regular curriculum.

**ENVT 301. Internship in Environmental Humanities. 3.00.**

Provides the student with practical experience in areas pertinent to the study of environmental humanities. Any internship experience must be approved by the coordinator in advance, and details of supervision and evaluation should be spelled out in advance. The internship may also be through an academic unit, but must be approved for credit by the environmental humanities coordinator in advance of the experience.

**ENVT 400. Capstone Seminar in Environmental Problem Solving. 3.00.**

Integrates perspectives from three environment programs: environmental management, environmental science and environmental studies. The course is team taught using a case-study approach to environmental issues, emphasizing teamwork and student initiative. Topics vary. *Prerequisite: Completion of 15 hours in declared environment minor or permission of the instructor. Students wishing to complete more than one of the environmental minors (environmental studies, environmental science or environmental management) may receive dual credit for ENVT 400.*

**ENVT 401. Studio or Independent Study in Environmental Humanities. 3.00.**

Students may propose to engage in a creative, expressive or scholarly project either through their home department or using the ENVT identifier. Studio or independent study must be approved by the Environmental Humanities coordinator in advance of the experience.

**ENVM 480. Selected Topics in Environmental Management. 1.00 - 4.00.**

Topics in environmental management which are of interest to the upperdivision student but not otherwise covered in the regular course offerings. Offered only with the approval of the director. May be repeated for credit when course content changes. Students should consult the instructor prior to enrolling. *Prerequisite: Junior or senior standing in environmental management program. Topic selected may dictate additional prerequisites.*

**Exceptional Education****EXED 200. Foundations of Exceptional Education. 3.00.**

This course is designed to support study of the historical perspectives, models, theories, philosophies and trends that provide the basis for exceptional education practice. The status of persons with exceptional learning needs (ELNs), legislative and judicial mandates and current regulation related to individuals with ELNs, and the 'rights and responsibilities' of various stakeholders as they relate to exceptionality will be stressed. The role of culture, environment, family and exceptionality will be explored.

**EXED 202. Field Experiences in Special Education. 3.00.**

Provides students with supervised experiences with persons with disabilities. Placements are made in various settings including schools, institutions and recreational programs. *Prerequisite: EXED 200 and permission of the instructor.*

**EXED 203. Contemporary Issues in Special Education. 1.00.**

This course investigates current issues and controversies in the field of exceptional education. This course is designed to support the student's understanding of how sociological, familial, political and cultural issues are affecting the field of special education. It will also challenge students to apply this knowledge to their practice. *Prerequisite: EXED 200.*

**EXED 300. Educational Technology for Students with Disabilities. 1.00.**

An introduction to instructional technology for persons with disabilities. The role of assistive technology in the educational process is investigated. Students are exposed to a variety of instructional programs and equipment. Federal and state guidelines, interdisciplinary team functioning, and program, as well as equipment selection, are addressed. *Prerequisite: Teaching and non-teaching minors only.*

**EXED 302. Mentoring Children and Youth with Mild Disabilities. 2.00.**

The course will provide students with the knowledge and skills to engage in mentoring of children and youth with learning disabilities and attentional disorders. Students will focus on increasing their understanding of self-awareness related to living with a disability, effective compensatory learning strategies and self-advocacy skills. *Prerequisite: Because of the purpose of this course is to increase self-awareness and mentoring skills related to understanding disabilities, it is open only to students who are registered with the Office of Disability Services.*

**EXED 303. Foundations of Classroom and Behavior Management. 3.00. Crosslisted with EXED 512.**

This course is designed to provide students with an understanding of and skill to apply classroom and behavior management techniques and interventions, including techniques that promote emotional wellbeing and teach and maintain behavioral conduct and skills consistent with norms, standards and rules of the educational environment. Diverse approaches for classroom and behavior management based upon behavioral, cognitive, affective, social and ecological theory and practice will be learned.

**EXED 305. Characteristics of Acquired Brain Injury. 3.00.**

EXED 305 provides an overview of acquired brain injury – its causes, complications, consequences and considerations for survivors, caregivers and families. Instruction will emphasize rehab treatment philosophies and approaches, cultural competencies, gender and sexuality issues, military populations, pediatrics and adolescents, and families. Students will learn how to apply knowledge of brain injury sequelae to future healthcare settings and educational learning environments. *Prerequisite: EXED 200.*



**EXED 306. Lifespan Issues for Individuals with Disabilities. 3.00.**

This course examines how issues such as legal mandates and policies, self-advocacy, family involvement, educational services, transition, and interagency collaboration impact individuals with disabilities and their families from birth through postsecondary life. The students will be challenged to compare and analyze needs and services available and accessed by individuals with disabilities. *Prerequisite: For special education non-teaching minors and students in the chronic illness concentration.*

**EXED 309. Supporting Community Access for Adults with Disabilities. 3.00.**

This course provides students with an understanding of and experience working with young adults with disabilities who are exiting Special Education eligibility. The goal is to support these young adults in learning to access the JMU community and gain experience with nondisabled sameage peers. *Prerequisite: EXED 200.*

**EXED 310. Survey of Emotional Disturbance. 3.00.**

A detailed study of the characteristics, diagnosis, treatment, assessment and education of individuals with emotional/behavioral disorders. Medical, psychological, behavioral and environmental causes are presented as well as therapeutic interventions, educational resources and instructional strategies. *Prerequisite: EXED 200 and non-teaching minors only.*

**EXED 320. Survey of Learning Disabilities. 3.00.**

A detailed study of the theories, characteristics, etiology and needs of individuals with learning disabilities including ADHD. Focus will be on causation and terminology as well as historical perspectives and current trends related to practices in identification and treatment of learning disabilities.. *Prerequisite: EXED 200 and non-teaching minors only.*

**EXED 330. Survey of Intellectual Disabilities. 3.00.**

A detailed study of the characteristics, diagnosis, treatment, and education of individuals with intellectual disabilities. Medical aspects and implications for support needs are addressed as well as educational settings, resources and instructional techniques designed to facilitate integration for individuals with intellectual disabilities. *Prerequisite: EXED 200 and non-teaching minors only.*

**EXED 341. Characteristics of Learners with Disabilities Accessing the General Curriculum. 3.00. Crosslisted with EXED 502.**

The course covers historical, ethical and legal aspects involving the education of children with disabilities. Definitions and foundational characteristics of teaching children with disabilities accessing the general curriculum are featured. Identification, education and evaluation of academic skills and behavior of students with disabilities are presented. How family, cultural, socioeconomic, and environment impact education are discussed. Professional behavior standards are examined. *Prerequisite: EXED 200. Corequisite: EXED 376.*

**EXED 342. Characteristics of Learners with Low Incidence Disabilities Accessing the Adapted Curriculum. 3.00.**

Current research and practices of characteristics, learning and behavioral supports for students with low-incidence disabilities accessing the adapted curriculum. Includes students with autism, moderate/severe intellectual disability, traumatic brain injury, severe/multiple disabilities and deaf-blindness. Contains issues including age span issues, emotional/behavioral adjustment, social and language development, cognitive functioning, medical aspects, and cultural/ethnic and socioeconomic factors. *Prerequisite: EXED 200.*

**EXED 375. Overview Study of Autism Spectrum Disorders. 3.00.**

This course provides an overview of the current issues involved in working with people who have been identified as having an autism spectrum disorder. Areas addressed will include learning characteristics; current research and factors involved with causation, assessment and diagnosis; positive behavioral supports; social skills development; sensory processing, motor planning and sensory integration; and communication and language development. *Prerequisite: EXED 200.*

**EXED 376. Initial Practicum for Special Education PreProfessional Preparation. 1.00.**

A practicum experience that will provide an opportunity to observe the roles of special education teachers who are working with students with disabilities who are accessing the general curriculum. Practicum students will have the opportunity to observe instruction at both elementary and secondary levels. They will be able to observe classroom management and instruction in math, reading and writing. Some introductory level instruction opportunities may be provided. *Prerequisite: EXED 200. Corequisite: EXED 341.*

**EXED 401. Issues in Exceptional Education. 1.00 - 3.00.**

Considers current problems and issues in special education as they relate to the professional education of teachers. EXED Teaching and non-teaching minors only with permission of the instructor.

**EXED 402. Positive Behavior Supports and Individualized Interventions for Young Children. 1.00-3.00.**

This course is designed for early childhood educators (ECEs) who may work with young children with challenging behaviors. This course focuses on basic principles of behavior as means to help ECEs understand the function of behavior, or the reasons why behavior occurs. This course focuses on proactive strategies as a means to prevent challenging behavior, measuring behaviors using data collection and implementing behavior interventions that are aligned with behavior function. This course emphasizes a positive approach to behavior management aligned with best practices in teaching social emotional skills to young children. *Prerequisite: This course is open only to students with an applied associate degree in early childhood from a Virginia community college.*

**EXED 407. Transitions of Learners with Disabilities. 4.00.**

This course is designed to provide a detailed study of the transitions throughout the educational experience of persons with disabilities; including transitions between IDEA Part C and Part B services, elementary-middle-high school and high school-post-secondary environments. Focus is given to the services and skills needed to support successful integration into and functioning within the routines and activities of these settings. This course includes two-three hours each week functioning as a job coach to a local student with disabilities. *Prerequisite: EXED 200 and EXED 474.*

**EXED 416. Overview and Assessment of Autism Disorders. 3.00.**

This course is designed to provide an overview of the current issues involving working with children who have been identified as having an autism spectrum disorder. Areas covered in-depth will include learning characteristics, current research and factors involved with causation, assessment and diagnosis. We will discuss positive behavioral supports; social skills development; sensory processing, motor planning and sensory integration; and communication and language development as these will be covered in much greater depth in other courses. A range of institutional methodologies and techniques will be emphasized throughout the course.

**EXED 417. Communication, Language and Sensory Issues of Learners with ASD and/or on the Adapted Curriculum. 3.00.**

This course is designed to provide an in-depth study of the current issues involved in working with learners who have been identified as having an autism spectrum disorder and/or being on the adapted curriculum. The course will review learning characteristics, current research and factors involved with causation, assessment and diagnosis, and positive behavioral supports to set the stage. The course will explore social skill development; sensory processing, motor planning and sensory integration; and communication and language development. The course will consider a range of instructional methodologies and techniques for providing instruction, support and generalization of skills in these areas. *Prerequisite: EXED 342 or EXED 416.*

**EXED 418. Challenging Behaviors, Positive Behavioral Supports, Functional Behavioral Assessment and Behavior Intervention Plans. 3.00.**

This course is designed to provide an in-depth look at the behavioral challenges those with a disability in the autism spectrum might face and display. Areas addressed will include behavioral characteristics, current research and factors related to behavioral challenges in this population, positive behavioral supports, Functional Behavioral Plan Development, implementation and monitoring. We will cover data collection in relation to assessment and monitoring behaviors. We will review social skills development; sensory processing, motor planning and sensory integration; and communication and language development as these are covered in much greater depth in other courses. A range of institutional methodologies and techniques will be emphasized throughout the course. *Prerequisite: EXED 416 and EXED 417.*

**EXED 429. Teaching Learners with Complex Care Needs. 3.00.**

Regardless of instructional setting, special education teachers will likely come in contact with students with complex medical challenges related to disability. This course focuses on students with multiple disabilities, as these students are likely to require medical and technological interventions in schools. The course focuses on typical development and

application of this knowledge for students with significant disabilities. It also focuses on specific disabilities and the overlay of sensory impairments, medical needs and technological needs related to those disabilities. Finally, this course focuses on planning for instruction and collaborating with caregivers and team members of all backgrounds in order to meet the complex needs of these students. *Prerequisite: EXED 200.*

**EXED 431. Assistive Technology for Individuals with Sensory Impairments. 3.00. Crosslisted with EXED 531.**

This course is designed to heighten the awareness of participants to specific technology and resources available to enhance and improve the abilities of individuals with sensory impairments to succeed in school, daily living activities and employment. This course is delivered via a distance education format. *Prerequisite: EXED 435. Corequisite: EXED 435.*

**EXED 432. Braille Code. 3.00.**

This course provides instruction in the development, use and application of the Braille literary code and its implications for educational/literacy programs for students with visual disabilities. Students will develop the skills to read and write contracted and uncontracted Braille, while acquiring instructional methodologies for teaching children who are blind to read and write. Sources of Braille materials for educational purposes are identified. This course is delivered via distance education. *Prerequisite: EXED 435. Corequisite: EXED 435.*

**EXED 434. Curriculum and Assessment for Students with Visual Impairments. 3.00.**

This course provides students with knowledge and understanding of the educational assessment of students with visual impairments and additional disabilities including deaf-blindness. Students practice assessing and planning educational programs for students with visual impairments. Also covered in this course are assessment technology for students with visual impairments; determination of learning needs and appropriate learning media; and the relationship of assessment, IEP development, and placement. This course is delivered via a distance education format. *Prerequisite: EXED 435. Corequisite: EXED 435.*

**EXED 435. Characteristics of Students with Visual Impairments. 1.00.**

This course provides an overview of the characteristics of and services to persons with visual impairments, including the impact of visual impairments on infants' and children's growth and development, child and adolescent emotional and social development, and family interaction patterns. It considers the educational, conceptual, psycho-social and physical implications of a visual impairment. This course is delivered via a distance education format.

**EXED 440. Classroom Management and Professional Collaboration. 3.00.**

A focus on techniques used to manage the behavior of students. Emphasized are strategies used to prevent inappropriate behavior from occurring and/or worsening. Other interventions are taught such as techniques for working with others (e.g., parents, teachers, administrators) who may provide behavior management assistance to teachers and administrators.

**EXED 441. Functional Applications of Low Tech Assistive Technology. 2.00.**

This course will focus on functional applications of low-technology solutions within the areas of self-care; mobility and transfer; communication; stability and support; sports, recreation, and leisure; and academic and work environments. The course will include exploration and opportunities to design and create low-tech devices for children and adults. *Prerequisite: EXED 300.*

**EXED 443. Assistive Technology Use for Individuals With Disabilities. 3.00.**

Designed to enhance students' awareness and understanding of the range of assistive technologies available and their instructional implications for individuals with disabilities. Laboratory and demonstration experiences will enable students to select and utilize devices and software in settings serving individuals with disabilities. *Prerequisite: EXED 200.*

**EXED 450. Principles of Specialized Reading Instruction. 3.00.**

The course focuses on acquisition & development of reading skills for students with disabilities. Content includes characteristics of students with reading disabilities; informal assessment; relationship of oral language to reading; stages of reading development; research-based methods; principles of specialized reading instruction; and collaboration to support reading development. At least 10 hours of reading instruction to a K-12 student is required and is in addition to any assigned practicum. *Prerequisite: LED 430. Corequisite: EXED 476.*

**EXED 455. Collaborative Teaching for Learners with Disabilities. 3.00.**

Students in this course will gain knowledge and practice skills in consultation, case management, and collaboration with individuals, families, educators, related service providers and other human service professionals. An overview of collaborative processes, collaborative models for supporting the education of students with disabilities and for effective management of paraprofessionals will be studied. *Prerequisite: EXED 200 and special education non-teaching minors.*

**EXED 460. Differentiation of Instruction and Academic Collaboration. 3.00.**

This course assists preservice teachers in using their understanding of exceptional learners and learning to accommodate the diversity of students in the general education classroom. In addition, preservice teachers will explore the roles of teachers and how general and special education teachers collaborate to meet the needs of exceptional students. Teaching education students only.

**EXED 465. Perspectives of Early Childhood Special Education. 3.00.**

This course is designed to provide the student with an overview of educational programming and service delivery for children with developmental delays and/or disabilities, ages 0 to 5. Particular attention is given to federal legislation, historical perspective and current recommended practice in programming educational services for young children with delays and/or disabilities.

**EXED 473. Methods of Instruction for Learners Accessing the Adapted Curriculum. 3.00.**

Methods for remediation and adaptation of instruction in academic and functional skills for students with moderate/severe disabilities accessing the adapted curriculum. Emphasizes instructional approaches such as task analysis, systematic instruction, functional/daily living skills and general curriculum access using adapted content standards. A 10-hour practicum placement provides field experience to practice skills learned in this course. *Prerequisite: EXED 200 and EXED 342.*

**EXED 474. Assessment and Evaluation in Special Education. 3.00.**

This course is designed to provide study and application of the foundations of assessment and evaluation related to management of instruction and behavior of individuals with ELNs. The course emphasizes issues and skills in selection, administration, interpretation and use of a variety of tools and techniques in all stages of the decision making process for instruction and behavior management. Application of this new knowledge and skill will be through case-studies and direct assessment. *Prerequisite: EXED 200, EXED 341 or EXED 342.*

**EXED 475. Program Planning in Special Education. 3.00.**

This course is designed to teach legal and practical skills and strategies in development of program plans to meet the academic and behavioral needs of students with disabilities accessing the K-12 general or adapted curriculum. Skills will be applicable in a variety of placement settings and service delivery models. Included is a detailed study of purposes and procedures involved in the development of Individualized Education Plans. This will include how to use curriculum-based assessment data to develop the plan and evaluate the success of instruction in academics, social behaviors and life skills. *Prerequisite: EXED 341 or EXED 342, EXED 474.*

**EXED 476. Practicum in Literacy and Assessment. 2.00-3.00.**

This practicum is designed to provide a structured supervised experience assessing learning, planning and delivery of instruction to students with disabilities who are either accessing the general education curriculum or an adapted curriculum. Teacher candidates will gather data to make decisions about the effectiveness of instruction. Application of skills in planning direct instruction and creating instructional materials to improve student with disabilities literacy in all areas is required. *Prerequisite: EXED 474. Corequisite: EXED 429 or EXED 450.*

**EXED 477. Remedial Methods in Special Education. 3.00.**

This course is designed to provide students with knowledge about intensive remediation methods for students with disabilities who are significantly below grade level. The students will examine intensive instructional methods that address not only reading, writing and math but also metacognitive processes and support skills that will improve their academic achievement across the general curriculum. *Prerequisite: EXED 474 and EXED 484.*

**EXED 478. Supervised Practice in Special Education Methods. 2.00.**

This course provides field experience opportunities to observe, reflect and participate in the special education methods related to the education of students with disabilities who are functioning below grade level and working on either the general or adapted curriculum. The focus is on practicing intensive interventions. This course is repeatable with different corequisites for up to four credits. *Prerequisite: EXED 474. Corequisite: EXED 473 or EXED 477.*

**EXED 480. Student Teaching In Special Education. 4.00.**

This student teaching experience in the area of special education enables the teacher candidate to apply the education interventions and management competencies acquired in previous courses and fieldwork. The teacher candidate will participate in varied experiences related to the licensure area(s) within special education they are seeking. The teacher candidate has the opportunity to develop their professional skills and ethical understanding of the profession of teaching and how special education fits within this profession. Over the course of the placements, the teacher candidate will assume a range of responsibilities for planning and implementing multiple individualized education plans for students with disabilities. They will experience the many roles of a special education teacher and how collaboration is a key tool in each of those roles. Due to the mentoring of a cooperating special education teacher the teacher candidate should feel free to take risks in trying new methods and developing their skills. The course is taken on a Credit or No Credit evaluation criterion. It is repeatable for up to eight credits and must be taken twice for initial special education licensure. *Prerequisite: EXED 473 or EXED 477. Corequisite: EXED 483.*

**EXED 483. Teachers as Professionals. 1.00-3.00.**

This seminar is designed to accompany the student teaching experiences. Student teachers will have the opportunity to reflect on their skills, problem-solve school and classroom experiences, increase awareness of the need to continue career-long learning, discuss linkages between program course work and student teaching experience, explore their own skill level and plan for their on-going professional development. Sections in fall and spring will have differentiated content designed to link with the curriculum content being covered in that semester, as well as to the student teacher's experience. *Corequisite: EXED 480.*

**EXED 484. Inclusive Practices in Special Education. 3.00-4.00.**

This course is a detailed study of inclusive practices for students with disabilities. The course emphasizes building skills in professional collaboration required by special education teachers in their role as consultant, co-teacher, collaborative support and case manager. Teacher candidates will learn to adjust assignments and provide scaffolding and accommodations in order to develop independent functioning in students with disabilities. Skills that allow both special education teachers and students with disabilities to function within a general education setting will be developed. Teacher candidates enrolled in this course will complete a K-12 classroom experience within a general education placement a minimum of two days a week. *Prerequisite: EXED 341 or EXED 342.*

**EXED 485. Systematic Behavioral Support and Interventions. 3.00.**

This course is designed to provide application and evaluation of individual interventions that teach and maintain emotional, behavioral and social skills. Students will study various systematic behavioral interventions to support the behavior and learning of individuals with disabilities accessing the general education or adapted curriculum including positive behavioral supports, functional assessments of behavior, behavior intervention plans and teaching social skills. A variety of data collection procedures to inform their professional practice will be examined. Students in EXED 485 will be able to apply evidence-based practices related to Positive Behavior Supports, assessment of challenging behaviors and data collection to inform instructional practice and document student response to interventions that improve behavior such that academic learning can occur. *Prerequisite: EXED 303 and EXED 474. Corequisite: EXED 480.*

**EXED 486. Supervised Clinical Practice with Planning and Methods in Sped. 3.00.**

This practicum provides a structured supervised experience in selecting and using specialized methods for teaching academic skills, group management techniques and individual interventions that teach and maintain emotional, behavioral and social skills instruction to students with disabilities, and gathering data to make decisions about the effectiveness of intervention. Students will also have the opportunity to refine knowledge and skill application from previous program work. *Prerequisite: EXED 484, EXED 341, and EXED 474. Corequisite: EXED 484, EXED 341, and EXED 474.*

**EXED 490. Special Studies in Special Education. 1.00 - 3.00 each semester.**

Designed to allow the student to complete independent study under faculty supervision. *Prerequisite: Permission of the department head.*

**Family Studies****FAM 133. The Contemporary Family. 3.00.**

Concepts of variations in forms and lifestyles of families. Consideration is given to the family life cycle and the interdependency between the family and society.

**FAM 300. Child Development. 3.00.**

A study of the factors influencing the physical, cognitive, social and emotional growth of the young child. Emphasis is given to the importance of family relations and development of observational skills. *Prerequisite: PSYC 101, PSYC 160 or equivalent.*

**FAM 325. Parent-Child Relationships Across the Lifespan. 3.00. Crosslisted with SOWK 325.**

Focuses on intergenerational caregiving and interactions across the lifespan and generations. Uses a developmental framework to explore family life as the territory in which people fulfill relational responsibilities to children and parents while simultaneously attending to independent life stage challenges. *Prerequisite: FAM 133 or SOCI 374.*

**FAM 375. Grant Writing for Agencies. 3.00. Crosslisted with GERN 375, NPS 375, SOWK 375.**

Emphasizing active learning, this course teaches the basics of grant and proposal writing. Efficient research, persuasive prose and the importance of relationships are stressed. Private and corporate philanthropy and government grants are examined.

**FAM 386. Youth Empowerment Strategies (YES). 3.00. Crosslisted with SOWK 386.**

Students learn to use group activities that include the creative arts, low ropes and self-discovery in youth empowerment. The goal is to help youth build life skills and make informed decisions. Prior to beginning work with youth, students complete 25 hours of training.

**FAM 400. Issues and Applications. 3.00.**

This seminar is designed to integrate and apply knowledge from the student's major and the family issues minor. A substantial, in-depth Individualized project will strengthen the student's capabilities in research, information access and self-directed learning. *Prerequisite: FAM 133 or SOCI 374, three additional courses in the family studies minor, and junior or senior standing.*

**FAM 487. Special Topics in Family Studies. 3.00.**

Examination of selected topics that are of current importance to family studies. Course may be repeated for credit. *Prerequisite: FAM 133 or SOCI 374.*

**FAM 490. Special Studies in Family Studies. 3.00.**

The course is designed to give capable students in family studies an opportunity to complete independent study under faculty supervision. Course may be repeated for credit. *Prerequisite: FAM 133 or SOCI 374 and two additional courses in the family studies minor or permission of the instructor.*

## Finance

### **FIN 250. Introduction to Quantitative Finance. 3.00.**

The purpose of this course is to provide a broad introduction to the markets and instruments of engineered finance. The focus of the course is to expose students to the properties and uses of the array of non-traditional financial instruments that are increasingly trading in both the exchange and over-the-counter markets. *Prerequisite: Minimum grade of "C" in MATH 235, MATH 236, ECON 200 and ECON 201.*

### **FIN 301. Principles of Finance. 3.00.**

The purpose of this course is to provide a foundation in the principles and tools of finance, which include financial analysis, the time value of money, capital budgeting and capital structure. Open to students with a B.S. or B.A. economics major with a concentration in finance as well as students majoring in health sciences. Open to students as a repeat/forgive for COB 300B. *Prerequisite: Junior standing and COB 241*

### **FIN 310. Principles of Real Estate. 3.00.**

The purpose of this course is to assist students in developing a foundation in real estate principles, apply finance and economic principles to valuation and evaluation of real estate and analyze contracts and financing in residential and commercial real estate transactions. *Prerequisite: "C" or better in both FIN 360 and COB 300B.*

### **FIN 325. Money and Banking. 3.00. Crosslisted with ECON 325.**

The purpose of this course is to examine the economic role of money, banking, and monetary policy within current institutional settings and under alternative theories explaining the interrelationships between money, the financial system and economic activity. *Prerequisite: ECON 200 and ECON 201.*

### **FIN 328. Time Series Analysis. 3.00. Crosslisted with MATH 328.**

Regression and exponential smoothing methods for forecasting nonseasonal and seasonal time series, stochastic processes, Box-Jenkins' autoregressive and moving average models. *Prerequisite: MATH 238 or MATH 300; and MATH 318 or MATH 329.*

### **FIN 345. Finance Fundamentals for Non-Business Majors. 3.00.**

Offers an introduction to the basic principles in financial decision-making, providing an overview of the role of the forms of business, taxation and financing of a business enterprise. This course develops the basic financial skills and tools necessary for financial analysis, capital investment project analysis and valuation. Not recommended for students seeking admission to MBA programs. Students will not receive credit for this course if they also take FIN 301 or COB 300B. *Prerequisite: ACTG 244 or COB 242, junior standing (60 hours) and a cumulative 2.0 GPA in all courses taken at JMU. Restricted to non-college of business majors.*

### **FIN 355. International Financial Management. 3.00.**

The purpose of this course is to provide a comprehensive examination of the investing and financing decisions of a multinational business entity. Particular emphasis is on global financial markets and instruments, exchange-rate risk management, short-term and long-term financing for multinational firms and asset-liability management in an international environment. *Prerequisite: COB 300B. International business majors only.*

### **FIN 360. Analytical Methods in Finance. 3.00.**

The purpose of this course is to introduce the finance major to quantitative methods in finance, as applied to financial instruments and capital markets. Emphasis is placed in the theoretical determination of asset prices, risk, and return, as well as the estimation and analysis of returns and asset prices. *Prerequisite: Not permitted for quantitative finance majors. COB 300; a minimum grade of "C" in both COB 291 and COB 242 (finance, international business and economics B.B.A. majors); FIN 301; a minimum grade of "C" in ECON 385 (economics B.A. and B.S. majors). Corequisite: Not permitted for quantitative finance majors. COB 300; a minimum grade of "C" in both COB 291 and COB 242 (finance, international business and economics B.B.A. majors); FIN 301; a minimum grade of "C" in ECON 385 (economics B.A. and B.S. majors).*

### **FIN 362. Financial Analysis. 3.00.**

The purpose of this course is to prepare the finance major to use and interpret economic and accounting information that is essential in financial analysis and valuation. *Prerequisite: Minimum grade of "C" in COB 300B and FIN 360, and minimum grade of "B" in COB 241 and COB 242.*

### **FIN 365. Intermediate Financial Management. 3.00.**

The purpose of this course is to provide an in-depth study of the theories of capital structure, long-term financing decisions, working capital management and current topics such as mergers and bankruptcy. Computer applications. *Prerequisite: Minimum grade of "C" in COB 300B and "C" in FIN 360 (finance majors); minimum grade of "C" in FIN 250 (quantitative finance majors).*

### **FIN 370. Real Estate Finance. 3.00.**

The purpose of this course is to offer a comprehensive examination of the decision-making processes involved in purchasing and financing real assets. The focus is on the cost of funds and optimal financial structure of complex real estate projects. *Prerequisite: Minimum grade of "C" in COB 300B and FIN 360.*

### **FIN 371. Principles of Investments. 3.00.**

The purpose of this course is to provide an investor's view of the operation of the capital markets. This course covers the theories and practice of investments, including analysis of financial instruments and real assets and their effective combination into portfolios. *Prerequisite: Minimum grade of "C" in FIN 301 and "C" in FIN 360 (economics B.A. and B.S. majors); minimum grade of "C" in COB 300B and "C" in FIN 360 (finance majors); minimum grade of "C" in FIN 250 (quantitative finance majors).*

### **FIN 372. International Finance and Payments. 3.00. Crosslisted with ECON 372.**

Examines international financial markets, instruments and institutions; determination of spot and forward exchange rates, interest arbitrage, hedging and speculation; and alternative policies for achieving equilibrium in international payments. *Prerequisite: ECON 200 and ECON 201.*

### **FIN 375. Madison Investment Fund Management. 3.00.**

The course is an accelerated introduction to the investment environment with a focus on fundamental analysis of stocks, overlay strategies to enhance portfolio performance and familiarization with the trading and pricing of the wide variety of instruments in the modern financial marketplace. The course is limited to members of the Madison Investment Fund. *Prerequisite: FIN 371 and department head permission with membership in the Madison Investment Fund.*

### **FIN 378. Fixed Income Analysis. 3.00.**

The purpose of this course is to examine the market for and the price/yield determinants of various fixed income securities including Treasury debt, corporate bonds, agency debt, municipal bonds and mortgage and assetbacked securities. Topics include securitization, the term structure of interest rates, and portfolio management strategies such as duration, convexity and immunization. *Prerequisite: FIN 371.*

### **FIN 380. Elemental and Derivative Securities Analysis. 3.00.**

The purpose of this course is to undertake an in-depth examination of the broad array of financial instruments traded in contemporary finance markets that are available for financing, investing, and managing financial price risk. *Prerequisite: Minimum grade of "C" in COB 300B and "C" in FIN 360 (finance majors); minimum grade of "C" in FIN 250 (quantitative finance majors); minimum grade of "C" in FIN 301 and "C" in FIN 360 (economics B.S. and B.A. majors).*

### **FIN 395. Mathematical Finance. 3.00. Crosslisted with MATH 395.**

This course presents an overview of the role of mathematical concepts in financial applications. Topics include continuous time finance, optimization, numerical analysis and applications in asset pricing. *Prerequisite: MATH 237 and FIN 380.*

**FIN 405. Securities Pricing. 3.00. Crosslisted with MATH 405**

A quantitative treatment of the theory and method of financial securities pricing to include an examination of closed form pricing models such as the Black-Scholes and its various derivatives as well as numerical solution techniques such as binomial methods. *Prerequisite: FIN 395 or MATH 395.*

**FIN 434. Fundamentals of Financial Data Science. 3.00.**

An introduction to data analysis and programming in finance. Emphasis is placed on problem identification, the selection and application of tools and techniques to address problems, and data analysis. *Prerequisite: "C" or better in FIN 360 or FIN 250.*

**FIN 450. Financial Risk Management. 3.00.**

The purpose of this course is to explore forward contracts, futures, swaps, and options, which are the basic building blocks for creating financial risk management programs for companies subject to financial risks such as changes in exchange rates, commodity price fluctuations and changes in interest rates. *Prerequisite: FIN 371 and a minimum grade of "B-" in FIN 380.*

**FIN 451. Risk Management II. 3.00.**

The purpose of this course is to present an intermediate treatment of the theory and applications of market, credit, liquidity and operational risk management. It builds upon concepts introduced in previous course work to present the theoretical constructs underlying risk management, as well as the quantitative skills required for risk analysis and the implementation of risk management techniques. *Prerequisite: A minimum grade of "B-" in FIN 450.*

**FIN 455. Advanced International Financial Management. 3.00.**

The purpose of this course is to focus on the analysis of major international financial management issues and risk faced by businesses operating in global markets. The emphasis is on the management of foreign exchange transactions, operating and translation exposures by multinational corporations, the functions of various currency hedging instruments, and the application of international funding and investment techniques. *Prerequisite: Minimum grade of "C" in COB 300B and FIN 360.*

**FIN 460. Commercial Banking. 3.00.**

The purpose of this course is to study the objectives, functions, policies, organizational practices and government regulation of commercial banks. An intensive study is undertaken of the asset and liability structure of commercial banks. Special emphasis is placed on how banks are adapting to the changes in their operating and regulatory environments. *Prerequisite: Minimum grade of "C" in COB 300B and FIN 360.*

**FIN 471. Portfolio Management. 3.00.**

The purpose of this course is to cover the application of investment concepts within a case format. The course focuses on investment management, bringing together economics, capital markets and valuation to form a basis for decision making in financial asset selection, risk/reward analysis, portfolio selection and formation. *Prerequisite: FIN 371.*

**FIN 475. Financial Modeling and Risk Analysis. 3.00.**

The purpose of this course is to introduce students to practical methods used to identify, quantify, predict, value, diversify, and manage risk in the financial environment. Students use sensitivity analysis, Monte Carlo and Latin Hypercube simulations, bootstrapping, time series forecasting and dynamic optimization techniques as applied to capital budgeting and structure, pro forma financial statements, multi-objective portfolio allocation, discounted cash flow analysis and real options. *Prerequisite: FIN 365 and FIN 371.*

**FIN 480. Seminar in Financial Engineering. 3.00.**

The purpose of this course is to explore financing engineering which is the process of adapting existing financial instruments and developing new ones to meet the needs of participants in domestic and international financial markets. This process is taught within a case and project format in order to simulate actual market participation as closely as possible. *Prerequisite: FIN 405 / MATH 405.*

**FIN 488. Advanced Financial Policy. 3.00.**

The financing of a new business enterprise or expansion and the financial condition of existing firms is examined within a case format. The Objective of this examination is to elicit a policy decision which effectively addresses the issues identified in the case. *Prerequisite: FIN 360 and FIN 365 and senior Finance majors*

**FIN 490. Special Studies in Finance. 1.00 - 3.00.**

Designed to give capable students in finance an opportunity to complete independent study under faculty supervision. Admission by recommendation of the instructor and permission of the director. Forms may be obtained in the department office before registration.

**FIN 498. Special Topics in Finance. 3.00.**

The purpose of this course is to provide an opportunity for students to explore areas of current topical interest or to exploit special situations. Course content will vary. For current course content, consult with your advisor. *Prerequisite: FIN 250 or FIN 360.*

**FIN 499A. Honors. 6.00.**

See catalog section "Graduation with Honors." Credits will not count toward the finance major.

**FIN 499B. Honors. 3.00.****FIN 499C. Honors. 2.00.****Foreign Languages****FL 309. \*\* Civilization: Travel-Study. 1.00 - 3.00.**

A directed program of travel-study designed to augment a student's knowledge of a particular civilization. Arrangements must be made with the faculty member designated by department head. *Permission of the department head is required prior to enrollment in the program.*

**FL 446. \*\* Special Topics in Foreign Literature. 3.00.**

Study of a particular topic in literature. May be taught in English or in the language but cannot be counted for major, minor or licensure unless taught in the language. Course may be repeated if content varies. *Prerequisite: Permission of the instructor.*

**FL 447. Special Topics in Civilization and Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of a specific country in the world. Course may be repeated. *Prerequisite: Permission of the instructor.*

**FL 448. Special Topics in Linguistics. 3.00.**

Students will study a particular topic in the linguistics of a specific country. Topics could include an introduction to sociolinguistics and psycholinguistics. Course may be repeated. *Prerequisite: Permission of the instructor.*

**FL 490. \*\* Special Studies in Foreign Languages. 1.00 - 4.00.**

Allows superior students an opportunity to complete independent studies under faculty supervision. Work may be done in all languages offered in the department but may not replace course offerings. *Prerequisite: Permission of the department head.*

**Foreign Language Education****FLED 370. Modern Foreign Language Assessment. 3.00.**

This course is designed to prepare prospective foreign language teachers to create and evaluate both formal and informal learner assessments and to prepare candidates to meet future teacher evaluation criteria.

**FLED 470. Methods of Modern Foreign Language Teaching. 3.00.**

Research findings about language teaching will be used to identify the most effective instructional strategies for teaching languages to students in grades preK-12. Emphasis will be on developing plans for employing the strategies and making appropriate instructional decisions based on instructional goals, the learner, and available resources. *Prerequisite:* Full admission to teacher education program; PSYC 160 and EDUC 300. *Corequisite:* FLED 471.

**FLED 471. Modern Foreign Language Field Experience. 3.00.**

Provides practical classroom experience in elementary, middle and high school settings to preK-12 Foreign Language students under the supervision of an inservice teacher and a clinical professor. Students engage in classroom activities that provide an opportunity for them to practice the strategies and concepts learned in the methods courses. *Corequisite:* FLED 470.

**FLED 475. Supervised Student Teaching Experience. 12.00.**

Participants will experience the full range of conditions and tasks expected of a teacher for students in grades preK-12. They will be expected to develop and demonstrate competencies in teaching with the supervision and support of experienced teachers. Students must register for two eight-week blocks during the same semester for a total of twelve credits. *Prerequisite:* All required courses for licensure and approval for student teaching through the teacher education program. *Corequisite:* FLED 476.

**FLED 476. Student Teaching Seminar. 3.00.**

A seminar designed to promote reflective decision making among teacher candidates during their student teaching experiences. Teacher candidates will engage in case analysis and complete the Teacher Work Sample as their culminating senior project. *Corequisite:* FLED 475.

**French****FR 101. Elementary French I. 3.00 - 4.00.**

The fundamentals of French through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**FR 102. Elementary French II. 3.00 - 4.00.**

The fundamentals of French through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite:* FR 101.

**FR 109. Accelerated Review of Elementary French (3, 1). 3.00.**

Reviews elementary French grammar, reading, writing, speaking and listening skills in French. One hour's work a week in the language laboratory. For students who have had no more than two or three years of French in high school and qualify through the placement exam. *Prerequisite:* Permission of the department head or placement exam score.

**FR 111. Intensive French I. 6.00.**

The fundamentals of French through intensive listening, speaking, reading and writing. The 4-week course is the equivalent of FR 101-102.

**FR 212. Intensive French II. 6.00.** Crosslisted with FR 212P.

The fundamentals of French through listening, speaking, reading and writing. This four-week course is the equivalent of FR 231-232. *Prerequisite:* FR 102 or FR 109 or FR 111 or per placement exam score.

**FR 231. Intermediate French I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite:* FR 102 or FR 109 or FR 111 or placement exam score.

**FR 232. Intermediate French II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading at the advanced intermediate level. *Prerequisite:* FR 231 or permission of the instructor or per placement exam score.

**FR 300. Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in French. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite:* FR 212 or FR 232 or placement exam score.

**FR 307. History of French Civilization. 3.00.**

A study of the social, economic, political and artistic development of France from the Middle Ages to 1900. Instruction is in French. *Prerequisite:* FR 300.

**FR 307P. History of French Civilization. 3.00.**

A study of the social, economic, political and artistic development of France from the Middle Ages to the present. Instruction is in French. *Prerequisite:* FR 300 is the prerequisite.

**FR 308. Contemporary French Civilization. 3.00.**

A study of French life and culture with emphasis on France in the 20th century. Instruction is in French. *Prerequisite:* FR 300.

**FR 315. French Phonetics. 3.00.**

Intensive drill in French sounds and intonation patterns. Instruction is in French. *Prerequisite:* FR 300.

**FR 320. French Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday French with emphasis on conversation and composition. Readings in French will provide a context for discussion and writing. *Prerequisite:* FR 300 or equivalent.

**FR 330. Business French. 3.00.**

A study of commercial and technical vocabulary and trade customs in conjunction with practice in the art of commercial communication including interviews, letter writing and simultaneous interpretation. Instruction is in French. *Prerequisite:* FR 300.

**FR 335. Introduction to French Literature. 3.00.**

A study of the main literary schools from Classicism to the Nouveau Roman. Textual analysis of sample writings representative of the most important literary movements. Instruction is in French. Required for majors. *Prerequisite:* FR 320.

**FR 339. A Survey of French Literature. 3.00.**

339A: A thorough analysis of selected passages from important authors of the Middle Ages and the Renaissance.

339B: A thorough analysis of selected passages from important authors of the 17th century.

339C: A thorough analysis of selected passages from important authors of the Age of Enlightenment. Instruction is in French.

*Prerequisite:* FR 320.

**FR 339C. French Literature of the Enlightenment. 3.00.**

The purpose of this course is to acquaint students with 18<sup>th</sup> century French literature and culture through the study of key influential texts. Students' analyses of these texts (i.e. essays, novels, plays, films, paintings and comics) will be grounded in key political, scientific and artistic movements. *Prerequisite:* FR 320.

**FR 351. French/English Translation. 3.00.**

An intensive course in writing and translation from French into English and from English into French. Contemporary topics taken from various fields. Comparative terminology. *Prerequisite: FR 320.*

**FR 375. Business and Society in France. 3.00.**

This course explores the development of French society in the historical, political, and economic context. In this course several aspects will be investigated: agricultural, textile, fashion, wine industry, and motion picture, music, media industries, and import and export products. In addition, this course will include the study of banking and financial institutions, health and education systems. *Prerequisite: FR 300.*

**FR 399. French Short Stories. 3.00.**

The purpose of this course is to acquaint students with different types of French short stories and the various narrative techniques writers use to address issues of plot, character, place and theme. Students will acquire familiarity with methodologies and tools that will sharpen their understanding of the genre and their ability to analyze it. Students will engage with the course material through academic and/or creative writing. Instruction and readings are in French. *Prerequisite: FR 320*

**FR 400. Advanced Conversation. 3.00.**

Centers on various basic communicative functions such as convincing, narrating, describing, negotiating, and obtaining and giving information. Students will experiment with real-life situations, debate about current events and discuss cultural perspectives and contemporary issues. In order to produce and reproduce oral scenarios, students may use role playing and public speaking techniques as well as authentic materials (visual, audio and textual) to interact orally in conversational French. Instruction is in French. *Prerequisite: FR 320.*

**FR 401. Advanced Writing. 3.00.**

This class provides students with different types of textual, descriptive, narrative and argumentative models. Students will experiment with a wide array of material, analyzing and producing their own cultural and/or literary materials that may include advertisements, comics, news, scenarios, plays, short stories, receipts, and blogs, reinforcing their academic writing and exploring their creativity in French. Instruction and readings are in French. *Prerequisite: FR 320*

**FR 420. Advanced Genre Studies. 3.00.**

420A: A study of French theatre from the Middle Ages to the 20th century.

420B: A study of French poetry from the Middle Ages to the 20th century.

420C: A study of French narrative fiction from the Middle Ages to the 20th century. Instruction is in French.

*Prerequisite: FR 320.*

**FR 446. Special Topics in French Literature. 3.00.**

Study of a particular topic in French literature. It may cover one or more genre of French literature. Course may be repeated if content varies. *Prerequisite: FR 320.*

**FR 447. Special Topics in French Civilization and Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of Francophone countries. Course may be repeated if content varies. *Prerequisite: FR 320.*

**FR 448. Special Topics in French Linguistics. 3.00.**

Students will study a particular topic of French linguistics. Topics could include an introduction to French sociolinguistics and psycholinguistics. Course may be repeated if content varies. *Prerequisite: FR 320.*

**FR 465. French Cinema 1930-1980. 3.00.**

A study of French cinematography from 1930 to 1980. Emphasis given on the following directors: Renoir, Pagnol, Carné-Prévert, Cocteau, Vadim, Chabrol, Resnais, Godard, Rohmer, Lelouch, Truffaut and Malle. Instruction is in French. Counts as a culture course, not as a literature course. *Prerequisite: FR 320.*

**FR 466. Contemporary French Cinema. 3.00.**

A study of French cinema from the 1990s until the present and its place in contemporary French culture. The course will focus on films dealing with specific moments or events in French history, as well as the evolution of the French film industry. Films to be analyzed in terms of their socio-political context and judged by their cultural perspective. *Prerequisite: FR 320.*

**FR 490. Special Studies in French. 1.00 - 4.00.**

Allows students an opportunity to complete independent studies under faculty supervision. *Prerequisite: Permission of the department head.*

**FR 499A. Honors. 3.00.****FR 499B. Honors Project. 3.00.****FR 499C. Senior Honors Project. 2.00.****General Science****GSCI 161. Science Processes [C3T2]. 1.00.**

Observing, classifying, measuring, inferring, communicating, predicting and experimenting in all science disciplines. This course will introduce core science process skills for all science disciplines in a hands-on, integrated laboratory block. *Corequisite: GSCI 162.*

**GSCI 162. Science of the Planets [C3T2]. 2.00.**

The course will focus on the Earth and her neighbors, including the formation, evolution and dynamics of the Solar System. Students will also explore the similarities and differences of different solar system bodies (stars, planets, asteroids, comets) and the possibilities for finding life elsewhere. *Corequisite: GSCI 161.*

**GSCI 163. The Matter of Matter [C3T2]. 1.00.**

This course will focus on the topic of matter: particle theory, forms, characteristics, properties, atomic theory and models, conservation of mass and energy, nuclear reactions, heat transfer within matter, chemical bonds and chemical structures. *Corequisite: GSCI 164.*

**GSCI 164. Physical Science: Learning Through Teaching [C3T2]. 2.00.**

A hands-on conversation on how technology, science and engineering come together to describe our world. The course will cover many of the traditional concepts presented in an introductory physics course. The course will treat coordinate systems and their use in describing motion, forces and energy conservation, thermodynamics (temperature, pressure, heat), light (color, ray model, wave model), waves (sound), magnetism, and electricity. The course will indirectly reinforce skills developed in other courses in the package including scientific tools (mathematics, graphic, diagramming, experimenting, and analyzing data) and using informational resources. *Corequisite: GSCI 163.*

**GSCI 165. The Way Life Works [C3T2]. 1.00.**

Patterns, energy, information, life's machinery, feedback, community and evolution. These are major themes in how life works. This course will use these themes as a backdrop for looking at the way life works. *Corequisite: GSCI 166.*

**GSCI 166. Environment in Context. 2.00.**

This course will use environmental issues and topics as a unifying concept to introduce ecology, environmental chemistry and evolution. Topics such as resource utilization and conservation, air and water quality issues, ecological succession, community processes, biological diversity and evolution may be used to illustrate the concepts and to demonstrate the relationship between science and public policy. *Corequisite: GSCI 165.*

## Geography

### **GEOG 161. Geospatial Tools and Techniques. 1.00 – 6.00, variable.**

An introduction to the use of geospatial tools, such as geographic information systems (GIS), global positioning systems (GPS) and remote sensing, applied to a variety of areas, including cultural geography, environmental science, ecology, geology and public planning.

### **GEOG 200. Geography: The Global Dimension [C4GE]. 3.00.**

This course promotes global understanding through the study of humans, their institutions and processes, and the resulting interactions between humans and the environment. The course will include the study of Western and nonWestern peoples and their social, cultural, political and economic relationships. May be used for general education credit.

### **GEOG 210. Physical Geography (2, 2). 4.00.**

This introductory course is an examination of systems and processes that influence patterns of Earth's atmosphere, biotic communities, soils and landforms at multiple spatial and temporal scales. Included are classroom and laboratory experiences that are geared toward investigating interrelationships among atmospheric conditions, Earth's natural surface characteristics and human-induced modifications of Earth's features.

### **GEOG 215. Introduction to Geographic Information Science and Cartography. 3.00.**

Basic principles of geographic information systems and map design, including their use in spatial analysis and information management.

### **GEOG 216. Earth Observation and GPS. 3.00.**

An introduction to remote sensing, global positioning system (GPS) and computer fundamentals in Geographic Science. Basic concepts will be illustrated with practical applications, including hands-on work collecting data with GPS units and exploring remote sensing images from a variety of different instruments. Environmental applications will be featured.

### **GEOG 230. Spatial Thinking and Problem Solving. 3.00.**

Introduction to the critical thinking skills associated with problems with inherent spatial components. Identification of the spatial elements of a given problem, the data requirements for addressing that problem, collections/acquisitions and organization of data, and use of geographic information systems to explore spatial patterns relevant to the problem of interest.

*Prerequisite: GEOG 215 with a "C" or better, GEOG 216 with a "C" or better and an introductory course in Statistics (ISAT 251, MATH 220 or equivalent) or permission of the instructor.*

### **GEOG 280. Human Geography: The Cultural Landscape. 3.00.**

The course themes are human culture, cultural variations over the face of the Earth and how these variations are related to selected global issues. Topics covered include world demographics, world religions and languages, patterns of human migration, political systems and human conflict, agricultural systems and impact on the physical world.

### **GEOG 290. Human-Environment Interactions. 3.00.**

This course evaluates human-environment interactions from a holistic point of view. It incorporates geographic perspectives of these interactions, which include political, cultural, social, economic, and ethical factors that influence how people perceive, impact, and manage the natural world. The course will emphasize geographic theories of resource use, humans as part of the landscape and human vulnerability to environmental changes. *Prerequisite: GEOG 210 with a "C" or better and GEOG 380 with a "C" or better.*

### **GEOG 300. Population Geography. 3.00.**

An introduction to population measurement, sources of population data and modern population problems. Topics include distribution, the changing age structure and migration issues affecting the U.S. At the global scale, topics include distribution, global migration patterns, the refugee crisis and prospects for feeding the rapidly increasing human population.

### **GEOG 301. Introduction to Natural Disasters. 3.00. *Crosslisted with HUMN 301.***

This course is designed to give students an overview of the various types of natural disasters; a look at the world regions that are most vulnerable to each type of disaster; and, a preview of disaster planning, management, relief and response as related to natural disasters.

### **GEOG 305. History and Philosophy of Geography. 3.00.**

Topics from the classical period to the modern period include 20th century theories and paradigm shifts involving cultural geography, physical geography, human-environment traditions, regional geographies and modeling. Diverse philosophies such as quantitative /positivist, qualitative/humanistic, social theory, and GIS are viewed for their contributions to the discipline of geography. *Prerequisite: A grade of "C" or better in GEOG 210 and GEOG 280, and junior standing or permission of the instructor.*

### **GEOG 308. Environment, Nature and Society. 3.00.**

This course focuses on the interaction and integration of human and physical environments. It uses geographical approaches to examine relationships between people and the natural world, and it explores the origins and implications of the perceived separation of humans and nature. At a variety of scales, and using case studies, issues of resource use, environmental and human vulnerability, global and local environmental change, landscape modification, and human impacts on natural systems are explored. Along with the close analysis of spatial patterns and processes in the natural world, questions of politics, economics, culture, perception, justice and ethics may be considered in the examination of human-environment interactions. *Prerequisite: GEOG 210 with a "C" or better and GEOG 280 with a "C" or better.*

### **GEOG 310. Environmental Issues. 1.00 – 4.00.**

Courses cover environmental issues such as air pollution, forest and wildlife management, water, resource management, soils and land use, and energy and the environment (among other topics). Courses examine the interface between humans and environmental systems while addressing the impact of social, economic and political systems and activities on the environment. May be repeated as course content changes.

### **GEOG 315. Field Studies in Geography. 3.00.**

This course exposes students to the methods and techniques commonly used by geographers while conducting fieldwork. The course will cover identifying and defining a researchable project, designing and testing data collection methods, and different methods of collecting, recording and presenting data. Students will also become familiar with various types of field equipment.

### **GEOG 320. Human Dimensions of Global Change. 3.00.**

This course addresses global change and human development. Conservation, sustainability and development are core themes that will be related to current changes occurring on a global scale. Global changes to be discussed in the course relate to the climate, biodiversity, natural resources and human populations. Sustainability will be introduced as a dimension of human development. *Prerequisite: GEOG 290 with a "C" or better or GEOG 308 with a "C" or better.*

### **GEOG 322. Agricultural Systems. 3.00.**

This course covers four distinct areas: the foundation of agriculture, the nature and distribution of soils on a global basis; the history of agriculture from the original selection of domestic crops to the 20th century; modern industrial agriculture and trade; and alternatives to chemical and energy intensive agriculture in the 21st century. *Prerequisite: GEOG 290 with a "C" or better, GEOG 308 with a "C" or better or permission of Instructor.*

### **GEOG 323. The Geography of Human Genetics, Infectious Diseases and Diet. 3.00.**

Throughout history, infectious diseases have profoundly affected human populations. Using a case study approach, this course will give students an opportunity to investigate social and historical aspects of infectious disease as well as the microbiology, genetics, biochemistry and medical aspects of human infectious diseases and diet.

### **GEOG 325. Environmental Ethics. 3.00.**

Examines the basic principles of resource use including geographic, economic, social and political processes. Explores concepts underlying such issues as resource consumption and conservation, environmental perception, resource and environmental conflict, population growth and control, carrying capacity, and the evolution of the environmental movement.



**GEOG 327. Climatology. 3.00.**

The systematic study of the atmosphere with emphasis on such phenomena as temperature, pressure, humidity, air masses and fronts; the occurrence of these phenomena on a global basis; and a detailed survey of the worldwide distribution of climate types. *Prerequisite: GEOG 210 with a "C" or better or GEOL 320*

**GEOG 329. Global Climate Change. 3.00.**

This course examines the interrelationship of the physical nature of the climate system, climate variability and change, and human activities. Case studies (El Nino, global warming, and stratospheric ozone depletion) are used to investigate how climate affects society, how human activities affect climate, and how nonclimatic issues complicate our understanding of the relationship between climate and society. We consider how projections of future weather and climate affect decision-making. *Prerequisite: GEOG 210 with a "C" or better.*

**GEOG 331. Geography of Virginia. 3.00.**

The course will examine the human and physical geography of the development of modern-day Virginia, providing an overview of its prehistory, then tracing its development from the beginning of the seventeenth century through the present. The course will include an analysis of Virginia's population, resources, and regional landscapes as they have been influenced by physical, cultural, historical, and economic factors. The relationship of Virginia to the rest of the world will also be examined.

**GEOG 332. Geography of Europe. 3.00.**

Geographic assessment of regional and national characteristics of the European nations.

**GEOG 334. Geography of East and Southeast Asia. 3.00.**

A survey of the physical and cultural environments of China, Taiwan, Japan, the Koreas, Indochina and the countries of Southeast Asia. Topics covered include weather and climate, physiography, natural resources, population characteristics, political systems, aspects of the economy and the role that each country plays on the regional and world stage.

**GEOG 335. Geography of Africa. 3.00.**

An introduction to the regional geography of Sub-Saharan Africa that examines the physical geography of the continent, the historical roots of its present political geography, the consequences of its colonial past on communities and cultures as well as its natural resources. Students will examine continental issues such as resource management, food production, hunger, disease patterns and management of wildlife.

**GEOG 336. Environmental Hazards: A Focus on Southeast Asia. 3.00.**

This course will focus on interactions between earth surface systems and social environments to demonstrate the complexity of natural hazards, and particularly those of Southeast Asia. Through regional geography, students will learn differing adaptation mechanisms of societies and cultures unique to the area and some of the natural hazards within the region. *Prerequisite: GEOG 210 with a "C" or better or permission of instructor.*

**GEOG 337. Geography of Latin America. 3.00.**

A study of countries in Latin America which includes their physical landforms, weather and climate, biogeography, natural resource base, attitudes toward the physical environment, characteristics of the economy, the current political role in international activities, and population characteristics that include growth rate, distribution, migration and ethnicity.

**GEOG 338. Geography of the Philippine Islands: Problems and Possibilities. 3.00.**

Exploration of the Philippines focuses on poverty, environmental conservation, resource exploitation and ecosystem degradation in upland and marine environments. Topics include population dynamics, political pressure and instability, and urban challenges. The future of the country is investigated on all geographic scales with regard to its role in a globalized world economy.

**GEOG 339. Geography of the Caribbean. 3.00.**

This course is designed to give students a general geographical overview of the islands states and territories surrounded by the Caribbean Sea. Students will study physical landforms, weather and climate, environmental issues, population characteristics, history, local and regional politics, and economic aspects of political units in the region.

**GEOG 340. Biogeography. 3.00.**

This course emphasizes geographical biogeography and is as an advanced physical geography class. Included are analyses of spatial patterns of biota from local to global scales and examinations of the systems and processes that result in spatial and temporal patterns of species existence and diversity, community composition, energy pathways, adaptive traits, and human influences on biotic systems and processes. *Prerequisite: GEOG 210 with a "C" or better*

**GEOG 341. Wilderness Techniques. 3.00.**

Wilderness legislation, legal mandates and wilderness issues are examined. Human impacts due to overuse or conflicting uses are studied, as are the philosophical aspects of wilderness ethics. This course is taught entirely in the field. Camping and hiking are required. *Prerequisite: Permission of the instructor.*

**GEOG 342. Management and Protection of Natural Resources. 3.00.**

This course provides a managerial perspective for protection and management of natural resources. A systems approach for applied management strategies is provided for aquatic, terrestrial, threatened and endangered ecosystems. Topics include application of state, federal, international laws, regulations, policies and guidelines. Students develop management plans and explore jurisdictional resource protection issues.

**GEOG 343. Wildlife Management. 3.00.**

An introductory discussion of applied management strategies for wildlife species and their ecological requirements is provided relative to human influences. Management techniques that are useful for determining population or health status are demonstrated for select vertebrate species. The evolution of wildlife laws, policies and management strategies are addressed to provide relevant awareness into the appropriate concepts of wildlife management.

**GEOG 344. Globalization and Development. 3.00.**

An overview of the classification of economic activities, the factors involved in the location of various types of economic activities and the regional variation in the standard of living associated with economic development. Additional topics include regional economic growth and types of economic systems and development perspectives, the roles that politics and demographics play in the economic development of a country, and the globalization of economic activities.

**GEOG 345. Geography of Poverty. 3.00.**

This course provides a geographical perspective on poverty faced by communities and countries of the world today. The focus is on how poverty is defined, measured and mapped, the causes and impacts of poverty, theories for ending poverty and organizations that work to address poverty. It includes a geographical study of communities and countries that have successfully alleviated extreme poverty.

**GEOG 348. Indigenous Geographies. 3.00.**

This course introduces indigenous geographic representations. Topics include territorial sovereignty, traditional resource use, sustainable development and protection of sacred sites. Students will explore the central geographic practice of cartography, which has taken on new meaning as cultural identification for Indigenous peoples. The use of new technologies to represent traditional understandings of Earth is also explored. *Prerequisite: GEOG 290, GEOG 308 or permission of instructor.*

**GEOG 350. Topics in Geography. 1.00 - 3.00.**

Examination of geographic topics that are of current interest. Can be repeated as course content changes. *Prerequisite: GEOG 200 or GEOG 210 or GEOG 215 or GEOG 280, or permission of the instructor.*

**GEOG 355. Global Positioning Systems. 3.00.**

This course provides fundamental and advanced instruction in global positioning systems (GPS) technology. Topics include the history and development of GPS, system operation,

the integration of satellite and ground components, applications and visualization. Active learning allows students to operate different models of receivers, minimize field error, gather and differentially correct data, and import the finished project into a GIS for further analysis. Students will form teams to design, execute and present a formal project to a client.

**GEOG 360. GIS for Humanitarian Assistance. 3.00. *Crosslisted with HUMN 360.***

In responding to humanitarian crises, governments and aid organizations must deploy aid workers, deliver essential services, set up temporary settlements, and distribute items such as water and food that are needed for survival. Spatial analysis and maps are critical to the success of these efforts. In this course, students learn the basics of Geographic Information Systems (GIS) for humanitarian assistance and learn how relief organizations use GIS in their work. *Prerequisite: GEOG 215.*

**GEOG 365. Cartography and Geospatial Visualization. 3.00.**

This course examines the fundamentals of visualizing spatial data in static and dynamic environments. Students will learn about cartographic design, thematic cartographic techniques, developing spatial data from non-spatial information and with GPS equipment, and geographic visualization. Students will also develop a portfolio of hard copy and soft copy visualizations. *Prerequisite: GEOG 215 with a "C" or better.*

**GEOG 366. Intermediate Geographic Information Science. 3.00.**

An in-depth course in geographic information science and its role in technology and society. Spatial databases and descriptive data will be created and implemented into various geographic information systems. Advanced operations will be used to explore the analysis capabilities of geographic information systems. *Prerequisite: Prerequisites: GEOG 215 with a "C" or better or GEOG 161 and permission of the instructor.*

**GEOG 375. Political Geography. 3.00.**

Geopolitical conflicts and issues are examined. Concepts such as territoriality, nationalism, religious and ethnic struggle, environmental degradation, and freedom and justice are discussed in the context of political unrest. Significant geopolitical theories and social and economic processes are explored.

**GEOG 376. Urban Geography. 3.00.**

Study of the city in its geographic setting, giving perspective of modern urban problems, origin and growth of cities and influence of location on city functions. Looks at the internal structure of cities and the influence of the internal structure on its population groups.

**GEOG 380. Cultural Geography. 3.00.**

Introduction to cultural geography with emphasis on diversity of language, religion and folklore, as well as culture traits and practices and their historical diffusion. Ties to livelihood, the rural-urban continuum and demographic change are explored, as are foci on philosophy, power, race, class and gender. Exploitation and sustainability will be introduced as dimensions of cultural and environmental interaction.

**GEOG 385. Principles of Remote Sensing. 3.00.**

This course is an introduction to remote sensing, the study of images and other types of data acquired by satellites and aircraft. Topics include the principles underlying multiple types of remote sensing, the properties of common data types, making measurements using aerial photographs, basic digital image processing, and applications. *Prerequisite: GEOG 216 with a "C" or better*

**GEOG 390. Practicing Geographic Science. 1.00.**

Professional development for students in geography. Educational opportunities and career options. Library and literature research skills. *Prerequisite: Junior standing.*

**GEOG 402. Forest Ecology. 4.00. *Crosslisted with BIO 502, BIO 402.***

A study of the function, structure, and composition of forested ecosystems. The effect of physiography on the distribution of forest communities will be explored. Issues of forest management and restoration will also be considered. Field laboratory topics will include dendrology and sampling techniques within different forest successional stages. *Prerequisite: BIO 250 or permission of the instructor.*

**GEOG 406. Forest Inventory: A Geospatial Approach. 3.00.**

This course teaches forest measurement at the tree, plot, stand, and forest levels. It includes heights, stem diameters, volumes, and biomasses of individual trees; fixed and variable radius plots; basal area estimates; sampling designs, and stand and stock table construction. Students learn how geospatial technologies can be used to collect data on forests, make forest inventories more accurate and precise, and assist in performing forest-related analyses and visualizations. *Prerequisite: GEOG 215 with a "C" or better, GEOG 216 with a "C" or better and an introductory course in statistics (MATH 220, ISAT 251, COB 191 or equivalent), or permission of instructor.*

**GEOG 410. Geography and Film. 3.00.**

This course is concerned with the intersection of geography and film. An always-present undercurrent focuses on films whose location and/or culture are an essential backdrop in the cinematic experience. *Prerequisite: GEOG 290, GEOG 308 or permission of instructor.*

**GEOG 415. Environment, Landscape and Culture. 3.00.**

This seminar analyzes human-environment interactions as shaped by cultural perceptions, past events and ecological processes. Place-based and interdisciplinary, landscape studies focus on the unique circumstances of a location and shift temporal and geographic scales to achieve broader understandings of cultural and ecological adaptation and resilience. Methods of historical ecology and field research are introduced. Regional projects underscore readings and research assignments. *Prerequisite: GEOG 290, GEOG 308 or permission of instructor.*

**GEOG 427. Water Resources of the World. 3.00.**

Humans face water challenges that can be understood through the lens of geography. Students will study different physical aspects of Earth's water, including the hydrologic cycle, climate controls of precipitation, river basin hydrology, water quality and availability, and aquatic ecosystems. The course investigates human dimensions of water such as economics, disease, management and planning, conflict, and the future of water resources. *Prerequisite: GEOG 210 or permission of the instructor.*

**GEOG 429. Sustainability: An Ecological Perspective. 3.00. *Crosslisted with ISAT 429.***

This course examines present global environmental impacts and efforts made to change production and consumption patterns toward those that reduce impact on ecosystems or promote increased ecosystems health. The focus lies in understanding the basic resources of productivity including soils, agricultural systems, agroforestry, forestry and aquatic environments and applying solutions on a personal and community level. *Prerequisite: GEOG 290, GEOG 308 or permission of the instructor.*

**GEOG 430. Geography of Crop Plants. 3.00.**

This course evaluates the influence of geography on crops and crop development by examining the evolution, genetic diversity and cultivation of agricultural crops. Topics include the origins of agriculture, patterns of geographic spread, and the interrelationships between domesticated plants and the societies that grow them.

**GEOG 440. Global Biodiversity. 3.00.**

This project-based course emphasizes physical and human-oriented processes that influence Earth's biodiversity. It includes how human constructs influence the number of species counted, biodiversity measurement techniques and how geographers contribute to conservation methods. It introduces human challenges that are causing a decline in biodiversity and resultant impacts on human quality of life. *Prerequisite: Either GEOG 290 or GEOG 308, and GEOG 340.*

**GEOG 465. Topics in GIS. 3.00.**

The course examines varying topical issues in geographic information science. The course may be repeated as course topics vary. *Prerequisite: GEOG 366 or permission of the instructor.*

**GEOG 466. GIS and Geographic Databases. 3.00.**

An introduction to the creation, use and management of digital spatial data used by industry and government. Integration of large spatial data sets into the geographic information system, data management and data exchange, and the geodetic transformation of data sets are emphasized. Digital elevation models, land use data, population data, digital topographic map and street network data will be used. *Prerequisite: GEOG 366 or permission of the instructor is the prerequisite.*

**GEOG 467. GIS Project Management. 3.00.**

An introduction to geographic information systems (GIS) project management. Basic project management techniques will be applied by defining, designing, implementing and documenting a geographic information system. *Prerequisite: GEOG 366 or permission of the instructor.*

**GEOG 468. Internet Geographic Information Systems. 3.00.**

Theoretical and practical exploration of methods, standards and policies related to the development and utilization of geographic information systems on the Internet. Students will create and utilize distributed geospatial data and analytical systems using the World Wide Web and the Internet to address geographical problems. *Prerequisite: GEOG 365 or GEOG 366.*

**GEOG 469. Applications of Geographic Information Systems. 3.00.**

The course advances the knowledge of GIS in theory and practice by focusing on specific application areas. Spatial databases and complex attribute data will be created, and GIS modeling techniques will be used to solve problems relevant to the specified topical area. The course may be repeated once for additional credit when the topic changes. *Prerequisite: GEOG 366 or permission of the instructor.*

**GEOG 470. Senior Seminar in Environmental Conservation, Sustainability and Development. 3.00.**

This capstone seminar integrates the student's previous class experiences to provide a holistic exploration of linkages between environmental conservation and human development status and strategies through in-depth analysis of compelling human-environment issues. Topics vary by semester and include environmental politics, global perspectives on population, sustainable communities and global biodiversity. For majors and minors only. *Prerequisite: Senior standing and either GEOG 290 or GEOG 308.*

**GEOG 476. Sustainable Cities Seminar. 3.00.**

This seminar explores ways to make cities more environmentally, socially and economically sustainable. Students will study key urban sustainability principles, examine global case studies, undertake local fieldwork and pursue projects developing interventions in real-world city settings. The course emphasizes a geographical approach in addressing urban human and environmental challenges. *Prerequisite: GEOG 290 or GEOG 308.*

**GEOG 485. Processing Remotely Sensed Data. 3.00.**

This course focuses on computer-based techniques for processing remotely sensed data and applications of these techniques. Subjects covered will include geometric and radiometric correction, image enhancement, data transformations, change detection and quantification, and classification. Both traditional techniques and techniques designed for newly available data types will be examined. *Prerequisite: GEOG 385 or permission of the instructor.*

**GEOG 490. Senior Research or Field Practicum. 3.00.**

Working with a research adviser, student completes an internship, a study abroad program, or project research. Student delivers interim progress reports and an annotated bibliography or other relevant research products. May be repeated once. *Prerequisite: GEOG 390 and permission of research adviser.*

**GEOG 491. International Studies. 1.00 - 3.00.**

Student will make arrangements for the international experience. A research project or work-study project will be designed by the student and faculty member prior to departure. The research of work will be carried out in the country of travel. May not be taken for capstone credit. Project must be approved by GS faculty. May be repeated for credit.

**GEOG 495. Internship in Geography. 3.00 - 6.00.**

Practical experience within a public agency, non-profit or private business utilizing geographic methodology. Work experience will be supervised by an official of the business or agency and a faculty member. Periodic seminars and written reports are required. *Prerequisite: Permission of the faculty sponsor and the GS Program Operations Manager. May not be taken for capstone credit.*

**GEOG 497. Independent Study. 3.00.**

Student performs an independent research project, either alone or within an investigative team, to identify and analyze a problem from a geographic perspective. May be taken for repeated credit. May not be taken for capstone credit.

**GEOG 499 A, B, C. Honors in Geography. 1.00 - 3.00.**

*Prerequisite: Year course.*

## Geology

**GEOL 102. Environment: Earth [C3NS]. 3.00.**

A study of geological processes causing global change and their impact on human thought. The relationship between some geological processes and life on the Earth is also considered. Not available for major or minor credit in geology. Students may not receive credit for both GEOL 102 and ISCI 102.

**GEOL 110. Physical Geology [C3NS]. 3.00.**

A systematic study of earth materials and the internal and external processes that affect earth structure and landforms. Topics include the genesis/properties of rocks and minerals, plate tectonics, and the agents of change that drive surface processes and land form development. The laboratory and lecture portions of GEOL 110 must be taken concurrently. *Corequisite: GEOL 110L.*

**GEOL 110L. Physical Geology Laboratory [C3NS]. 1.00.**

This laboratory course is designed to complement and supplement the GEOL 110 course. The laboratory and lecture portions must be taken concurrently. *Prerequisite: GEOL 110 or permission of the instructor.*

**GEOL 115. Earth Systems and Climate Change [C3NS]. 3.00.**

This course explores cycles, trends and abrupt events in the Earth system. Analyses of the geologic record and global climate models provide perspective for understanding paleoclimate and future climate changes, including global warming. Current hypotheses for causes of climate change are evaluated, including plate tectonics, orbital cyclicity, variations in the sun's strength and human activities. The two reoccurring questions of this class are: What are Earth's climate stories? How do we know?

**GEOL 167. History and Philosophy of the Geosciences. 3.00.**

As an introductory experience in the Bachelor of Arts in Earth Science, students will be inculcated in the philosophy of geosciences as an interdisciplinary medium for extending classical science viewpoints to complex earth systems. Students will study the geosciences as distinct among sciences, establishing relevance and value of earth science literacy in professional and personal settings.

**GEOL 210. Applied Physical Geology [C3NS]. 3.00.**

A problem-based study of earth materials and the processes that affect earth structure and landforms. Topics include plate tectonics, the genesis/properties of rocks and minerals, and agents of change that drive surface processes and landform development. Quantitative problem-solving skills will be applied to case studies that address 3D visualization and time-based processes, such as earth materials, solid earth and surface processes, natural hazards and engineering applications. May be used for general education credit.

**GEOL 211. Introduction to Oceanography [C3NS]. 3.00.**

An introduction to the oceanography of coastal environs including barrier islands, estuaries and tidal marshes. The physical, geological and biochemical characteristics of coastal waters will be discussed in the context of the economic and social pressures brought to bear on these areas by an increasing global population. Cannot receive credit for both GEOL 211 and GEOL 401. May be used for general education credit.

**GEOL 230. Evolution of Earth (3, 2). 4.00.**

An introduction to the evidence, methods and assumptions used by scientists to unravel the Earth's origin and history. Emphasis on rock analysis/interpretation, modern and ancient processes of mountain building, origin and evolution of life and the history of the North American continent. *Prerequisite: GEOL 110L or permission of the instructor.*

**GEOL 272. Planetary Geology (2, 2). 3.00.**

A survey of currently developing ideas in planetology including origin of the planets, meteorites and planetary interiors. Also included are geologic processes and land forms on the moon and terrestrial planets, their modification under various planetary environments, and analogies to familiar earth land forms. Includes laboratory. *Prerequisite: GEOL 110L.*

**GEOL 280. Mineralogy (3, 2). 4.00.**

A comprehensive study of minerals, including: crystallography, mineral chemistry, x-ray diffraction, mineral optics with thin section recognition using petrographic microscope, and hand specimen identification of both silicate and non-silicate minerals. *Prerequisite: GEOL 110L.*

**GEOL 291. Writing and Communicating in the Geosciences. 1.00.**

This course prepares students for independent research by providing them the fundamental skills in literature searches, writing, critical reading and communication in the geosciences. *Prerequisite: GEOL 110 OR GEOL 102, GEOL 115; must take prior to senior year.*

**GEOL 300. Introduction to Petrology (3, 3). 4.00.**

Igneous and metamorphic processes explained using crystallization theory, phase diagrams, thermodynamics and geochemistry; laboratory study of rocks, their chemical and mineralogical signatures, and their geologic origins. *Prerequisite: GEOL 280 & CHEM 131; or consent of instructor*

**GEOL 301. Earth Science for Teachers. 4.00.**

Earth science content is blended with a systems approach to provide pre-service teachers with an understanding of how the Earth works, as well as strategies for teaching it. Major content themes include reconstructing the geologic history of the mid-Atlantic, exploring the interaction of living things and the environment, and predicting how matter and energy circulate in the earth system.

**GEOL 302. Sedimentary Petrology. 1.00.**

This is a course about sedimentary rocks in hand sample and thin section. With the polarizing microscope, students will study thin sections of outcrop and core samples. They will identify common minerals, textures and fabrics. They will identify the four components of all sedimentary rocks (framework grains, cements, matrix, pore types) and will make qualitative and quantitative measurements at a fundamentally different scale than is possible with just a field study of sedimentary rocks. *Prerequisite: GEOL 280 or permission of the instructor.*

**GEOL 310 A - D. Environmental Impact. 2.00 - 3.00, repeatable to 6 credits.**

Focuses on a selected environmental realm. The course will examine the interface between human activities and environmental systems. It will address the impacts of social, economic and political activities on the environment. Atmosphere (air pollution); B-Biosphere (vegetation/wildlife); C-Hydrosphere (water); D-Lithosphere (geologic hazards/land issues).

**GEOL 320. Meteorology. 3.00.**

A survey of the science of weather including weather forecasting, weather maps and related atmospheric processes. Emphasis is placed on the dynamic aspects of meteorology and the interrelationships of atmospheric phenomena with land masses and the world ocean.

**GEOL 340. Environmental Soil Science (2, 2). 3.00. Crosslisted with ENVT 340.**

The origin, distribution, and chemical, biological, and physical properties of soil are introduced. Processes responsible for soil properties are emphasized. Field trips highlight the stability of soils, their distribution across the Shenandoah Valley and their role in biogeochemical cycles. *Prerequisite: GEOL 110 or GEOG 210 or permission of the instructor may be granted for students with 4 hours of a lab course.*

**GEOL 350. Paleobiology (3, 2). 4.00. Crosslisted with BIO 350.**

The evolution and ecological structure of the biosphere from the origin of life to the present, emphasizing the evolution and paleobiology of animal life as shown by the fossil record. Lectures discuss methods used to interpret the fossil record and cover topics such as phylogeny and systematics, functional morphology, biostratigraphy, paleoecology, evolution and extinction. Laboratories focus on the major groups of invertebrates that are common in the geologic record. *Prerequisite: GEOL 230, BIO 150 or permission of instructor.*

**GEOL 355. Geochemistry of Natural Waters. 3.00. Crosslisted with CHEM 355.**

Study of chemical theory and reactions important in natural water systems. The role of atmospheric, geologic and biological inputs in determining the geochemistry of streams, rivers and oceans. *Prerequisite: CHEM 131 and CHEM 132 or equivalent.*

**GEOL 360. GIS for the Geoscientist. 3.00.**

This course is designed to help students master practical geospatial skills helpful for an entry-level job or graduate school in the geosciences.

**GEOL 365. Structural Geology. 4.00.**

Major and minor structures of the Earth's crust. Mechanical principles involved in folding, faulting, jointing and penecontemporaneous structures. The causes and results of mountain building processes. Preparation and interpretation of geologic maps. *Prerequisite: GEOL 110L*

**GEOL 367. Genesis of Solid Earth Materials (3, 2). 4.00.**

This course addresses the natural relationship between minerals and the rocks they make up. Using the concept of mineralizing environments, illustrated by classic examples, students will investigate minerals through the processes of mineral genesis and associated rock types. This approach provides insight and predictive value for natural conditions in which specific minerals and rocks occur. Not acceptable for B.S. in geology. *Prerequisite: GEOL 110L.*

**GEOL 377. Earth Surface Processes (2, 2). 3.00.**

The interrelationships among climate, landscapes, soils and bedrock geology are examined using the mid-Atlantic region as a conceptual laboratory. Course instruction includes lecture, laboratory and field trip meetings. The processes of rock weathering and erosion and soil formation are reinvestigated. Topographic maps and aerial photography are examined for landforms and landscape evolution. *Prerequisite: GEOL 110L, GEOL 210 or permission from the instructor*

**GEOL 380. Genetic Mineralogy (2, 2). 3.00.**

A study of mineral genesis. Emphasis is directed toward mineralogical environments, mineral associations and the geology/mineralogy of classical localities. An appreciation of mineral value and aesthetics is incorporated throughout the course. *Prerequisite: GEOL 280.*

**GEOL 387. Stratigraphy, Structure, and Tectonics (3, 2). 4.00.**

Examination of how stratigraphic, structural, and tectonic principles control the character and distribution of rocks. Study of principles, regional patterns in sedimentary rocks, and stresses that deform rocks are explored in laboratory and field exercises. Topics and techniques are discussed within the framework of the 1.2 billion year geologic history of the VA region and its connection with tectonic processes throughout the rest of the world. *Prerequisite: GEOL 110L and GEOL 230*

**GEOL 388. Advanced Structure, Stratigraphy, Tectonics (3,2). 4.00.**

Advanced concepts in structural geology (analyses of rheology, stress & strain, deformation fabrics, and chronologic constraints) applied to the tectonic evolution of orogens and basins. This will include exploration of the mechanisms controlling the stratigraphic record (auto- and allogenic mechanisms and sequence theory) of basins, as well as methods of dating the stratigraphic record (biofacies and biostratigraphy, geochronology and chronostratigraphy, and magneto and chemostratigraphy). *Prerequisite: Prerequisite: GEOL 387.*

**GEOL 390. Laboratory Techniques in Geology (2, 2). 3.00.**

An elective course for science majors. A study of the basic theories and techniques of laboratory methods and instrumentation. Implementation and application of techniques to geological problems. *Prerequisite: GEOL 280 or permission of the instructor*

**GEOL 398. Topics in Geology. 1.00 - 4.00.**

Topics in geology at the advanced level. May be repeated for credit when course content changes. Topics selected may determine prerequisites. Students should consult the instructor prior to enrolling in the course. *Prerequisite: Permission of the instructor.*

**GEOL 399. Field Geology. 6.00.**

Field Geology is the capstone course for geology majors. Students learn to recognize and interpret a wide variety of rocks and structures, as well as geomorphic, hydrologic, and other geologic features. Methods of mapmaking, data recording, and report preparation are emphasized. Projects from one to five days' duration are conducted in regions where igneous, metamorphic, and sedimentary rocks, surficial deposits, and karst features are well-exposed. *Prerequisite: GEOL 300 and GEOL 387 or permission of the instructor.*

**GEOL 400. Geology and Ecology of the Bahamas. 3.00. Crosslisted with BIO 400.**

This course explores the geology and ecology of the shallow-water marine environment by examining the preeminent modern example, the Bahamas platform. The Bahamas provide an excellent model for understanding modern and ancient carbonate and reef deposits and a variety of terrestrial/aquatic habitats. Biological processes are responsible for many of the geological features of the Bahamas, so the course considers the biology/ecology of marine organisms in addition to geological topics. *Prerequisite: GEOL 110 or GEOL 211 or a 200-level GEOL or BIO course; at least four hours of additional lab science, at least sophomore status, and permission of the instructor.*

**GEOL 401. Oceanography for Teachers. 3.00.**

A comprehensive study of the world's oceans and the interrelationships among physical, chemical, biological and geological oceanography for pre- and inservice teachers. Special emphases on Virginia coastal oceanography, the National Ocean Literacy Principles and the integration of pedagogy applicable to K-12 instruction. Includes a field trip to the Virginia coast. Credit may not be earned in both GEOL 211 and GEOL 401.

**GEOL 405. Vertebrate Paleontology. 3.00. Crosslisted with BIO 405.**

A study of the origin and evolution of the vertebrates. Emphasis will be on understanding how the processes of earth evolution and biological evolution have interacted through time to produce a coherent picture of vertebrate history. *Prerequisite: GEOL 230, BIO 114, BIO 150 or permission of instructor.*

**GEOL 406. Paleoclimatology and Paleoceanography. 3.00.**

Investigate the methodologies and data used to reconstruct Earth's climate history. Emphasis will be placed on the marine sediment records of the Cenozoic through detailed lecture, lab activities and course-based original research. Case studies include the Paleocene Eocene Thermal Maximum, the glaciation of Antarctica, Milankovitch cyclicity and Northern Hemisphere glaciation. *Prerequisite: GEOL 211, GEOL 230 or BIO 354, or permission of instructor.*

**GEOL 410. Engineering Geology (2, 2). 3.00.**

Study of the applications of geology to engineering practice. Topics include soil mechanics, foundations, engineering classification of soils, slope stability and mineral aggregates. *Prerequisite: GEOL 110 or 210 or GEOG 210 and MATH 231 or MATH 235 or equivalent.*

**GEOL 440. Geophysics (3, 2). 4.00.**

A survey of geophysical methods, with joint attention on near-surface and solid earth applications. Topics include seismology, heat flow, gravity, magnetism, electrical methods, ground penetrating radar and geophysical aspects of plate tectonics. Labs focus on practical experience with data acquisition, reduction, and interpretation and are a combination of field, classroom and computational activities. *Prerequisite: GEOL 110L OR PHYS 140 - PHYS 150 OR PHYS 245 - PHYS 250 OR permission of the instructor.*

**GEOL 442. Field Geophysics. 3.00.**

This course focuses on collection of geophysical data in the field and interpretation, analysis and technical reporting afterwards. Case studies discussed include applications to geology, archaeology, and engineering. Students will get hands-on experience with geophysical equipment and an understanding of how and where these tools can be applied. Topics include Ground Penetrating Radar, Electrical Resistivity, Magnetism, Seismic Refraction and Total Station Data. *Prerequisite: GEOL 110 or GEOL 210 or ANTH 197 or consent of instructor.*

**GEOL 460. Hydrogeology (2, 2). 3.00.**

Basic concepts of subsurface water as a part of the hydrologic cycle. Topics include storativity and permeability in porous media, principles of flow, computer applications, groundwater exploration, and mapping and environmental aspects of groundwater. *Prerequisite: GEOL 110L and two semesters of calculus or permission of the instructor.*

**GEOL 477. Contemporary Issues in the Geosciences. 3.00.**

As a capstone experience, this course serves as an opportunity for students to view issues of the Earth system from an Earth-based perspective. Building on previous course work in the major (physical geology, meteorology, oceanography, etc.), students will investigate such issues as global warming, population and sustainable development and environmental ethics. Particular emphasis is placed upon the Earth's perspective from a historical viewpoint. *Prerequisite: GEOL 211, GEOL 320, GEOL 367, and GEOL 377*

**GEOL 489. Quantitative Methods in Geology. 3.00.**

An introduction to the mathematical methods and statistical techniques that are employed by scientists in the disciplines of geochemistry, geophysics, hydrology and the petroleum/mineral industry. The course provides the quantitative skills necessary to manipulate geological data.

**GEOL 491. Geological Literature and Research. 2.00.**

Provides advanced instruction in literature research to meet the B.A. Earth Science and B.S. Geology research requirements. Activities include the identification of a literature-based research problem, literature research techniques, critical reading and discussion, and the preparation of individual review papers on each student's research topic. *Prerequisite: GEOL 291 or permission of the instructor.*

**GEOL 494. Internship in Geology. 1.00 - 3.00.**

Student conducts a research or applied project in geology outside of the university. Requires an approved proposal prior to registration and a final report at the culmination of the project. *Prerequisite: Minimum of eight credit hours in geology, GEOL 291 and a geology GPA of 2.5 or higher.*

**GEOL 497. Problems in Geology. 1.00 - 3.00.**

An undergraduate research course in one of the fields of geology. Open to advanced students who have adequate preparation. *Prerequisite: GEOL 291 or permission of the instructor.*

**GEOL 499A. Honors in Geology. 1.00.**

*Prerequisite: GEOL 291 and 3.25 GPA or higher.*

**GEOL 499B. Honors in Geology. 2.00.**

*Prerequisite: GEOL 291 and 3.25 GPA or higher.*

**GEOL 499C. Honors in Geology. 3.00.**

*Prerequisite: GEOL 291 and 3.25 GPA or higher.*

## German

**GER 101. Elementary German I. 3.00 - 4.00.**

The fundamentals of German through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school, he/she will not receive credit for the course.

**GER 102. Elementary German II. 3.00 - 4.00.**

The fundamentals of German through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school, he/she will not receive credit for the course. *Prerequisite: GER 101.*

**GER 109. Accelerated Review of Elementary German. 3.00.**

Reviews elementary German grammar, reading, writing, speaking and listening skills in German. One hour of work a week in the language laboratory. For students who have had no more than two or three years of German in high school or qualify through the placement exam. *Prerequisite: Permission of the department head or per placement exam score.*

**GER 111. Intensive German I. 6.00.**

The fundamentals of German through intensive listening, speaking, reading and writing. This four-week course is the equivalent of GER 101-102.

**GER 212. Intensive German II. 6.00.**

The fundamentals of German through intensive listening, speaking, reading and writing at the intermediate level. This four-week course is the equivalent of GER 231-232. *Prerequisite: GER 102, GER 109 or GER 111, or per placement exam score.*

**GER 231. Intermediate German I. 3.00.**

A thorough review of grammar and vocabulary building, conversation, composition and reading. *Prerequisite: GER 102, GER 109, and GER 111, or per placement exam score.*

**GER 232. Intermediate German II. 3.00.**

A thorough review of GER 231 grammar and vocabulary building. Conversation, composition and reading will be chosen to reach competency at the advanced intermediate level. *Prerequisite: GER 231 or sufficient score on the foreign language placement test.*

**GER 300. Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in German. Fulfills the College of Arts and Letters writing-intensive requirements for the major. *Prerequisite: GER 232 or per placement exam score.*

**GER 307. History of German Civilization. 3.00.**

A study of society, economics, politics and the arts in central Europe from Indo-European beginnings to the present. Emphasis is also placed on outstanding contributions of German-speaking people. Instruction is in German. *Prerequisite: GER 300 or equivalent.*

**GER 308. Contemporary German Civilization. 3.00.**

A study of life, culture, politics and economics in modern Germany. May be repeated for credit. *Prerequisite: GER 300 or equivalent.*

**GER 320. Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday German with emphasis on conversation and composition. Readings in German will provide a context for discussion and writing. *Prerequisite: Prerequisite: GER 300 or equivalent.*

**GER 330. Business German. 3.00.**

A study of commercial and trade vocabulary and customs in conjunction with practice in commercial communication, including letter writing, interviews and interpretation. Instruction is in German. *Prerequisite: GER 300 or equivalent.*

**GER 335. Introduction to German Literature. 3.00.**

A survey of German literature from 750 to the present. Textual analysis of sample writings of the most important literary movements. Instruction is in German. *Prerequisite: GER 300 or equivalent.*

**GER 341. Translation Competencies. 3.00.**

In this course, students will develop linguistic competencies required in translation, including reading comprehension, summary writing, text analysis and use of mono- and bilingual dictionaries. Students will learn some basic electronic tools and word processing skills for translators and practice several types of translation, including direct translation, inverse translation and back translation. Fulfills the College of Arts and Letters writing-intensive requirement for the major. Instruction is in English and German. *Prerequisite: Prerequisite: GER 300 or equivalent.*

**GER 375. Business and Society in Germany. 3.00.**

Germany-"The Land of Ideas"- known for its engineering and technology, is a leader in innovation and research in every field. It is the strongest economic power in Europe. The course explores German society in its historical, political and economic contexts. Several aspects will be investigated: the EU, Globalization, immigration, environment, family policies, current affairs and the latest trends in the society. Instruction is in German. *Prerequisite: GER 300.*

**GER 386. German Short Stories. 3.00.**

A study of literary German short prose from the 18th century to the present, including a selection of fables, fairy tales, modernist parables, aphorisms, narratives and short novellas. Authors studied may include Brecht, Kafka, Hoffmann, Ebner-Eschenbach, Schnitzler, Kleist, Bachmann, Borchert and Mann, among others. Instruction is in German. *Prerequisite: GER 300.*

**GER 400. Advanced Conversation. 3.00.**

Discussions deal with topics of current interest. *Prerequisite: GER 300 or permission of the instructor.*

**GER 405. The Age of German Classicism. 3.00.**

Reading and interpretation of significant works of Lessing, Goethe and Schiller. Instruction is in German. *Prerequisite: GER 300 or permission of the instructor.*

**GER 415. German Romanticism and Realism. 3.00.**

A study of Romanticism and Realism with emphasis on Romantic poetry and the Realistic novel. Instruction is in German. *Prerequisite: GER 300 or permission of the instructor.*

**GER 425. Modern German Literature. 3.00.**

A study of the works of major German writers of the 20th century. Instruction is in German. *Prerequisite: GER 300 or equivalent.*

**GER 436. Studies in German Literature. 3.00. Crosslisted with ENG 436.**

A study of selected works of German literature. Instruction is in English. May be repeated for credit when course content changes.

**GER 446. Special Topics in German Literature. 3.00.**

Study of a particular topic in German literature. It may cover all or specific German literature genre. Course may be repeated if content varies. *Prerequisite: GER 300.*

**GER 447. Special Topics in German Civilization & Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of Germany. Course may be repeated if content varies. *Prerequisite: GER 300*

**GER 465. German Cinema. 3.00.**

An analysis of the German cinema from the 1920s through the present. Emphasis will be on the relations between the German film and certain seminal periods in German history. *Prerequisite: GER 300 or permission of the instructor*

**GER 490. Special Studies in German. 1.00 - 4.00.**

Allows students an opportunity to complete independent studies under faculty supervision. *Prerequisite: Permission of the department head.*

**GER 490G. Special Studies German. 3.00.**

**GER 499C. Seniors Honors Project. 2.00.**

## Gerontology

**GERN 280. Social Gerontology. 3.00. Crosslisted with SOCI 280.**

An interdisciplinary introduction to the study of aging. The course provides an overview of issues surrounding aging in contemporary society: personal, familial, communal and societal. *Corequisite: 20 hours of community service-learning.*

**GERN 305. Programs and Services for the Elderly. 3.00.**

A review of the programs and services provided for the elderly in the public and private sectors of America. Observations and participation in local programs for the elderly will be required. *Prerequisite: GERN 280/SOCI 280*

**GERN 375. Grant Writing for Agencies. 3.00. Crosslisted with FAM 375, NPS 375, SOWK 375.**

Emphasizing active learning, this course teaches the basics of grant and proposal writing. Efficient research, persuasive prose and the importance of relationships are stressed. Private and corporate philanthropy and government grants are examined.

**GERN 400. Skills and Techniques in Gerontological Assessment. 3.00.**

The study of the skills and techniques used in assessing the elderly client. Assessment is made from the holistic approach: physical, psychological and social. *Prerequisite: GERN 280/SOCI 280*

**GERN 450. Palliative and Hospice Care: An Interdisciplinary Approach. 3.00. Crosslisted with SOWK 450.**

An interdisciplinary approach to assessment and care planning of older adults experiencing need for palliative and/or hospice support. Familial, cultural, legislative and social implications of programs and service delivery.

**GERN 487. Special Topics in Gerontology. 3.00.**

Examination of selected topics in gerontology that are of current importance in the field of gerontology. Course may be repeated for credit.

**GERN 490. Special Studies in Gerontology. 1.00 - 3.00.**

Independent study in gerontology under faculty supervision. Limited to gerontology minors. Can be repeated for credit. *Prerequisite: GERN 280/SOCI 280, GERN 305, and GERN 400.*

**GERN 495. Field Experience/Seminar in Gerontology (1, 6). 3.00.**

Supervised field experience in gerontology settings that allows observation and experience with the well and frail elderly. A minimum of six hours in the assigned setting each week and one hour seminar on campus. *Prerequisite: GERN 280/SOCI 280, GERN 305 and GERN 400, major elective, and approval of the gerontology minor adviser.*

## Graphic Design

**GRPH 101. Digital Media Design I (0, 9). 3.00.**

An introduction to graphic design using industry standard software. Students will explore fundamental concepts, terminology and media that relate to the creation and presentation of graphic design projects. *Prerequisite: ART 102 and ART 104 or permission of the instructor.*

**GRPH 200. Image Making (0, 6). 3.00.**

An exploration of strategies for conceptualizing, analyzing and solving design problems through image making. Emphasis is placed on graphic presentation of ideas and the creative process through a variety of mediums and materials. *Prerequisite: ART 102.*

**GRPH 201. Digital Media Design II. 3.00.**

A hands-on approach to digital media and production using leading edge software for web and interactive design. Concepts and content include visual language for screens and devices, exploration of time-based media, audio/video integration, user feedback tools and digital portfolios. *Prerequisite: GRPH 101.*

**GRPH 206. Typography I (0, 9). 3.00.**

An introduction to the study of letter forms for their aesthetic and communicative value. Typographic fundamentals of alphabet history, type classification, printing technology effects, font design, visual space, hierarchy and grid systems will be explored. *Prerequisite: Prerequisite:.*

**GRPH 208. Portfolio Review. 0.00.**

Portfolio review required to enroll in graphic design courses at upper division standing. May be repeated once for pass/fail standing. *Prerequisite: GRPH 101, GRPH 200 and GRPH 206. Corequisite: GRPH 206.*

**GRPH 300. Illustration (0, 9). 3.00. Crosslisted with GRPH/ART 300.**

Through demonstrations, theory and practical application, students are introduced to numerous media and illustrative techniques. Encouraged experimentation is tempered by an understanding of problem solving and conceptualization. *Prerequisite: GRPH 208.*

**GRPH 301. Digital Media Design III. 3.00.**

Through demonstrations and practical application, students are introduced to digital techniques used in design applications. Experimentation is encouraged through problem solving and conceptualization, filtered through the lens of contemporary digital production. Students will be challenged with executing effective design solutions through creative thinking and image creation as it applies to graphic design. *Prerequisite: GRPH 208.*

**GRPH 304. Package Design (0, 9). 3.00.**

Through theory, demonstrations and practical application, students learn to design in three-dimensions. Focus will be placed on aesthetics, as well as the form and function of a product's housing. *Prerequisite: GRPH 208.*

**GRPH 306. Typography II (0, 9). 3.00.**

An intermediate study of typography for its aesthetic and communicative value. Context effects on legibility and readability, type as image, type in sequence and typographic systems will be explored. *Prerequisite: GRPH 208.*

**GRPH 312. Web Design. 3.00.**

Intermediate level web design and front-end development through theory and practical application. Assignments will focus on the unique form, content and structures associated with designing for a device-agnostic web. Creative iteration and digital design are emphasized in tandem with changing technology. *Prerequisite: GRPH 201 and GRPH 208.*

**GRPH 313. Interactive Media. 3.00.**

Intermediate level visual interface design, motion graphics, and interaction design through theory, demonstration and practical application. Assignments will focus on digital craft, creativity, and presentation. Emphasis on digital and interactive media, and functionality, usability, and user experience. *Prerequisite: GRPH 201 and GRPH 208.*

**GRPH 340. Poster Design (0, 9). 3.00.**

Through theory and practical application, students learn to design for the poster realm. Focus will be placed on aesthetics, as well as form and function. Encouraged experimentation is tempered by an understanding of problem solving and conceptualization. *Prerequisite: GRPH 208.*

**GRPH 375. Letterpress. 3.00. *Crosslisted with ART 375.***

This studio course offers students an opportunity to engage in the process and product of letterpress printing through various techniques and conceptual approaches. Instruction focuses on text and image relationships by integrating metal and wood type, and other type-high surfaces. Emphasis will be placed on the acquisition of skills and vocabulary and the creative use of type and image. The course will address the history of letterpress and its contribution to contemporary art and design. *Prerequisite: ART 102 and ART 104; for GRPH credit: GRPH 208.*

**GRPH 376. Intermediate Book Arts: Concept, Content, Form. 3.00. *Crosslisted with ART 376.***

This course challenges the student to develop a limited edition hand-made artists' book. The appropriate format for each individual's concepts are identified, adapted, customized, applied, and produced. Content development, book design, integration of various media and the functionality of various bookmaking materials are explored. We will consider the artists' book as a sculptural form and locate it within the broader context of contemporary writing and visual art. *Prerequisite: ART 276. For GRPH: ART 276 and GRPH 208.*

**GRPH 390. Independent Study in Graphic Design. 1.00 - 3.00.**

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in Graphic Design must be arranged with the instructors who will direct them. Offered only with the consent of the instructor. *Prerequisite: GRPH 208.*

**GRPH 392. Topics in Graphic Design. 3.00.**

Study of selected topics in graphic design at the intermediate level. May be repeated when course content changes. See MyMadison for current topics. *Prerequisite: GRPH 208.*

**GRPH 406. Advanced Typography (0, 9). 3.00.**

An advanced study of typography for its aesthetic and communicative value. Topics of research, narrative, information design, format organization and production techniques will be explored. Solutions reflect advanced text and image integration knowledge through complex and variable structure development. *Prerequisite: GRPH 306.*

**GRPH 408. Brand Identity. 3.00.**

Exploration of visual identities utilizing a holistic, systems approach to design. Introduces business strategies and design techniques associated with brand development. Emphasis is placed on methods of thinking, research and implementation. *Prerequisite: GRPH 306.*

**GRPH 410. Graphic Design Portfolio. 3.00.**

An examination of the business of graphic design, employment strategies and freelance opportunities. Focus is placed on solidification of the portfolio for employment and/or graduate school. This course is strongly recommended for the last semester prior to graduation. *Prerequisite: GRPH 406 and GRPH 408. Corequisite: GRPH 408.*

**GRPH 490. Independent Studies in Graphic Design. 1.00 - 3.00.**

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the director. *Prerequisite: GRPH 208.*

**GRPH 491. Studio Assistant. 1.00 - 3.00, repeatable. *Crosslisted with ARCD 491, ARED 491, ART 491, INDU 491.***

An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control, and the proper operation of equipment found within various individual classroom studios. *Prerequisite: Permission of the instructor.*

**GRPH 492. Topics in Graphic Design. 3.00.**

Study of selected topics in graphic design at the advanced level. May be repeated when course content changes. See MyMadison for current topics. *Prerequisite: GRPH 306.*

**GRPH 496. Internship in Graphic Design. 1.00 - 6.00.**

An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisite: Permission of the instructor and GRPH 208; students can only enroll for a maximum of 3 credits per Internship.*

**GRPH 497. Graphic Design Capstone. 6.00.**

Advanced level exploration of graphic design principles, methods, applications and professional practice. Independent research projects are emphasized, and students will produce and refine a professional graphic design portfolio suitable for employment and/or application to graduate school. This course is strongly recommended for the last semester prior to graduation. *Prerequisite: GRPH 408. Corequisite: GRPH 408.*

**GRPH 499. Honors (1, 3, 2). 6.00.**

*Prerequisite: GRPH 208.*

**Greek****GRK 101. Elementary Greek I. 3.00 - 4.00.**

Designed to provide a reading knowledge of Classical Greek as well as New Testament koine. Greek life, thought and culture are also discussed. Especially recommended for history, English, and philosophy and religion majors.

**GRK 102. Elementary Greek II. 3.00 - 4.00.**

Designed to provide a reading knowledge of Classical Greek as well as New Testament koine. Greek life, thought and culture are stressed. Especially recommended for science, English and philosophy majors. *Prerequisite: GRK 101 or equivalent.*

**GRK 231. Intermediate Greek I. 3.00.**

An intensive reading course. Selections from Classical Greek writers and/or the New Testament. *Prerequisite: One year of college Greek or equivalent.*

**GRK 232. Intermediate Greek II. 3.00.**

An intensive reading course. Selections from Classical Greek writers and/or the New Testament. *Prerequisite: GRK 231 or permission of the instructor.*

**Health and Human Services****HHS 440. International Health and Human Services in Malta. 4.00.**

This May session, study abroad course examines health issues in Malta and provides a team oriented, project experience. Project participation, tours, and arranged meetings with local experts are used to illustrate health related problems that apply globally and are compared and contrasted with those in the United States.

**Health****HTH 100. Personal Wellness [C5W]. 3.00.**

Emphasizes lifestyle behaviors contributing to health promotion and disease prevention. General areas affecting health status are identified. Suggestions are made as to how health-



related behaviors, self-care and individual decisions contribute to health and influence dimensions of wellness. May be used for general education credit.

**HTH 150. Introduction to Health Sciences. 2.00.**

This course orients students in the major to foundational expectations and requirements for successful completion of the Health Science major and Health Studies concentration. The course introduces conceptual ideas such as a wide array of health careers, importance of gaining early and regular field experiences, and writing and research basics.

**HTH 210. Medical Terminology. 3.00.**

Study of terms that relate to body systems, anatomical structures, medical processes and procedures, and a variety of diseases/disorders that afflict human organisms.

**HTH 230. Community Health. 3.00.**

An introduction to community health including its foundations, the tools of community health such as epidemiology, community organization, disease control and health promotion. The course focuses on the populations, settings and special issues of community health. *Prerequisite: HTH 100.*

**HTH 231. Population Health Determinants. 3.00.**

Many factors combine together to affect the health of individuals and communities. In an effort to advance public health, health professionals must be cognizant not only of behaviors which may compromise or promote health, but also the interaction of social and physical factors which impact health outcomes. *Prerequisite: HTH 150 Corequisite: HTH 150.*

**HTH 245. Foundations of Infectious Disease. 3.00.**

An overview of the incidence, prevalence, causation, and prevention of the major infectious diseases which are currently of concern in the twenty-first century. Major signs and symptoms of the diseases as well as treatment will be reviewed. The course will also cover the body's defense system and the principles of disease occurrence. *Prerequisite: Declared HRD minor.*

**HTH 255. Chronic Disease and Disabilities. 3.00.**

An overview of the incidence, prevalence, causation and prevention of chronic diseases and disabilities across the lifespan. Major signs and symptoms of the diseases and disabilities as well as treatment will be reviewed. *Prerequisite: HTH 100 and HTH 150.*

**HTH 308. Physiological Responses to Human Movement. 3.00.**

The purpose of this course is to present an overview of established and current knowledge of physiological responses to human movement as they relate to health and wellness. *Prerequisite: BIO 290*

**HTH 314. Rural Health: An Interdisciplinary Approach. 3.00. Crosslisted with IPE 314, NSG 314, SOWK 314.**

Students study, observe and participate in interdisciplinary assessment, planning and delivery of community-based primary health care in partnership with residents and agencies of a host rural county. Learning activities will emphasize rural culture, rural health care and interdisciplinary practice.

**HTH 315. Peer Leadership in Health Sciences. 2.00.**

Undergraduate students are provided a leadership opportunity to serve as a peer leader for a selected class. Teaching and learning occur under faculty mentorship. The student and faculty member collaborate to ensure proper levels of rigor and support, identify specific goals, discuss reflections of experiences, and make connections to future professions. Serving as a peer leader allows students to see college teaching from a new perspective. Course may be repeated for a maximum of 4 credits. *Prerequisite: Application and/or interview with supervising faculty member must be complete; student must have previously completed the course earning a B or higher; Junior or Senior status; permission of instructor.*

**HTH 320. Statistical Methods for Health Science Research. 3.00.**

This course reviews statistical concepts and techniques with special reference to health science applications and issues. It also reinforces the logic of statistical decision making for health and medical research concerns. *Prerequisite: MATH 220 or COB 191*

**HTH 340. Chronic Disease and Disabilities. 3.00.**

An overview of the incidence, prevalence, causation, and prevention of chronic diseases and disabilities across the lifespan. Major signs and symptoms of the diseases and disabilities as well as treatment will be reviewed. *Prerequisite: HTH 100, HTH 150, HTH 210 or HTH 300, HTH 231 or HTH 230, HTH 245.*

**HTH 351. Health Behavior Change. 3.00.**

This course will identify individual and group characteristics that influence health behaviors and the features of programs designed to change behavior that makes them more or less effective. Students will develop the skills necessary to formulate health-modification programs. *Prerequisite: HTH 231.*

**HTH 352. Environmental Health. 3.00.**

An investigation of environmental factors and their effects on the health of the individual, community and society.

**HTH 354. U.S. and Global Health Care Systems. 3.00.**

The course provides an overview of the U.S. health care system by examining the organization, financing, and delivery of health services. The class will include current issues in health care policy, the future of health care systems in America, and a comparative global analysis of health care systems.

**HTH 355. HIV/AIDS: A Global Perspective. 1.00.**

Discussion includes theories of origins, statistics and characteristics of the causative pathogen, incubation, illness patterns, transmission, prevention and treatment of HIV/AIDS and other STDs. HIV/AIDS and other STDs in relation to prisons, children, schools, global concerns, health care systems and legal factors will be considered.

**HTH 368. Global Health. 3.00.**

This course provides students with an opportunity to critically examine and explore a wide range of social, economic and demographic themes in global health. Focus is given to the evolution of major causes of disease, the ecology and etiology of major infections and chronic diseases, and the social and economic consequences of changes in mortality and health. Programs designed to affect health conditions are examined.

**HTH 370. Child and Adolescent Health. 3.00.**

This course will discuss the CDC priority health risk categories and the Healthy People Objectives for the Nation as they relate to child and adolescent health. In addition, the CDC model for Coordinated School Health Programs will be explored to determine specific strategies for health improvement.

**HTH 372. Human Sexuality. 3.00.**

An in-depth study of sexuality across the lifespan. Emphasis is placed on the development of sexuality with attention given to the psychological, physiological, ethical and socio-cultural implications. *Corequisite: HTH 231.*

**HTH 378. The Use & Effects of Drugs. 3.00.**

A study of the use and pharmacological properties of popular legal and illegal drugs and their effects on the health of individuals and society. *Prerequisite: HTH 230.*

**HTH 380. Health Communication. 3.00.**

The course will provide an introduction to health communication theory, research and practice. Students will learn how to design, communicate and evaluate effective health promotion messages. *Prerequisite: HTH 351. Corequisite: HTH 351.*

**HTH 389. Practicum in Health Sciences. 1.00 - 3.00.**

Selected practicum experiences which provide students with supervised practicum experiences.

**HTH 390. Special Studies in Health Science. 1.00 – 2.00.**

An independent study for students to pursue individual projects or research related to a selected topic of current importance to the Health Science field. Students will be under the supervision of a faculty member. Course may be repeated if the topic varies for a maximum of 4 credits. *Prerequisite: Permission of the instructor.*

**HTH 391. Special Topics in Health Sciences. 3.00.**

The courses offered under this title are designed to allow exploration of current topics in health science not covered elsewhere in the curriculum. Course content will vary by term and instructor. Course may be repeated for credit when course content changes.

**HTH 407. Health Education Facilitation/Synthesis. 2.00.**

Students apply health knowledge by identifying needs, designing and facilitating programs in various settings on pertinent topics. These topics include sexual health, STD/HIV prevention, eating disorders, stress management, sexual assault and alcohol/drug abuse. Upon completion of all course requirements, students will be credentialed as a Certified Peer Educator (CPE). *Prerequisite: Permission of the instructor.*

**HTH 408. Health Research Methods. 3.00.**

This course will present an overview of research methods within public health, emphasizing the steps involved in the research process. Methodological issues covered will include the ethics of health studies research, qualitative and quantitative research designs, operationalization of concepts, measurement of variables, and techniques of sampling, data collection, and analysis. *Prerequisite: HTH 320 and HTH 351; or, HTH 351 and public health concentrators; or HTH 351 and health assessment and promotion concentrators.*

**HTH 409. Therapeutic Interaction. 3.00.**

This course focuses on the fundamental aspects of the therapeutic process, small group dynamics and understanding professional relationships in occupational therapy practice. Students will investigate concepts, attitudes and behavioral strategies that will support effective professional communication. They will also investigate inter- and intra- personal strategies that facilitate collaborative relationships as an occupational therapist in health or human service provision. *Prerequisite: Admission into the occupational studies concentration and successful completion of all previous concentration course work.*

**HTH 417. Women's Global Health and Human Rights. 3.00. Crosslisted with NSG 417, WGSS 417.**

An international and human rights approach providing an overview of health issues within the context of a woman's life cycle. Attention will be given to critical issues of women's health such as access to health care and gender based violence. Such issues as sexuality, nutrition, diseases affecting women, violence, harmful traditional practices, and sex trafficking will be discussed.

**HTH 420. Global Perspectives on Alcohol and Drug Policies. 3.00.**

This course will study drug policy from a public health perspective. Students will examine global alcohol and other drug policies assessing their impact at the regional, state, national and international levels. Emphasis will be given to the contemporary phases of alcohol and other drug policies and the war on drugs.

**HTH 422. Public Health and Healthcare Policy. 3.00.**

This course will provide a framework for understanding and analyzing a range of health policy issues such as accessibility, cost and quality of healthcare; disaster preparedness; the safety of our food, water, environment and medications; and the right to make individual decisions about our personal health. The course will explore the U.S. policy-making system, civic engagement, the essential issues in health policy and how health policies impact the work of health professionals. *Prerequisite: HTH 231 and HTH 354.*

**HTH 423. Ethics and Critical Thinking in Health. 3.00.**

This course explores ethical issues facing the public health and healthcare systems in the United States. Key ethical frameworks are used to analyze contemporary public health and healthcare issues and the overlap and distinctions between them. The course will review fundamental and emerging topics (individual rights vs. the common good, genetics, health promotion and disease prevention) and challenge students to think critically about them. Student will play an active role in presenting and evaluating ethical concepts and conflicts to facilitate class discussion. *Prerequisite: HTH 351, HTH 354 Corequisite: HTH 354*

**HTH 441. Biomechanics for the Healthcare Professional. 3.00. Crosslisted with KIN 407.**

This course is designed to introduce the student to a variety of biomechanical concepts and applications as related to the health professions. Specific attention will be given to the biomechanical aspects of the musculoskeletal system. *Prerequisite: BIO 290*

**HTH 442. Chronic Diseases. 3.00.**

This course examines the pathophysiological effects of chronic diseases on health and well-being. Discussions include various strategies which improve the functional status and health of individuals at risk. *Prerequisite: HTH 308 or KIN 302 and KIN 302L.*

**HTH 450. Epidemiology. 3.00.**

A study of the causation and prevention of the major diseases that affect the quality of an individual's life. Practical skills utilized by practicing epidemiologists are emphasized. *Prerequisite: HTH 320 and HTH 351; or HTH 351 and public health education; or HTH 351 and health assessment and promotion concentration; or senior health services administration concentration.*

**HTH 453. Public Health Education Methods. 3.00.**

This course is designed for public health education students to develop competencies necessary for working in community and public health settings. Presentation skills, developing print, computer and Internet materials, facilitating groups and coalitions, and advocacy are some of the topics covered. *Prerequisite: HTH 351 and senior public health education concentration students or permission of the instructor.*

**HTH 456. Grant Writing in Health Sciences. 3.00.**

Increasingly, social service and health providers are required to have grant writing skills and/or be responsible for obtaining external funds to support their positions, fund projects or promote programs. This course will provide the overview of grantsmanship skills. These skills include locating funding sources, improving collaboration skills, understanding program development and preparing grant proposals. *Prerequisite: HTH 351 or permission of the instructor. Corequisite: HTH 351*

**HTH 458. Health Program Planning and Evaluation. 3.00.**

This lecture and laboratory course introduces students to principles and techniques employed to plan, implement and evaluate health promotion programs. Students will conduct a campus or community event and compile a formal report. *Prerequisite: Public health concentration and HTH 351; or health services administration major and HSA 358; or senior substance abuse education minor.*

**HTH 471. Health Aspects of Gerontology. 3.00.**

Promotion of health in the aged; physiological aspects of the aging process; community, state and federal health programs, and services for the aged.

**HTH 480. Health Assessment Techniques. 3.00.**

Examination of health risk appraisals and metabolic assessments used to implement strategies for behavioral change and improved overall wellness. Other topics include programming and group dynamics used to promote healthy lifestyle behaviors.

**HTH 482. Advanced Health Assessment Techniques. 3.00.**

Skill acquisition of current health assessment techniques. These assessments are used to determine risk factors which play a role in heart disease and selected chronic diseases and to evaluate current health status. *Prerequisite: HTH 480*

**HTH 490. Advanced Special Studies in Health Science. 3.00.**

An advanced opportunity to conduct research where the student will apply their knowledge of Health Science to a specific research project or area. Students will be under the supervision of a faculty member. Course may be repeated if the topic varies for a maximum of six credits. *Prerequisite: Senior status only; permission of the department head.*

**HTH 495. Internships in Health Organizations. 3.00.**

Full-time directed field experience in a health organization. Opportunity provided to work in an appropriate setting. Student furnishes off-campus living and traveling expenses. *Prerequisite: Prerequisites: Permission of the instructor and a 2.5 grade point average.*

**HTH 499A. Honors. 1.00.**

The purpose of the first semester honors capstone project is to develop a project outline, select an adviser and two readers, and submit the proposal with the completed signature page to the Honors College by the deadline. *Corequisite: HTH 320 and HTH 408.*

**HTH 499B. Honors. 1.00-3.00.**

The purpose of the second semester honors capstone project is to complete an introduction to the research topic; complete a thorough literature review and a methodology section of a research paper; complete IRB training; complete an IRB application; and begin data collection. *Prerequisite: HTH 499A. Corequisite: HTH 499A.*

**HTH 499C. Honors. 2.00.**

The third semester of the honors capstone project is designed for students to complete their projects. They should conduct data analyses if appropriate, and write summary, conclusions and recommendations (the equivalent of Chapters 5 and 6). In addition, students will prepare a research poster for the honors symposium. *Prerequisite: HTH 499B. Corequisite: HTH 499B.*

**Health Services Administration****HSA 290. Gerontology for Health Services Administration. 3.00.**

This course provides an introduction to the study of aging from a multidisciplinary perspective including the biological, psychological and sociological aspects of aging. Emphasis will be placed on theoretical and practical application of course content to careers in health services administration. *Prerequisite: Fully admitted HSA majors only.*

**HSA 358. Health Administration. 3.00.**

This course provides an introduction to management functions, tasks and roles as they are carried out in health services organizations. Discussion of emerging issues affecting the management of health services organizations is provided. This course uses the case method of analysis to develop critical thinking skills. *Prerequisite: HTH 354. U.S. and Global Health Care Systems Fully admitted HSA major and HTH 354. U.S. and Global Health Care Systems HTH 354 or permission of the instructor*

**HSA 360. Health Care Marketing. 3.00.**

This course introduces the role, functions and tasks of health care marketing. Attention is devoted to understanding basic marketing principles; using oral, written and visual electronic communications media; and developing marketing plans for health care organizations. *Prerequisite: Fully admitted HSA majors only.*

**HSA 363. Health Economics. 3.00.**

This course explains how economic forces affect the health service sector and how economic tools can be used to assess and improve health industry performance. Efficiency and equity trade-offs are considered. *Prerequisite: ECON 201, fully admitted HSA major and HTH 320.*

**HSA 365. Values in Health Care. 3.00.**

This course provides an overview of health ethics and health law for students majoring in health sciences. Students will address the major principles facing a health service professional in the delivery of health services. Particular attention will be paid to development of methodologies for ethical decision-making. *Prerequisite: Fully admitted HSA major and HTH 354. U.S. and Global Health Care Systems HTH 354 or permission of the instructor.*

**HSA 367. Comparative International Health Systems. 3.00.**

This course concentrates on various approaches used to provide public and personal health services around the world. Strengths and weaknesses of different health care systems in terms of availability, accessibility, acceptability, cost effectiveness, continuity and quality of services will be considered. *Prerequisite: Fully admitted HSA major and HTH 354 or permission of the instructor.*

**HSA 385. Health Services Administration Career Seminar. 1.00.**

This course is a career development seminar for health services administration students. An array of health administrators from varied health care organizations helps expand students' understanding of the health administration field. This course is designed for junior-level students with an expectation of a major concentration in health services administration. *Prerequisite: Fully admitted HSA majors only.*

**HSA 452. Hospital Organization and Administration. 3.00.**

This course examines the organization and operation of community hospitals in the U.S. Specific attention is devoted to management's role in internal operations and in external relationships with the community and other stakeholders. Discussion of emerging issues affecting the management of hospitals and hospital systems is provided. *Prerequisite: HTH 354. U.S. and Global Health Care Systems Fully admitted HSA major, HTH 354 and HSA 358 or permission of the instructor.*

**HSA 454. Internship in Health Organizations. 3.00.**

Full-time directed field experience in a health organization (320 hours). Opportunity provided to work in an appropriate setting. Student furnishes off-campus living and traveling expenses. *Prerequisite: Fully admitted HSA major, HSA 462, HSA 464 and two of the following: HSA 452, HSA 455, HSA 456 or permission of the instructor. Corequisite: Fully admitted HSA major, HSA 462, HSA 464 and two of the following: HSA 452, HSA 455, HSA 456 or permission of the instructor.*

**HSA 455. Long Term Care Organization and Administration. 3.00.**

This course provides an in-depth examination of the organization and administration of long term care programs: nursing homes, home health services, adult daycare, assisted living and hospice. This course is recommended for students planning careers in long term care. *Prerequisite: Fully admitted HSA major, HSA 290, HTH 354 and HSA 358 or permission of the instructor.*

**HSA 456. Ambulatory Care Services: Organization and Administration. 3.00.**

This course provides an in-depth examination of the staffing, organization, budgeting and administration of ambulatory services including medical group practices, community and hospital-based clinics, and ambulatory surgery centers. This course is recommended for students planning administrative careers in this area with a foundation in health services administration. *Prerequisite: HTH 354. U.S. and Global Health Care Systems Fully admitted HSA major, HTH 354 and HSA 358 or permission of the instructor.*

**HSA 462. Managed Care. 3.00.**

The growing influence of managed health care on the organization and delivery of health services in the United States is addressed in this course. Structural and operational characteristics of managed care organizations and plans, including HMOs, PPOs and other plans are explored, as are the implications of managed care plans for the management of hospitals and other health care organizations. *Prerequisite: HSA 358. Health Administration Fully admitted HSA major and HSA 358 or permission of the instructor.*

**HSA 463. Quality Management in Health Care. 3.00.**

This course examines the quality management function required in diverse health care organizations. The student is exposed to definitions and standards of quality in health care, as well as to various tools used to measure, evaluate and improve quality. Emerging issues affecting the management of health care quality are discussed. *Prerequisite: HTH 354. U.S. and Global Health Care Systems Fully admitted HSA major, HTH 354 and HSA 358 or permission of the instructor.*

**HSA 464. Funding in Health Care. 3.00.**

General financial analysis is covered in terms of its application to health care entities. Concepts, issues and tools related to health care funding are covered. *Prerequisite: COB 204. Computer Information Systems Fully admitted HSA major, COB 204 or CIS 204, COB 241 or ACTG 244, FIN 345 and HTH 320.*

**HSA 466. Health Politics and Policy. 3.00.**

This course provides an introduction to the state and federal policy-making processes with a distinct focus on health policy. Emphasis will be on how health policy impacts health service organizations and the delivery of health care. *Prerequisite: HTH 354. U.S. and Global Health Care Systems Fully admitted HSA major, HTH 354 and HSA 365, or permission of the instructor.*

**History****HIST 101. World History to 1500 [C2HQC]. 3.00.**

A survey of important historical developments from prehistoric times to 1500. Emphasis is given to the rise and decline of great world civilizations and their lasting contributions to humanity. May be used for general education credit.

**HIST 102. World History Since 1500 [C2HQC]. 3.00.**

A survey of important historical developments from 1500 to the present. Emphasis is given to the growth of nationalism, the development of colonialism, and to world events, problems, and conflicts of the present century. May be used for general education credit.

**HIST 150. Critical Issues in Recent Global History [C1CT]. 3.00.**

This course examines issues in recent history as a means to introduce, develop and enhance critical thinking skills and to supplement writing, oral communication, library and computing skills objectives for General Education Cluster One. A seminar format allows for careful examination of issues in both oral and written formats. The course emphasizes the development and articulation of well-reasoned arguments in organized and grammatically acceptable prose. May be used for general education credit. May not be used for major credit.

**HIST 201. Europe to 1815. 3.00.**

An examination of Europe from 1350 to 1815 with emphasis on the major themes, figures, ideas, and trends of the period, as well as the principal historical interpretations.

**HIST 202. Europe Since 1815. 3.00.**

An examination of Europe from 1815 to the present with emphasis on the major themes, figures, ideas, and trends of the period, as well as the principal historical interpretations.

**HIST 225. U.S. History [C4AE]. 4.00.**

A survey of U.S. history from the Colonial period to the present, emphasizing the development of American civic life, the involvement of the U.S. in world affairs and the cultural richness of the American people. This course stresses the analysis and interpretation of primary sources. May be used for general education credit.

**HIST 225H. U.S. History - Honors [C4AE]. 4.00.**

A survey of U.S. history from the Colonial period to the present, emphasizing the development of American civic life, the involvement of the U.S. in world affairs and the cultural richness of the American people. This course stresses the analysis and interpretation of primary sources. May be used for general education credit. *Prerequisite: Honors Students*

**HIST 239. Topics in History. 3.00.**

The study of selected topics in history at the introductory level.

**HIST 263. Africa. 3.00.**

Emphasis is placed on the social and cultural aspects, as well as the emerging role the continent plays in contemporary world history.

**HIST 269. Premodern Middle East. 3.00.**

A survey of the Middle East from Late Antiquity through the rise of the Ottoman Empire into the 16th century. Emphasis is placed on the political, social and religious developments that form the historical and cultural bases for the communities that thrived in the region in the past, and still do today.

**HIST 270. Modern Middle East. 3.00.**

This course locates the Middle East in the context of global comparative history using and questioning 'meta-narratives' organized around capitalism, colonialism, imperialism, nationalism and Orientalism. Geographically, the course focuses on the region between the Nile and Indus rivers with emphasis on Iran and the Persianate world. Chronologically, the course considers the rise of Islam and the medieval period while concentrating on the post-1500 era until 1979. Thematic foci include long-distance trade, literacy and knowledge production, visual culture, and the environment.

**HIST 271. The Ancient Mediterranean. 3.00.**

A broad theme-based history of the Ancient Mediterranean from the Late Bronze Age to the end of Antiquity (1500 BC – AD 600). It examines the political, social, economic and religious history of the states that governed the area and their cultural interactions. The course is a mixture of lectures and discussions of primary sources. The final paper is a reflection on the themes including both primary and secondary sources.

**HIST 274. Modern East Asia. 3.00.**

This course is an introduction to modern historical experiences of East Asia, particularly China, Japan and Korea. In addition to overviews of each of these countries, the course will focus on several topics illustrating both the unity and diversity of East Asia: perceptions of each other, the philosophical tradition of Confucianism, the role of imperialism and nationalism, revolution, reform and the future of the region in the twenty-first century.

**HIST 300. U.S. Military History. 3.00.**

A survey of the evolution of the American way of war from the Colonial era to the post-Cold War period emphasizing the development of military and naval institutions, U.S. strategic doctrine and the social legacies of the U.S. military establishment.

**HIST 301\*. European Military History. 3.00.**

A survey of European military history (including Russia/Soviet Union) from the Hellenistic period through the 1982 Falklands-Malvinas War. The evolution of strategic doctrine and military institutions, their effect upon European society and their role in European imperialism will be emphasized.

**HIST 302\*\*. Latin American Urban History. 3.00.**

There is no group of people in the world more urban-minded than Latin Americans. Historically, cities here played an all-encompassing role that included administration, the reproduction of capital and responsibility for virtually all cultural activities. This class explores that history, as well as plans for further urban development, cultural activities and architectural design.

**HIST 303. Early America. 3.00.**

This course will examine the history of early America from the colonial to the early national period. Topics will include the clash of African, European, and Native American cultures, the regionalization of the American colonies, the growth of American slavery, and the creation of an American character and politics.

**HIST 304. Native Peoples of the United States. 3.00.**

A survey of the experiences of Native Peoples, including Native Hawaiians and Native Alaskans, from the pre-contact period to the present, with emphasis on traditional lifeways, impact of Anglo Americans, cultural persistence and revivals, activism, and contemporary challenges to Native communities and identities.

**HIST 305\*. History of Science and Christianity. 3.00.**

Over the last 2000 years, there have been recurring controversies over the proper relationships between science and Christianity. This class uses case studies such as Galileo, Darwin and creationism to explore the larger cultural context that gave life to the controversies. In the process, we'll examine changing ideas of what counts as science, how to interpret the Bible, and who gets to decide.

**HIST 306\*. A History of the Body in the West. 3.00.**

This course views the human body as a historical artifact whose physical appearance and social, cultural, and political meanings reflect the historical contexts of specific times and places. The emphasis is on the perspectives of Europeans and their descendants, inside Europe and beyond it.

**HIST 307\*\*. The Trans-Atlantic Slave Trade. 3.00.**

This course explores the origins, processes and outcomes of the infamous trade. By studying participants' lives in Africa, Europe, Latin America and North America, the course helps students understand people's inhumanity to each other and the ways in which slavery and the trade in slaves forever altered the development of the Atlantic world.

**HIST 308\*. Contemporary Italian Civilization. 3.00.**

A study of Italian society, economics, politics and the arts from 1814 to the present. Instruction in English. Research papers for Italian majors/minors in the language.

**HIST 309\*. French History Since 1648. 3.00.**

A survey of important historical developments in France from 1648 to the present. It explores how complex historical legacies in French society define and shape the experience of "being French" and how different groups and citizens work with and against each other in a collective effort to define the early modern and modern French experience. Points of focus include economy, society, culture and religion, state, politics, and borders.

**HIST 310. American Business History. 3.00.**

A survey of the role of business in the United States from the Colonial period to the present, with emphasis on the entrepreneurial spirit, business developments, and innovations and the relationship between the federal government and commerce.

**HIST 311\*\*. China to 1600. 3.00.**

A survey of Chinese history from its earliest origins to the fall of the Ming Empire in the 17th century. The course incorporates translated primary materials and modern scholarship to provide a general picture of Chinese state formation, socio-economic changes, and literature and arts during the three millennia. It will also discuss the teachings and intellectual impacts of Confucianism, Daoism, and Buddhism in East Asia through the ages.

**HIST 312\*\*. Japan Since 1600. 3.00.**

A survey of Japanese history from the end of the Warring States Period to the present. It first introduces Tokugawa society in the 17th and 18th centuries and then examines the Meiji period in detail, focusing on political and cultural changes, the rise of ultra-nationalism, the military expansion before WWII, and the course of the war. The last part of the course will discuss the American occupation, postwar developments, and the last two decades in Japan.

**HIST 313. The History of Latinos in the United States. 3.00.**

Currently the largest minority group in the U.S., Latinos have diverse sociological and historical origins, yet today in the U.S. are thought of as a monolithic racial and ethnic group. Starting with the Spanish and Portuguese colonial enterprise and continuing through current debates, this class will provide an introduction to and overview of the broad scholarship on Latino and Hispanic identity in the United States, examining issues of coercion, migration, refugees, labor, family networks, religion, war, economics, state building, politics, racialization, international disputes and globalization.

**HIST 315. History of Sport. 3.00.**

An interpretive study of the role of sports in America from the pre-contact period to the present, focusing on the development of professional, university and recreational athletic activities. Themes include gender, race, ethnicity, social class, environment and landscape, international relations, culture, and American idealism.

**HIST 316. The Life and Times of James Madison, 1751-1836. 3.00.**

An overview of the major political, philosophical, social and literary events that helped shape the world of the founders. James Madison's life will provide the framework for the course and emphasis will be given to his important role during this era.

**HIST 319. Women at Work in U.S. History. 3.00.**

This course examines the experiences of women employed in a variety of industries and workplaces in twentieth-century U.S. history. Topics include women's employment opportunities, experiences of sexism and other biases, collective action to change working conditions, innovation and entrepreneurship of women, and popular culture portrayals of gender in workplaces.

**HIST 320. Women in U.S. History. 3.00.**

A survey of the role of women in the United States from the Colonial period to the present. Attention is given to contributions of the ordinary women, the Women's Rights movements, the impact of women on reform and political movements, and the changing status of women in society.

**HIST 321\*. European Women's History. 3.00.**

A survey European women's history from the Enlightenment to the Modern Era. Attention will focus on women in England, France, Germany, Italy and Spain as well as the former Soviet Union. The course traces the birth of modern feminism in the European context and explores gender expectations, paying particular attention to women's entrance into the public, political world.

**HIST 322. The New South. 3.00.**

An examination of major problems in the history of the American South after Reconstruction, beginning with debates over the nature of the "New South" itself. The course will emphasize cultural and social history; it also explores political and economic developments. *Prerequisite: Prerequisite: HIST 225.*

**HIST 323. The Old South. 3.00.**

Economic, cultural and social history of the antebellum South; 1790-1860. The region's political history will serve as a supporting part of the course.

**HIST 326. The Automobile in 20th Century America. 3.00.**

This course uses the automobile as a window into 20th century American life. It examines the influence of automobility on patterns of work and leisure; on struggles over gender, race and ethnicity; on individualism, consumerism and government regulation. It also surveys mass automobility's effects on our physical and natural environments and looks at future prospects of automobility in the information age.

**HIST 327. Technology in America. 3.00.**

A historical survey of the complex and changing relationship between technology and American society from Native American canoes to the Internet. Attention is given to technology's role in relations of power, in the home, on the farm, in the workplace and on the battlefield.

**HIST 330. U.S. Diplomatic History. 3.00.**

A survey of major themes, events and forces shaping the development of American foreign relations throughout our history. Key documents such as the Monroe Doctrine will be examined, as will significant issues including manifest destiny, the United States as a world power, origins of Cold War and Detente.

**HIST 331. Historical Archaeology. 3.00. *Crosslisted with ANTH 331.***

The course introduces students to the purposes, subject matter, methodology and historical background of the discipline of historical archaeology. Building on research issues and methodologies of anthropological archaeology and history, the multidisciplinary aspects of this field are introduced through field trips, projects, guest lectures, readings and classroom presentations. *Prerequisite: Prerequisite: ANTH 197.*

**HIST 332\*. Hist of 20th Century Spain. 3.00.**

This course will trace the twentieth-century political and social history of Spain including the Second Republic, the Spanish Civil War, the Franco regime, and the transition to democracy in 1975. The course will pay special attention to Franco's dictatorship, the role of women, the Catholic Church, as well as Spain's relationship to the rest of Europe.

**HIST 333. Maps, Money, Manufacture and Trade. 3.00.**

**HIST 338. U.S. Urban History. 3.00. *Crosslisted with SOCI 338.***

In this course students explore the history of urban spaces in the United States by investigating American cities using a broad chronological, geographical, and thematic framework. Drawing from an array of primary and secondary sources, students will become familiar with the central themes of urban history, and also have the opportunity to produce their own narratives.

**HIST 339. Selected Themes in U.S. History. 3.00.**

Selected themes are studied in depth. See MyMadison for current classes. Course may be repeated when content changes.

**HIST 340. Internship in History. 3.00.**

Provides students with practical experience in using historical skills in a public or private agency. Periodic student reports and seminars required. This course may be repeated with permission of department head. *Prerequisite: Junior or senior standing, HIST 395 and permission of the department head.*

**HIST 341. Selected Themes in World History. 3.00.**

Selected themes are studied in depth. Course may be repeated when content changes. Only courses with significant content outside of Europe will count toward the world history requirement. See MyMadison and the history department website for information on current classes.

**HIST 342. Selected Themes in European History. 3.00.**

Selected themes are studied in depth. See MyMadison and the history department website for information on current classes. Course may be repeated when content changes.

**HIST 350. Virginia. 3.00.**

An interpretive survey of the history of Virginia from its Colonial beginnings to the present time.

**HIST 355. African-American History to 1865. 3.00.**

A survey of the experience and changing status of African-Americans in the United States from 1619 through the Civil War, with attention to the West African background, cultural developments, social and political movements, slavery and the slave trade, dual-consciousness, and emancipation.

**HIST 356. African-American History Since 1865. 3.00.**

A survey of the experience and changing status of African-Americans in the United States from Reconstruction to the present, emphasizing the strengthening of social and cultural institutions; Afro-American leadership; the impact of segregation; the Great Migration; labor, protest and cultural movements; pan-Africanism; the Civil Rights Movement; and contemporary issues.

**HIST 360. Research Apprenticeship in History. 3.00.**

Provides students with advanced research and writing opportunities. Student learning contract must be approved before a student can enroll. Periodic student reports and seminars required. Open to history majors only. *Prerequisite: HIST 395.*

**HIST 361\*\*. Class and Ethnicity in Africa. 3.00.**

An examination of the development of class and ethnicity in African societies. Attention is given to the pre-Colonial and Colonial periods, as well as to the effects of imperialism, development strategies and structural adjustment policies on class and ethnic relations in contemporary Africa.

**HIST 362. Introduction to U.S. Religious History. 3.00. *Crosslisted with REL 362.***

The course introduces the religious history of the colonies and the United States, from native traditions through the 20th century. We examine the historical/social impact of groups ranging from Roman Catholic migrants to evangelical Protestants and Scientologists. Special attention is paid to the extraordinary and persistent levels of religious diversity and adherence throughout U.S. history.

**HIST 369. Greek History, 3000 BC-AD 267. 3.00.**

Greek history covers the political, military, social, economic and intellectual history of the Greeks from the beginning of the Bronze Age ca 3000 BC until the Roman occupation of Greece. It ends with the sack of Roman Athens by the Heruli in AD 267. The course is a mixture of lectures and discussions of primary sources. Students will read all of the major Greek historians (Herodotus, Thucydides, Xenophon, Polybius).

**HIST 370. Byzantine Empire. 3.00.**

A survey of the political, economic, military and religious history of the Byzantine Empire, 330-1453.

**HIST 371\*\*. India. 3.00.**

A survey of the history of the Indian subcontinent from antiquity to the present. The course stresses the arrival of Islam, the impact of Western colonization, the struggle for independence, and the problems and achievements of nationhood in the post-Colonial era.

**HIST 372\*\*. Afghanistan in Regional and Global Systems. 3.00.**

The country's Silk Road heritage, early Islamic experience, and frontier status between Safavid Iran and Mughal India introduce modern Afghanistan's origins within British Indian colonialism and global capitalism. Twentieth-century and contemporary Afghanistan are engaged through concepts of modernity, nationalism, internationalization and local social and cultural resilience and adaptation.

**HIST 373. History of the Ottoman Empire, 1453-1922. 3.00.**

This course surveys the history of the Ottoman Empire from its roots in medieval Anatolia through its demise in World War One. We will examine the persons, events, institutions, and ideas associated with imperial state formation, military expansion, cultural elaboration, political reformism, and the evolution of modern identities.

**HIST 375\*\*. History of Modern Southeast Asia. 3.00.**

A survey of Southeast Asian history from the 16th century to the present. Particular attention is given to European and American colonization of the region, the impact of the Japanese occupation, and the achievement of independence.

**HIST 377\*\*. History of Korea. 3.00.**

A survey of Korean history from its earliest times to the present day. It is designed to develop an understanding in Korea, its historical tradition and the place of Korea in the larger narrative of East Asia and world history.

**HIST 378\*\*. China in the Modern World. 3.00.**

This course is an exploration of China's encounters with the modern world and the ways in which China has, and has not, changed as consequence of those encounters. Topics

include the impacts of both Western and Japanese imperialisms; participation in international systems; adaptations of Christianity, democracy and communism; and the resulting upheavals in Chinese Society.

**HIST 379\*\*. Family and Gender in East Asia. 3.00.**

This is a survey focusing on the ways families have been defined and gender roles assigned in China, Korea, and Japan in pre-modern and modern times. Attention will be given to how the changing nature of family and gender have helped shape the historical evolution of these societies.

**HIST 381\*. Daily Life in Victorian England. 3.00.**

A social history of England from 1837 to 1901 examining the way people of all classes lived and worked. Emphasis will be on drawing evidence from primary sources.

**HIST 382\*. Europe in the 20th Century. 3.00.**

This course is a survey of European history covering the late-imperial era, the world wars, the Cold War and the dynamics of European integration. Emphasis will be given to political, social, economic and cultural developments. Upon completing the course, students will be able to demonstrate knowledge of major movements, figures and events in twentieth-century European history.

**HIST 383\*. Early England. 3.00.**

A survey of English history from the earliest times to the late 17th century. Particular attention is given to the rise of Parliament and the growth of limited monarchy.

**HIST 384\*. England and the Empire-Commonwealth. 3.00.**

A survey of English history from the late 17th century to the present. Particular attention is given to the growth of British democracy, the industrial revolution and the rise and fall of the British Empire.

**HIST 385\*. The Russian Empire to 1881. 3.00.**

This course covers one thousand years of Russian history, from the foundation of Kievan Rus' in 882 to the assassination of Tsar Alexander II in 1881. By taking empire as its overriding theme and pairing it with issues of religion, civil society, law, and gender, we will examine how the creation and growth of the Russian Empire affect the modern world. The course is structured around topical sessions that show the interweaving of these themes throughout the history of Tsarist Russia.

**HIST 386\*. Russia and the Soviet Union from 1881 to 1991. 3.00.**

This course surveys Russian and Soviet history from the late 19th century to the demise of the Soviet Union in 1991. Instead of providing a teleology of revolution and failure of the revolutionary experiment, this course offers an overview of Russian modern history that takes gender, generation, and family as its overriding themes and pairs them with issues of empire – in Tsarist as well as in Soviet Russia.

**HIST 388\*. Germany Since 1871. 3.00.**

A survey of German history during the Second Reich, World War I, the Weimar Republic, the Third Reich and the post-World War II periods of Cold War and Detente. Emphasis is given to political, diplomatic and military affairs, although social, economic and cultural developments are included.

**HIST 391. Travel Studies Seminar. 3.00.**

Designed to encourage the student to augment the regular academic program through independent investigation including organized travel-study. Prearrangements must be made with a designated faculty member who will direct the study with preparatory instructions and final requirements. *Prerequisite: Permission of the department head.*

**HIST 394. Introduction to Museum Work. 3.00. Crosslisted with ARTH 394.**

A study of the philosophy and practice of museum work including the areas of exhibit design, conservation registration, education and administration. Subject is taught from the perspective of the museum profession and is applicable to diverse disciplines and types of collections. *Prerequisite: HIST 395, instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

**HIST 395. History Seminar. 3.00.**

A seminar to introduce history as an academic discipline and acquaint the student with the work of major historians and problems of historical interpretation. Students will be required to complete assignments designed to develop basic skills in historical research and writing. Open to all students, but required of history majors. Fulfills the College of Arts and Letters writing-intensive requirement for the major.

**HIST 396. Introduction to Public History. 3.00. Crosslisted with ARTH 396.**

An introduction to the varied and interdisciplinary "field" of public history – such as community/local history, historic preservation, archives, historical archaeology, museum studies, business and policy history, documentary editing and publishing, and documentary films – through readings, class discussions, occasional guest speakers and occasional field trips.

**HIST 399. Special Studies in History. 3.00.**

Designed to give capable students in history an opportunity to complete independent study under faculty supervision. *Prerequisite: Permission of the department head.*

**HIST 402. Workshop in Colonial American Life. 3.00.**

A comparative study of life in colonial and Revolutionary America. Required field trips may include Jamestown, Colonial Williamsburg, Philadelphia, Charleston and Lancaster County, PA. Published sources, lectures, films and two multi-day field trips are used. Supplemental fee required. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 403. Workshop in Civil War Virginia. 3.00.**

This workshop examines the impact of the Civil War upon Virginia and its citizens. It explores the secession crisis, the revolution in firepower that forced changes in battlefield tactics and war aims, and the development of "hard war." A four-day battlefield tour will reinforce ideas discussed in the classroom. Supplemental fee required. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 404\*. Science and Society in Early Modern Europe. 3.00.**

Examines the connections between knowledge of the natural world and other aspects of European societies between 1500 and 1700. Topics may include the scientific revolution (Copernicus, Galileo and Newton); medicine, anatomy, and ideas of disease; exploration, commerce and natural history; technology and empire; alchemy, astrology, and the boundaries of science; and comparisons between science in Europe and in other areas of the world. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 405. Travel and Exploration. 3.00.**

This class is about travel and exploration in world history, using specific episodes to examine motives, consequences and the experience of travel. In studying long-distance trade, pilgrimages, voyages of exploration and discovery, and even tourism, we will look at the logistics of travel, attempts to map the world, and the difficulties people had in interpreting what they found. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 406. Monticello. 3.00. Crosslisted with ARTH 406.**

A seminar on the architecture and material culture of Thomas Jefferson's Monticello. The course will examine the house's design, artwork, decorative arts, mechanical devices, landscape/garden design and Mulberry Row. Topics will include African-American artisans at the Monticello joinery, Jefferson's Indian Hall, and European and African-American domestic life in the Federal Period. Required field trips. *Prerequisite: Permission of the instructor.*

**HIST 407. Digital History. 3.00.**

This course will provide an introduction to digital history. It explores some of the ways in which digital technologies can change how we research, write, document, exhibit, produce, and think about history. Students should not expect to become an expert in any single technology, but will develop a familiarity with a wide range of tools and applications and will

have the chance to create their own digital history project.

**HIST 408. The Museum: Histories and Controversies. 3.00. Crosslisted with ARTH 408.**

This seminar centers on art museums in the United States. Topics include the historical development of museums, related cultures of display, recent debates on institutional mission and responsibility, and contemporary artists who employ the museum as medium, subject matter or site. Required field trips. *Prerequisite: ARTH 206 or permission of the instructor.*

**HIST 409\*\*. Early Modern Atlantic History. 3.00.**

This course focuses on the history of the North and South American Atlantic World from the "Age of Exploration" to the "Age of Democratic Revolutions." It traces European exploration of and expansion into the South and later North Atlantic beginning in the fourteenth century, and concludes with the assertion of sovereignty and independence by European colonies throughout the extended Atlantic littoral.

**HIST 411. Colonial and Revolutionary North America. 3.00.**

This seminar explores the history of North America from the 16th through the 18th centuries. Thematic emphasis will vary from semester to semester. *Prerequisite: History major: HIST 395. Non-history majors: Instructor permission to waive HIST 395.*

**HIST 413. The Anglo-American Constitutional Tradition, 1603-1791. 3.00.**

Surveys Anglo-American political and constitutional traditions. Emphasizes the evolution of 17th- and 18th-century British constitutionalism, its transferal to the British North American colonies, and the development of the first national and state constitutions in the United States. *Prerequisite: HIST 225 and HIST 395, or permission of instructor.*

**HIST 420. U.S. History, 1763-1800. 3.00.**

An interpretive study of the political, economic, social and cultural history of the United States from the French and Indian War through the Federalist period. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 422. U.S. History, 1789-1848. 3.00.**

An interpretive study of the political, economic, social, intellectual and cultural history of the United States from the ratification of the Constitution through the Mexican-American War. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 425. Civil War and Reconstruction. 3.00.**

A study of the background, development, personalities and aftermath of the Civil War. Special attention is given to the coming of the war and different explanations of its causes and to the policies and significance of Reconstruction, with varying interpretations thereof. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 427. U.S. Environmental History. 3.00.**

An interpretive study of the development of environmental thought in the United States. Emphasis is given to philosophies of nature, land and resource usage and conservation, the environmental movement and organizations, environmental activism and radicalism, landscape restoration, and environmental mitigation and protection. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 428. American Workers in the Industrial Age, 1877-1948. 3.00.**

This seminar examines what contemporaries called the Labor Problem, from the strikes of 1877 to the accord between GM and the UAW in 1948. It explores the impact of industrialization, race and gender, consumerism, the New Deal and two world wars on the lives of American workers and their unions. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 430. The Gilded Age: U.S. History, 1877-1901. 3.00.**

An interpretive study of the United States from the conclusion of the Civil War until the assassination of William McKinley with special emphasis on industrialization, urbanization, western and overseas expansion, early reform movements, and politics. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 431. Reform, World War and Prosperity: U.S. History, 1901-1929. 3.00.**

An interpretive study of U.S. history from the rise of Theodore Roosevelt through the 1920s. Emphasis is placed on the reform movements of the period and the problems and issues generated by the nation's emergence as a world power and an industrial, urban society. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 432. Depression, War and Cold War: U.S. History, 1929-1961. 3.00.**

An interpretive study of U.S. history from the onset of the Great Depression in 1929 through the inauguration of John Kennedy in 1961. Emphasis is given to the New Deal, World War II and the early years of the Cold War. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 433. Reform, Upheaval and Reaction: U.S. History Since 1961- 1980. 3.00.**

An interpretive study of U.S. history from the inauguration of John Kennedy in 1961 through the election of Ronald Reagan. Emphasis is given to the Kennedy Johnson administrations, Vietnam, the counterculture and student movement, and Watergate and its aftermath. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 434. Recent America. 3.00.**

An interpretive study of U.S. History from the Watergate era through the present. Emphasis is given to cultural, social, political, environmental, economic, educational and ethical issues, as well as considerations of indigenous peoples, foreign policy, activism and American idealism. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 435. History of Immigration to the United States. 3.00.**

The United States is a land populated by migrants. Most residents of the U.S. today trace their ancestry to Latin America, Europe, Asia or Africa. The U.S. has been both the largest receiving destination of immigrants in the last two hundred years and the inventor of modern border restrictions. This course surveys patterns of migration and immigrant experience from colonial times to the present. Students will consider migration to the United States as part of the evolving global labor market and colonial expansion in the modern world. Students will learn about the relationship of immigration to nation-building, national expansion, war, and the production and reproduction of national identity. Students will also learn about the history of the legal regulation of immigration, the political debates surrounding the role of immigration in society and the experience of immigrants in settling and negotiating life in a new society. Students will explore immigration history by exploring a rich array of primary source material: fiction, memoirs, government documents, oral history interviews, films, maps and more. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 436\*\*. Afro-Latin America. 3.00. Crosslisted with ANTH 436.**

Latin America and the Caribbean were the first and largest parts of the Western Hemisphere to be populated by Africans. Afro-Latin America examines cultural formations Africans brought to these regions. Beginning with an overview of the slave trade, it examines the histories of Africans and African-descent people throughout Latin America, and contemporary Afro-Latin American culture(s). *Prerequisite: One course in either Latin American or Africana studies (any discipline); upper-division status or permission of the instructor.*

**HIST 437\*\*. Latin America and Latin Americans through Film: Focus on the Twentieth Century. 3.00.**

This course will provide students with the tools they need to be skilled visual readers as well as to link national and international representations of Latin America to their appropriate historical, social, cultural and political contexts. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 438. Workshop in Public and Local History. 3.00.**

Selected historical topics relating to the Shenandoah Valley and surrounding region are studied in depth. Students will undertake primary research and collaborate on final project. See MyMadison for current classes. *Prerequisite: HIST 225.*



**HIST 439. Selected Topics in American History. 3.00.**

Selected topics are studied in depth. See MyMadison for current topic. Course may be repeated for credit when content changes. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 440. The History Museum. 3.00. Crosslisted with HIST 540.**

An exploration of the history, evolution, and function of history museums. Readings and discussions cover the history and genealogy of the modern museum; exhibits and the influence of other forms of display such as world's fairs and department stores; ethics, mission, and administration; collections management and conservation; education and interpretation; emerging technologies; historical memory and controversy in museums; the role of the community; and museums on a global stage. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

**HIST 441. Oral History. 3.00. Crosslisted with SCOM 441.**

This course will explore the theory and practice of oral history. Through a series of readings, students will consider the many promises and challenges of the discipline, including issues related to memory, objectivity, ethics, the law, and technology. Students will also engage in an experiential learning exercise in which they collaborate to produce an oral history project. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 442. Selected Topics in European History. 3.00.**

Selected topics are studied in depth. See MyMadison for topic. Course may be repeated for credit when content changes. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 443. Modern American Technology and Culture. 3.00.**

This seminar examines the sociotechnical history of twentieth century American. It employs several analytical frameworks to examine the complex relationship between social and technological change, casting particular attention on the mass production ethos, the social meanings of everyday household technologies, the nuclear age, the space age, countercultural technology and the high-tech age. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 444\*\*. Revolution and Social Change in Latin America. 3.00.**

This seminar will explore why revolutions were a major feature of the Latin American landscape throughout the modern era and how they contributed to changes in society. In a typical semester the course will explore the lives of leaders such as Che and Emiliano Zapata and investigate the causes and consequences of revolutionary actions in Cuba, Mexico and Nicaragua. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 445\*\*. A Cultural History of Latin America, the Caribbean, and the United States. 3.00.**

An examination of the complex history shared between Latin America and the United States in the nineteenth and twentieth centuries. This class examines media representations, fiction, and diplomatic correspondence to understand the complex negotiations and exchanges that take place in the Americas. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

**HIST 447\*\*. South America. 3.00.**

An examination of nineteenth and twentieth-century South America by emphasizing recent historiographies of the region. The class draws from social and cultural history to explore themes such as gender, race and ethnicity, nation-building, and historical memory. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

**HIST 448\*\*. Gender in Latin America and the Iberian World. 3.00.**

This course is designed to introduce students to critical issues, theories and methods of gender history through the study of the history of Latin America and the broader Iberian world. Students will study select peoples and cultures of Latin America and the Iberian Peninsula exploring how they lived and understood gender and sexuality during the pre-colonial, colonial and/or modern eras. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 449\*. Women and Fascism. 3.00.**

This course offers a comparative understanding of fascism and women with a focus on Europe, including Nazi Germany, Fascist Italy and Francoist Spain. We will also discuss fascist movements and right-wing women in other European countries and in Latin America. The course will uncover the origins of fascism and the rise of the fascist party and the women's branch. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 453\*\*. Patterns of Global History. 3.00.**

This course introduces students to the literature, concepts, themes and methodology of global history, a subfield of history that seeks to compare experiences across regional, area, cultural and temporal boundaries, to look at cross-cultural interactions and to examine large-scale patterns that have shaped history on a global scale. *Prerequisite: HIST 101, HIST 102 and HIST 395.*

**HIST 457. Comparative Empires. 3.00. Crosslisted with POSC 457.**

Comparative empires is an examination of imperialism from 1450 to the present. Focusing on no less than four empires, the course will apply a variety of theoretical approaches in a series of case studies with at least one empire from the period of exploration and one from 1919 to the present. Students will employ approaches from history, political science, economics and geography as they search for a deeper understanding of each case study and the broader concept of empire. *Prerequisite: HIST 395 or permission of instructor. Corequisite: MSSE 470H.*

**HIST 458. Modern European Intellectual History. 3.00.**

This upper-level seminar considers important thinkers and major trends in philosophical, social, and aesthetic thought in nineteenth- and twentieth-century Europe. Instead of merely surveying a series of ideas and thinkers, the course will trace the development of ideas across times and cultures by undertaking careful readings of key texts. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 461. Marxism. 3.00.**

A study of the most significant ideas concerning politics, society, economics and philosophy which shaped Communism and Marxist varieties of Socialism. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 463. Tudor-Stuart England. 3.00.**

A study of the economic, intellectual, political and religious development of the English people from 1485 to 1714, with special attention to the constitutional struggles of the 17th century. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 464. Renaissance and Reformation. 3.00.**

A study of High Medieval civilization as an introduction to the history of Modern Europe. Attention is given to the Italian and Northern Renaissance, fragmentation of Western Christendom, intellectual impact of Luther and Calvin on Western thought, and structure of Tudor despotism in England. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 466. The Family, 1400-1800. 3.00.**

An examination of the bibliography, methods and substance of family history in Europe and America. Emphasis will be on sources, structure, patterns of change and continuity, and stages of family life to the Industrial Revolution. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 467. The Roman Republic. 3.00.**

History 467 covers the political, military, social, economic and intellectual history of the Roman Republic from the traditional date of its foundation to Octavian's victory over M.

Antonius and the establishment of the Empire. The course is a mixture of lectures and discussions of primary sources. Students will read selections from important authors such as Livy, Sallust, Caesar and Cicero in addition to scholarly monographs. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 468. The Roman Empire. 3.00.**

History 468 covers the political, military, social, economic and intellectual history of the Roman Empire from its establishment ca 30 BC to the final division of the Empire into eastern and western halves in AD 395 at the death of Theodosius I. The course is a mixture of lectures and discussions of primary sources. Students will read selections from important authors such as Tacitus, Pliny the Younger, Cassius Dio and Ammianus Marcellinus in addition to scholarly monographs. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 469. A History of International Development in the Twentieth Century. 3.00.**

This seminar considers major trends in the history of international development since World War II, focusing on American development theories, institutions, and programs but also considering case studies of aid programs worldwide. The course will trace the history of international development by undertaking careful readings and discussions of primary and secondary texts from a variety of disciplines, including history, economics, sociology, anthropology, and political science. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 470. Modern Africa. 3.00.**

A historical analysis of the major themes in modern African history since the colonial era. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 471. Commemoration and Controversy: Public Art in America. 3.00. Crosslisted with ARTH 471.**

This course examines the socio-historical, political, cultural, and philosophical dimensions of public art in American society, from the Early Republic to the present day. Topics may include: the nature of public art, its uses and functions, as well as civic and official attitudes towards art in the public sphere. Issues of censorship, propaganda, and the "culture wars" of the 1980s and 90s will be highlighted.

**HIST 473. Early Modern Islamic Empires. 3.00.**

This seminar surveys and compares Islamic imperial formations from the 14th Century through World War I, focusing on the Ottoman, Safavid, and Mughal empires that flourished in the global age of early modernity. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 474. Stalinism in Theory, Practice, and Memory. 3.00.**

This course provides an introduction to Stalinism in the Soviet Union and Eastern Europe. It addresses socialist modernization from many angles - the corridors of the Kremlin, the peasant collective farms of Ukraine and Romania, the shop-floors in Moscow, and the streets of Tashkent. The course consists of three units: theories, practices, and memories of Stalinism. Each unit explores various political, economic, social, and cultural issues related to the Stalinist modernization drive. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 475. Modern Russia. 3.00.**

A study of Russia from the 1917 Revolution to the present. Readings and discussion will emphasize significant political, economic, social and cultural developments. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 476. History of Disability in Postwar Europe, 1945-1991. 3.00.**

This course is an introduction to the history of disability in Europe from 1945 to the present. After WWII, European countries went through a phase of postwar reconstruction that required rebuilding economies, societies and entire cities as well as individual bodies and psyches. In this course, we will learn how governments with different political orientations treated their disabled citizens, conceptualized their rights and devised specific social policies to protect them. *Prerequisite: HIST 395 or permission of the instructor.*

**HIST 477. Medieval Europe. 3.00.**

Attention is focused on Europe in the Middle Ages, with a concentration on social and intellectual aspects and the development of parliamentary institutions. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 478. Eastern Europe. 3.00.**

A study of the lands between Germany and Russia, from the Baltic to the Balkans. Emphasis is on the Hapsburg Empire and its successor states, the origins of the World Wars, the post-World War II communist governments, and the cultural and intellectual contributions of the Eastern European people. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 482. French History Seminar. 3.00.**

Broad introduction to a particular aspect of early modern, revolutionary or modern French history that is characterized by extensive historical debate. See instructor for thematic focus. Students develop knowledge of historical content and of the historiography/methodological approaches, conduct independent research and present findings in writing and in formal research colloquia. Students may repeat seminar for credit if topics differ. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 485. Colonialism in the Middle East and South Asia. 3.00.**

A comparative examination of colonialism focusing on the cultural and intellectual dimensions of colonial encounters. Lectures and readings will emphasize European strategies and techniques of rule in the Arab world (including North Africa), Iran, and India. Research and writing assignments will allow for the consideration of American involvement in Palestine-Israel, Iraq, and Afghanistan. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 486. Europe Since 1914. 3.00.**

An interpretive study of European history from World War I to the post-Cold War era, with special emphasis on the revolutions of 1917-19, the rise of totalitarianism, the origins of the Second World War, the Cold War and the continuing crisis of values. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 487. World War II. 3.00.**

An examination of the origins, conduct and immediate aftermath of World War II in Europe and Asia. Attention is given to Japan's Pacific War, Hitler's war in Europe and the ultimate victory of the allies. The major military campaigns are discussed as are collaboration, resistance, and the War Crimes Trials. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 488. The Holocaust in Global Context. 3.00.**

Introduces students to the most significant accomplishments and debates of recent Holocaust scholarship, emphasizing how historical memory of the Holocaust has been created and has evolved over time. Analyzes the historical causes and development of the Holocaust, as well as its cultural, political, and scholarly resonance in the post-1945 world. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 489. Selected Topics in World History. 3.00.**

Selected topics are studied in depth. Course may be repeated when content changes. Only courses with significant content outside of Europe will count toward the world history requirement. See MyMadison and the history department website for information on current classes. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 490. Special Studies. 3.00.**

Designed to give capable students in history an opportunity to complete independent study under faculty supervision. *Prerequisite: History Majors must have earned credit for HIST*

395 prior to enrolling in this course.

**HIST 492. Material Culture. 3.00. *Crosslisted with ANTH 492, ARTH 492.***

A broad introduction to the multidisciplinary "field" of material culture studies through readings, written assignments, in-class exercises, and field trips. The course introduces ways of looking at and learning from objects and examines how scholars from several disciplines have used material culture in their work. Instructor's permission required to waive HIST 395 prerequisite for non-history majors. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 493. Historic Preservation. 3.00. *Crosslisted with ARTH 493.***

An introduction to the philosophy and techniques of historic preservation, guidelines for restoration, state and National Register forms and procedures, historic architecture, structural analysis, restoration techniques as well as the business aspects of historic preservation projects. Field trips are a major component of the course. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 495. Intro Archives and Manuscripts. 3.00.**

An introduction to archives administration and the principles and practices of archival arrangement and description. Through targeted readings and leadership roles in discussion, as well as field trips and projects, students will explore topics in appraisal, acquisition, preservation, and intellectual and physical access, as well as contemporary ethical, legal and technological issues. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 496. Research Thesis. 3.00. *Crosslisted with ANTH 496.***

Students will gather, analyze and interpret archaeological/historical data over two semesters. Students will work on a project that demonstrates theory, research design, data gathering and analysis, culminating in a written thesis. The course meets the capstone requirement for the historical archaeology minor, but is also available to students in history and anthropology. *Prerequisite: Junior or Senior Standing Only.*

**HIST 498. Marshall Scholars Seminar. 3.00.**

A research intensive seminar based on the manuscript collections and other primary sources of the Marshall Library. Students may choose any subject involving 20th-century diplomatic and military history and political affairs from 1900 to 1960 - the approximate dates of George C. Marshall's public service. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

**HIST 499. Honors. 3.00.**

Year course. *Prerequisite: History Majors must have earned credit for HIST 395 prior to enrolling in this course.*

## Honors

**HON 100. Honors First Year Seminar. 1.00.**

As an introductory experience in the Honors College, students will be oriented to Honors activities and goals, high impact university learning practices, seminar requirements and areas of emphasis sequences, and leadership, service, and research opportunities. Students will examine their personal and educational goals and participate in ethical reflection that expresses itself in scholar-citizenship and community engagement.

**HON 200. Special Topics in Honors. 1.00 - 3.00.**

Unique, interdisciplinary courses designed specifically for the Honors College. These courses explore a range of complex topics that deal with contemporary issues in society, multicultural and comparative studies, and advanced applications in business and the natural and social sciences. Seminars are designed to be flexible small classes that may reflect unique, sometimes experimental, styles of teaching. *Prerequisite: Enrollment in Track I or Track II of the Honors College.*

**HON 300. Advanced Special Topics in Honors. 1.00 - 3.00.**

Unique, interdisciplinary courses designed specifically for the Honors College. These courses explore a range of complex topics that deal with contemporary issues in society, multicultural and comparative studies, and advanced applications in business and the natural and social sciences. Seminars are designed to be flexible small classes that may reflect unique, sometimes experimental, styles of teaching. HON 300 seminars are not recommended for first year students. *Prerequisite: Enrollment in Track I or Track II of the Honors College.*

**HON 321. Leadership I. 3.00.**

This Honors Seminar is the first course within the Leadership Area of Emphasis. Students will be introduced to the meaning, study and practice of leadership through the examination and evaluation of leadership styles and behavior. Students will analyze the way in which leadership principles and practices have been and can be applied to their lives. Through this study, students will develop their own personal leadership potential.

**HON 322. Leadership II. 3.00.**

This Honors Seminar offers a variety of individualized and/or small group experiential learning opportunities in association with the Leadership Area of Emphasis. *Prerequisite: HON 321.*

**HON 323. Leadership III. 1.00 - 3.00.**

This practicum course offers an intense independent study opportunity for students to work one-on-one or in small groups with faculty mentors on a project of their design. The specifics of these offerings will be designed by faculty mentors and the Area of Emphasis Honors student(s). Objectives, goals and deliverables should be an extension and follow-up to activities associated with an experiential Areas of Emphasis course. *Prerequisite: HON 321 and HON 322.*

**HON 331. Global Studies I. 3.00.**

This Honors Seminar is the first course within the Global Studies Area of Emphasis. We will examine how people study and perceive similarities, differences and interdependencies among human societies through the exploration of social sciences, arts, humanities, health, education, environmental and developmental studies. Course components will promote global citizenship through discussion, the introduction of new concepts and critical thinking related to current issues and case studies.

**HON 332. Global Studies II. 3.00.**

This Honors Seminar offers a variety of individualized and/or small group experiential learning opportunities in association with the Global Studies Area of Emphasis. *Prerequisite: HON 331.*

**HON 333. Global Studies III. 1.00 - 3.00.**

This practicum course offers an intense independent study opportunity for students to work one-on-one or in small groups with faculty mentors on a project of their design. The specifics of these offerings will be designed by faculty mentors and the Area of Emphasis Honors student(s). Objectives, goals and deliverables should be an extension and follow-up to activities associated with an experiential Areas of Emphasis course. *Prerequisite: HON 331 and HON 332.*

**HON 341. Scientific Research I. 3.00.**

This Honors Seminar is the first in the Research Area of Emphasis series. The course is designed as an introduction to the nature of scientific inquiry and what it means to be a research scientist and effective communicator. Course objectives will be met through the collective investigation of a "big" problem and the professional communication of the resulting findings. In doing so, students will gain scientific literacy skills to support future research efforts.

**HON 342. Scientific Research II. 3.00.**

This Honors Seminar offers a variety of individualized and/or small group experiential learning opportunities in association with the Research Area of Emphasis. *Prerequisite: HON 341.*

**HON 343. Scientific Research III. 1.00 - 3.00.**

Practicum courses offer an intense independent study opportunity for students to work one-on-one, or in small groups, with faculty mentors on a project of their design. The specifics of these offerings will be designed by faculty mentors and the Area of Emphasis Honors student(s). Objectives, goals and deliverables should be an extension and follow-up to activities associated with an experiential Areas of Emphasis course. *Prerequisite: HON 341 and HON 342.*

**HON 351. Service I. 3.00.**

This Honors Seminar is the first course within the Service Area of Emphasis. Engaged citizens make differences in the quality of life in local, national and global communities. Upon studying a wide spectrum of contemporary issues, engaged citizens take action. This seminar provides opportunities for students to combine their intellectual pursuits with civic engagement and discourse, thereby empowering them to become engaged participants in tomorrow's global society.

**HON 352. Service II. 3.00.**

This Honors Seminar offers a variety of individualized and/or small group experiential learning opportunities in association with the Service Area of Emphasis. *Prerequisite: HON 351.*

**HON 353. Service III. 1.00 - 3.00.**

This practicum course offers an intense independent study opportunity for students to work one-on-one, or in small groups, with faculty mentors on a project of their design. The specifics of these offerings will be designed by faculty mentors and the Area of Emphasis Honors student(s). Objectives, goals and deliverables should be an extension and follow-up to activities associated with an experiential Areas of Emphasis course. *Prerequisite: HON 351 and HON 352.*

**HON 361. Creativity I. 3.00.**

The course explores basic concepts of creativity across the disciplines and cultures. Course content includes the study and analysis of creative expression, the application of theories and conceptual frameworks, and the various modes of creative cognition.

**HON 362. Creativity II. 1.00 - 3.00.**

This Honors Seminar offers a variety of individualized and/or small group experiential learning opportunities in association with the Creativity Area of Emphasis. *Prerequisite: HON 361.*

**HON 363. Creativity III. 1.00 - 3.00.**

This practicum course offers an intense independent study opportunity for students to work one-on-one or in small groups with faculty mentors on a project of their design. The specifics of these offerings will be designed by faculty mentors and the Area of Emphasis Honors student(s). Objectives, goals and deliverables should be an extension and follow-up to activities associated with an experiential Areas of Emphasis course. *Prerequisite: HON 361 and HON 362.*

**HON 450. Honors Independent Study. 0.00.**

This course provides an opportunity to support summer immersion experiences for Honors students. *Prerequisite: Permission of the Honors Program Dean.*

**HON 499A, B, C. Honors Senior Project. 1.00, 3.00 or 2.00.**

This is a three semester course, offered as parts A, B and C for one, three and two credits per semester, respectively. Enrollment is restricted to those honors students (Track I, II or III) whose senior projects are not discipline specific. This could include certain collaborative projects or experientially-based projects. *Prerequisite: Permission of the Honors Program Dean.*

**HON 499B. Honors Senior Project. 3.00.**

This is a three semester course, offered as parts A, B, and C for one, three and two credits per semester, respectively. Enrollment is restricted to those honors students (Track I, II or III) whose senior projects are not discipline specific. This could include certain collaborative projects or experimentally based projects. *Prerequisite: Permission of the Honors College Dean.*

**HON 499C. Honors Senior Project. 2.00.**

This is a three semester course, offered as parts A, B, and C for one, three and two credits per semester, respectively. Enrollment is restricted to those honors students (Track I, II or III) whose senior projects are not discipline specific. This could include certain collaborative projects or experimentally based projects. *Prerequisite: Permission of the Honors College Dean.*

**Hospitality Management****HM 201. Foundations of Hospitality, Sport and Recreation Management. 3.00. *Crosslisted with SRM 201.***

An introduction to the basis for the professions that make up the School of Hospitality, Sport and Recreation Management. A focus on these professions in governmental, voluntary, private and commercial settings is incorporated. Both the economical significance and the professional preparation for success in the industry is both introduced and practiced. *Prerequisite: HM or SRM Major or permission of the director.*

**HM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management. 3.00. *Crosslisted with SRM 202.***

An introduction to leadership in the Hospitality, Sport and Recreation Management (HSRM) industry. The primary focus will be leadership theory, skill application with a focus on personal awareness. *Prerequisite: HM or SRM Major or permission of the director.*

**HM 203. Foundations of Ethics and Law in Hospitality, Sport and Recreation Management. 3.00. *Crosslisted with SRM 203.***

An introduction to ethics and law within the sport, hospitality and recreation industry. The ethical portion introduces students to select theories of ethics, ethical issues and an ethical decision making model; and the legal portion introduces students to basic legal terminology and concepts while concentrating on negligence and employment issues. *Prerequisite: HM or SRM Major or permission of the director.*

**HM 211. Overview of Hospitality and Tourism Management. 3.00.**

Exposes students to the areas of lodging, food and beverage, tourism and entertainment management, special events and meeting planning, and club and resort management. Emphasis is on hospitality industry scope, organization and economic impact; includes familiarization with industry terminology and individual and business contributors to the field of hospitality and tourism management. *Prerequisite: HM major or permission of director.*

**HM 212. Hospitality Prowess. 3.00.**

An applied hospitality course consisting of experiential exercises followed by class discussion along with actual work experience as an employee within the hospitality field. Role playing and cases are used as learning activities where the instructor acts as a facilitator to learning. Debriefing is used extensively as a way of creating essential theory. Students must successfully complete ServSafe Food Protection Manager Certification and Training for Intervention ProcedureS (TIPS). *Prerequisite: HM major or permission of director.*

**HM 310. Practical Work Experience. 0.00.**

Required 600 hours of approved hospitality and tourism work experience. Credit/no credit only. All work sites must be approved. *Prerequisite: Minimum of 45 credit hours complete, HM 201, HM 202, HM 203, HM 211 and HM 212. Corequisite: HM 312.*

**HM 311. Hotel Operations and Hospitality Technology. 3.00.**

An in-depth look at a full service hotel through the eyes of a general manager. The course will focus on operations, engineering, housekeeping, uniformed services, front office, reservations and revenue management. Different hospitality technology platforms and software programs will be used to expose students to hospitality technology. *Prerequisite: Minimum of 45 credit hours complete, HM 201, HM 202, HM 203, HM 211 and HM 212.*

**HM 312. Culinary Arts & Menu Management. 3.00.**

An application of basic food preparation and menu development. Focus is on preparing students to understand gastronomy and communicate with culinary professionals. This course includes development of effective menus, plate presentation, preparation methods, flavor development and food service trends. Lab fee applies. Uniform required. *Prerequisite:* Minimum of 45 credit hours complete, HM 201, HM 202, HM 203, HM 211 and HM 212, and ServSafe certified or equivalent or permission of director. *Corequisite:* HM 310.

**HM 316. Country Club Management. 3.00.**

An application of business concepts to the private equity club and full service resort industry. Industry cases are used to facilitate discussion of similarities and differences among private equity clubs, full service resorts and other hospitality business in the areas of culture, asset management and operations. *Prerequisite:* Minimum of 45 credit hours complete, HM 201, HM 202, HM 203, HM 211 and HM 212.

**HM 317. Introduction to Event Management. 3.00.**

Course designed to explore conferences, conventions, expositions, meetings and special events as they relate to the responsibilities of a planner, selection criteria for host venues, legal and ethical issues, negotiating process, program design, budgeting, contracts, marketing, logistics and evaluation. Practical hands-on experience through projects may occur. *Prerequisite:* HM 310 and HM 312.

**HM 351. Cost Control and Budgeting. 3.00.**

Introduction to cost control, budgeting and financial analysis as it relates to the hospitality industry. Students work as a team to create a detailed business plan. *Prerequisite:* Minimum of 45 credit hours complete, HM 201, HM 202, HM 203, HM 211 and HM 212.

**HM 361. Italian Culture and Wine. 3.00.**

An introduction to the fundamentals of wine making, wine tasting and glossary of terms provide a framework for visual, olfactory and gustative analysis. The historical value of wine, together with its cultural, economic and social meaning in Italy, are explored. Course taught in Florence, Italy. Lab fee applies. *Prerequisite:* Student must be enrolled in JMU in Florence Program.

**HM 362. Italian Gastronomy. 3.00.**

This course is designed to teach students the applied approach to match wine and food from different parts of the world using flavors, textures and components present in food and wine in complementing strategies. Emphasis will be placed on menu planning, cooking methods and tasting wines with food in a formal dining room. Course offered in Florence, Italy. Lab fee applies. *Prerequisite:* Student must be enrolled in JMU in Florence Program.

**HM 402. Supervisory Hospitality Internship. 3.00.**

Required 400 hours of approved hospitality supervisory experience. CR/NC only. All work sites must be pre-approved. *Prerequisite:* HM 310, HM 312 and a minimum of 72 credit hours earned.

**HM 411. Hospitality Law. 3.00.**

The course focuses on the application of the law to the hospitality industry including rights and obligations of guests and lodging, food service, club, event management and association operators. The identification of potential legal problems and formulation of preventive measures to limit/prevent liability are emphasized. *Prerequisite:* HM 402 or permission of director.

**HM 414. Beverage Management and Marketing. 3.00.**

The course is designed to enhance knowledge in the identification and evaluation of beverages typically served in hospitality establishments. Special attention is given to alcoholic and non-alcoholic beverages with regard to price/quality relationships; channels of distribution and marketing; trends and current issues faced by the industry; and service ethics. *Prerequisite:* Must be 21 years of age or older and declared HM major, HM 402 or permission of director.

**HM 417. Advanced Event Management. 3.00.**

This course examines event planning and management within a project management framework. The course is designed to provide hands-on experience in event planning. Students will work to plan and execute an event from start to finish with instructor oversight. Students will demonstrate, by executing an event, the core competencies required of a successful event manager. *Prerequisite:* HM 317, HM 402 and permission of instructor or director.

**HM 419. Napa & Sonoma Wine and Culture. 3.00.**

Napa and Sonoma are the premier wine growing regions in the United States. The wines influence wines across the US and around the world. The ability to impressively learn about the wine, food, and culture that influence the region can only be fully accomplished by visiting. Students are able to visit wineries and speak with owners, visit growers and speak with the farmers, visit nurseries and discuss varietals. *Prerequisite:* HM Major, 21 years old the first day of class and permission of the director.

**HM 421. Hospitality Ethics. 3.00.**

Ethical issues and actions that have occurred, or are currently occurring, in the hospitality industry are examined from multiple perspectives. Examining recent scandals, real-world scenarios, news stories, and common ethical dilemmas will enable a student to recognize an ethical dilemma, understand the components of the dilemma, and make an ethical decision. *Prerequisite:* HM 402 or permission of director

**HM 422. Hospitality Human Resources Management. 3.00.**

Identification and exploration of the information needs of the Hospitality manager in making policy and personnel decisions. Different philosophies and processes for locating, attracting, hiring and training a qualified staff are examined. Emphasis is placed on the work environment within the service industry. Employment law will be emphasized as a part of the course. *Prerequisite:* HM 402 or permission of director

**HM 440. Hospitality Leadership. 3.00.**

Management teams are required to produce an enjoyable evening composed of quality food and entertainment while staying within budget. Students complete a financial and operational analysis upon completion of their themed event. Senior assessment may also occur. *Prerequisite:* HM 402 or permission of director.

**HM 441. Hospitality Financial Management. 3.00.**

An examination of common financial statements used by hospitality managers to make decisions regarding budgets and investment. Corporate financial models within the hospitality industry are explored, such as franchising, ownership and REITs. Appropriate software is used in the class. *Prerequisite:* HM 402 or permission of director

**HM 442. Hospitality Seminar. 3.00.**

A senior capstone course designed to assist in transitioning from being a university student to holding a leadership role within the hospitality industry. The interactive course draws upon the umbrella curricular goals of the hospitality management program in communication, ethics, finance and leadership. Senior assessment may also occur. *Prerequisite:* HM 311, HM 316, HM 317, HM 351 and HM 402.

**HM 490. Special Studies in Hospitality and Tourism Management. 3.00.**

Designed to give capable students in hospitality and tourism management an opportunity to complete independent study under faculty supervision. *Prerequisite:* Permission of director.

**HM 498. Special Topics in Hospitality and Tourism Management. 3.00.**

This course is designed to allow explorations of areas of current topical concern, or to exploit special situations. Course content will vary. For current course content, consult the adviser. *Prerequisite:* Permission of director.

**HM 499. Honors. 1.00 - 6.00.**

Year course. See catalog section "Graduation with Honors." *Prerequisite: Permission of the instructor or director.*

**Human Resource Development****HRD 100. Human Resource Development Leadership Lab. 2.00.**

Hands-on practicum of leadership strategies and techniques designed to give each student a better appreciation for the dynamics of leadership in intimate, physically challenging and stressful environments, both indoors and out. Students operate in teams which are formed and reorganized on a continuous basis, surrounded by peers at several levels of leadership experience and training. Collaborative learning is enhanced when students apply what they learn in class by describing relevant lessons learned through experiences outside the classroom. The focus of this course is to provide students with the opportunity to lead and follow in an observed setting and receive constant feedback and mentoring on their demonstrated leadership skills. Students learn through leading as well as through a critical reflection, inquiry, dialogue and group interaction. Everyone is responsible for contributing to the learning process.

**HRD 101. Introduction to Leadership. 1.00.**

An introduction to: various leadership styles and their effect on organizations; insight into the leaders' roles and responsibilities within the context of the organization; character- and values-based leadership; basic leadership actions; the importance of self improvement in the areas of time management, health and fitness, goal setting, academic accomplishment and communications; group dynamics, and the development of interpersonal skills. *Corequisite: HRD 100.*

**HRD 123. Developing Multicultural Competency for Effective Facilitation. 3.00.**

This course will provide students with a deeper understanding of social identities, and they will gain the necessary skills to facilitate training, programs and dialogues focusing on areas of diversity, multiculturalism, inclusion and access. Students enrolled in this course will be prepared to become a diversity educator in the Diversity Education Empowerment Program sponsored by the Center for Multicultural Student Services at James Madison University.

**HRD 201. Leadership Styles Theory and Application. 2.00.**

Explores the dimensions of creative and innovative leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the leadership framework (trait and behavior theories). Students practice aspects of personal motivation and team building in the context of planning, executing and assessing team exercises and participating in leadership skills labs. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of institutional structures, duties and responsibilities of organizational/institutional leaders, and leadership in small organizations. Case studies provide tangible context for learning leadership skills, values, actions and attributes as they apply to a contemporary setting. *Prerequisite: HRD 100, HRD 101. Corequisite: HRD 202.*

**HRD 202. Developing Leader Skills. 2.00.**

Examines the challenges of leading teams in a complex contemporary operating environment. This course highlights dimensions of leadership actions as well as developing an understanding of the process to develop plans and orders for others to execute. Continued study of the theoretical basis of the leadership framework explores the dynamics of adaptive leadership in the context of historical settings.

**HRD 240. Introduction to Human Resource Development. 3.00.**

An introduction to the role and scope of human resource development with particular emphasis on required competencies for HRD professionals. Critical moral and ethical issues are introduced. *Prerequisite: Declared HRD minor.*

**HRD 245. Leadership in Organizational Settings. 3.00.**

An examination of the principles of leadership and their application to group settings. Emphasis will be placed on the critical appraisal of the facets of leadership through the use of cases and readings. *Prerequisite: Declared HRD minor.*

**HRD 380. Performance and Task Analysis in Human Resource Development. 3.00.**

Provides the basic skill level for students in the area of performance analysis and subsequent assessment. Particular emphasis is placed on actual analysis and assessment situations with application to program and curricular design. *Prerequisite: Declared HRD minor, HRD 240 and HRD 245.*

**HRD 400. Human Resource Development Internship. 3.00.**

A structured internship experience designed to provide students with the opportunity to contribute within an actual work setting the role and scope of human resource development efforts. Minimum 400-hour experience approved by the program coordinator. Credit may not be earned for both HRD 400 and LTLE 401. *Prerequisite: Adviser permission required.*

**HRD 470. Diversity and International Human Resource Development. 3.00.**

The course prepares students for meeting the challenges presented by globalization and workforce diversity in HRD. Topics include the impact of increasing globalization and diversity on HRD and the workplace, cross-cultural communications, conflict resolution in diversity settings, global diversity management, ethics, and cross-culture leadership competencies. It examines and explores theories and techniques for dealing with institutional 'isms' (e.g. multiculturalism, sexism, ageism). *Prerequisite: LTLE 240 and LTLE 245, must be human resource development or educational media minor or major.*

**HRD 475. Seminar in Leadership. 3.00.**

Designed to provide senior-level students with the opportunity to face some of the dilemmas of leadership. Students will be encouraged to critically examine leaders and organizations to draw from real events the ambiguities of leadership. Course will involve extensive reading, case work and a range of guest speakers. *Prerequisite: HRD 245.*

**HRD 480. Learning in Adulthood. 3.00.**

A study of the learning processes of the adult learner with an emphasis on adaptations of the instructional process to accommodate the differences inherent in the adult learning environment. Practical applications to actual adult learning situations are included. *Prerequisite: Declared HRD minor, HRD 240, HRD 245 and LTLE 370.*

**HRD 485. Development of Materials and Programs. 3.00.**

This course is designed to provide students with the basic skills necessary to design and develop performance-based training programs and courses. Emphasis will be placed on the actual design and development of training materials. *Prerequisite: Declared HRD minor, HRD 240, HRD 245, LTLE 370 and HRD 380.*

**Human Science****HSC 400. Human Science Seminar. 1.00.**

Seminar course in which current topics in human science will be examined from the multiple perspectives of anthropology, biology, and psychology. Students can expect to study, and attempt to synthesize, proximate (mechanistic), ontogenetic, and evolutionary explanations for each of the topics examined. (Open only to Human Science minors.) Prerequisites: ANTH 196, GPSYC 101, BIO 270 or BIO 370, BIO 290.

**Humanitarian Affairs****HUMN 201. Introduction to Humanitarian Affairs. 3.00.**

A geographical overview of poverty, armed conflict, hunger, disease, and natural disasters and how they can lead to humanitarian crises. It includes a study of human rights along with a look at international efforts to address, and international organizations that deal with, humanitarian crises.

**HUMN 301. Introduction to Natural Disasters Response. 3.00. Crosslisted with GEOG 301.**

This course is designed to give students an overview of the various types of natural disasters; a look at the world regions that are most vulnerable to each type of disaster; and, a

preview of disaster planning, management, relief and response as related to natural disasters.

**HUMN 302. Legal Issues in Humanitarian Affairs. 3.00.**

This course prepares students interested in humanitarian response with basic information on the legal issues of humanitarian law. It covers principles of domestic and international law relevant to the practice of humanitarian response, including international humanitarian law, the law of armed conflict, international human rights law, international criminal law and other legal topics relevant to humanitarian affairs practitioners. *Corequisite: Junior status.*

**HUMN 350. Special Topics in Humanitarian Affairs. 1.00 - 3.00.**

Focused, in-depth study of specific areas or subjects related to Humanitarian Affairs. Topics will provide background and skills important for humanitarian work. Can be repeated as course content changes. *Prerequisite: Permission of the minor coordinator.*

**HUMN 360. GIS for Humanitarian Assistance. 3.00. *Crosslisted with GEOG 360.***

In responding to humanitarian crises, governments and aid organizations must deploy aid workers, deliver essential services, set up temporary settlements, and distribute items such as water and food that are needed for survival. Spatial analysis and maps are critical to the success of these efforts. In this course, students learn the basics of Geographic Information Systems (GIS) for humanitarian assistance and learn how relief organizations use GIS in their work. *Prerequisite: GEOG 215.*

**HUMN 490. Humanitarian Affairs Field Experience. 3.00.**

The HUMN 490 course offers students an opportunity to gain experience and practical skills, preferably in an "international setting," either in the U.S. or abroad, and to apply knowledge and skills acquired through the Humanitarian Affairs program. This course must be completed in a setting approved by the student's adviser and the humanitarian affairs minor committee. *Prerequisite: HUMN 201 and junior status.*

## Humanities

**HUM 102. God, Meaning & Morality [C2HQC]. 3.00.**

A study of the ways in which various communities perceive and understand the basis of knowledge, reality, meaning and purpose, ethics and aesthetics. Students will explore religious and nonreligious approaches to these issues. May be used for general education credit.

**HUM 200. Great Works [C2L]. 3.00.**

An intensive examination of great literary works that focus on key issues of knowledge and reality, meaning and purpose, ethics, and aesthetics. Discussion, analysis and intensive writing are required. Texts will vary by section and instructor. May be used for general education credit.

**HUM 200A. Great Works. 3.00.**

**HUM 200L. Great Works - London [C2L]. 3.00.**

An intensive examination of great literary works that focus on key issues of knowledge and reality, meaning and purpose, ethics, and aesthetics. Discussion, analysis and intensive writing are required. Texts will vary by section and instructor. May be used for general education credit. *Prerequisite: Studies Abroad-London*

**HUM 250. Foundations of Western Culture [C2HQC]. 3.00.**

This course is a study of the roots of our Western tradition in Greek, Roman, Medieval or Renaissance culture. Students examine the interrelationships among history and literary works; the fine arts; philosophical and religious thought and intellectual contexts. Content will vary depending on section and instructor. May be used for general education credit.

**HUM 251. Modern Perspectives [C2HQC]. 3.00.**

An interdisciplinary study within the modern period of arts and humanities. Students will examine the interrelationships among history and the arts, philosophy, religion and the intellectual ideas of the time. Topics will vary by section. May be used for general education credit.

**HUM 251L. British Media and Society. 3.00. *Crosslisted with SCOM 360L, SMAD 360L, WRTC 360L.***

Study the history, nature, and impact of mass media in the United Kingdom. Emphasis on the impact modern media has on society, and society has on media. Consideration of similarities and differences in mass media in the United States and Great Britain. Consideration of the relationship between mass media and the arts. Focus on 20th century mass media in London, one of the world's preeminent and most influential centers. *Prerequisite: Studies Abroad-London*

**HUM 252. Global Cultures [C2HQC]. 3.00.**

This course is an inter-disciplinary study of cultures or regions commonly referred to as non-Western. Students examine diverse responses to enduring human questions at the intersection of local and global cultures. The course offers ways to critically engage comparative views on global cultures and in so doing broaden students' understanding of those cultures and their own. Sections may address themes that span multiple cultural spaces (such as sports or the environment) or focus on regions. Section topics vary by instructor. Only approved topics may count for General Education Cluster Two credit

## Inclusive Early Childhood Education

**IECE 300. Issues and Trends in Inclusive Early Childhood Education. 3.00.**

This course is designed to introduce students to the issues and trends in the education of all infants, toddlers and young children. It will provide the historical, philosophical, social and legal background for current practices in the field and will engage students in synthesizing and analyzing this information along with research as it pertains to professional practice. *Prerequisite: EXED 200, EDUC 300 and admission to teacher education pre-professional licensure program. Corequisite: IECE 301 and IECE 303.*

**IECE 301. Initial Field Experience in Inclusive Early Childhood Education. 1.00.**

This practicum supports IECE 300. Students will further their understanding of the issues and trends impacting young children and their families in our community and evaluate their own perspectives and skills as they pertain to working with young children and families from diverse backgrounds, with diverse abilities and in diverse settings. *Prerequisite: Admission to teacher education pre-professional licensure program. Corequisite: IECE 300 and IECE 303.*

**IECE 303. Development of Young Children Birth Through Age 8. 3.00.**

This course provides students with an understanding of the development of infants, toddlers, and young children with and without exceptionalities. Skills for observing, recording and interpreting the behavior of the young child as a basis for adult intervention and guidance are developed. *Corequisite: IECE 300 and IECE 301.*

**IECE 321. Initial Field Experience in IECE. 1.00.**

This first intermediate field experience provides candidates opportunities to use their knowledge of child development to observe and assess children and then to plan meaningful learning environments and experiences for those children. Repeatable twice for a maximum of two credit hours. *Prerequisite: EXED 200.*

**IECE 322. Curriculum and Instruction in Inclusive Early Childhood Education. 3.00.**

This course explores, analyzes, and evaluates curriculum and methodology related to the design and management of a nurturing, supportive, and challenging inclusive learning environment for children ages birth - 8 years. Emphasis is on the physical environment, design and selection of curricular components, the role of play in the curriculum, skills for professional intervention and interaction, and use of technology to facilitate young children's learning. *Corequisite: IECE 321 and IECE 324.*

**IECE 324. Assessment of the Young Child. 3.00.**

This course provides students with an understanding of the assessment of young children's development, ages birth to eight years, with and without exceptionalities. Students will be introduced to and apply informal and formal assessment to be used in decision making and educational planning and delivery.

**IECE 421. Intermediate Field Experience in IECE (MODIFY). 2.00.**

This practicum is designed to support IECE 420 and IECE 421, by giving students experience in a preschool classroom. Students will observe young children, collect data, assist classroom teachers, and interact appropriately with the individuals within the learning environment. Students will analyze the preschool environments for access by all young children. Repeatable twice for a maximum of four credit hours. *Prerequisite: IECE 300, IECE 301, IECE 320 and IECE 322.*

**IECE 423. Intermediate Practicum II. 2.00.**

This second intermediate field experience provides candidates opportunities to use their knowledge of child development and assessment to create learning environments and experiences for children. Candidates will learn more about the adult's role in supporting children and managing behavior.

**IECE 450. Contemporary Family Issues in Inclusive Education. 3.00.**

This course will examine how students' own cultural values shape their interactions with children and families as well as provide concrete, practical strategies for effective and culturally competent interactions with children and families. *Prerequisite: A "C" or better in IECE 324*

**IECE 460. Instructional Practices in Numeracy. 3.00.**

This course provides students with the knowledge, skills, and understandings necessary to design and implement effective mathematics programs for young children, birth to age eight, with and without exceptionalities. Focus is on appropriate mathematical content, teaching strategies, and manipulative materials from a developmental perspective with special emphasis on adaptations designed to meet the needs of all children. *Prerequisite: IECE 420, IECE 421, IECE 422 and IECE 423. Corequisite: IECE 461, IECE 462, and IECE 464.*

**IECE 461. Advanced Field Experience in IECE (MODIFY). 2.00-3.00.**

The first advanced field experience provides candidates opportunities to use their knowledge of child development to plan meaningful learning experiences. Candidates will learn how the adult's role in supporting children to construct understandings about the natural and social sciences and to use mathematical thinking.

**IECE 462. Instructional Practices in Natural Sciences for Young Children. 3.00.**

This course provides students with the knowledge, skills and understandings to design and implement effective natural science programs for all young children, birth to age eight. Focus is on appropriate science content, teaching strategies and materials from a developmental perspective with a special emphasis on adaptations designed to meet the needs of children with disabilities. *Prerequisite: IECE 420, IECE 421, IECE 422 and IECE 423. Corequisite: IECE 460, IECE 461, IECE 464 and IECE 466.*

**IECE 464. Instructional Practices in Social Studies for Young Children. 3.00.**

This course provides students with the knowledge, skills and understandings to design and implement effective social studies programs for all young children, birth to age eight. Focus is on appropriate social studies content, teaching strategies, and materials from a developmental perspective designed to meet the needs of all young children. Students will use technology to support access to the learning environment and curriculum. *Prerequisite: IECE 420, IECE 421, IECE 422, and IECE 423. Corequisite: IECE 460, IECE 461, IECE 462 and IECE 466.*

**IECE 466. Managing Classrooms and Guiding Behavior. 3.00.**

This seminar examines research and professional literature on effective strategies for guiding young children's behavior and managing groups. IECE 466 uses experiences in IECE 461 as a foundation for reflection, dialogue and development of a personal philosophy of classroom management. *Prerequisite: IECE 420, IECE 421, IECE 422 and IECE 423. Corequisite: IECE 460, IECE 461, IECE 462 and IECE 464.*

**IECE 470. Individualized Behavior Intervention for Young Children. 3.00.**

This course provides the student with exposure to and knowledge of various systematic, positive, individualized behavioral interventions as they apply to young children. The student will develop skills in using these behavior interventions, as appropriate, with young children exhibiting difficulties in learning, behavior and/or social skills.

**IECE 480. Student Teaching in Inclusive Early Childhood Education. 5.00.**

This student teaching experience provides students with opportunities to apply, in learning environments for young children, the knowledge, skills and dispositions acquired throughout their teacher licensure program. Under the guidance of university supervisors and professionally licensed cooperating teachers, the student teacher gradually assumes full responsibility as the responsible inclusive early childhood educator. Students majoring in inclusive early childhood education must complete this course twice for a total of 10 credit hours. *Corequisite: IECE 481.*

**IECE 481. Seminar in Inclusive Early Childhood Education. 3.00.**

This seminar accompanies IECE 480. Student Teaching and provides students with the opportunity to reflect on, evaluate and improve their experiences as pre-professional educators of young children. Students will evaluate and build their own resiliency, identify ethical dilemmas, and engage in joint problem solving and ethical decision making related to their student teaching experience. Students will enhance their abilities to collaborate with professional colleagues, families and other service providers. *Corequisite: IECE 480.*

**Independent Scholars****IND 499A. Independent Scholars Senior Project. 1.00.**

This is a three-semester course sequence involving independent research based on the student-designed curriculum, to be completed by all independent scholars majors. The course is offered as parts A, B and C for one, three, and two credits per semester, respectively. *Prerequisite: Permission of the independent scholars directors.*

**IND 499B. Independent Scholars Senior Project. 3.00.**

This is a three-semester course sequence involving independent research based on the student-designed curriculum, to be completed by all independent scholars majors. The course is offered as parts A, B and C for one, three, and two credits per semester, respectively.

**IND 499C. Independent Scholars Senior Project. 2.00.**

This is a three-semester course sequence involving independent research based on the student-designed curriculum, to be completed by all independent scholars majors. The course is offered as parts A, B and C for one, three, and two credits per semester, respectively.

**Individualized Studies****IS 200. Individualized Studies Major Program Development. 3.00.**

An introductory course designed to prepare students for transition into higher education programs. Specific content includes focusing a concentration, selecting an academic advisor, creating an individualized program, technology in higher education, accessing career resources, career decision making skills, self-awareness, life planning, identifying college level experiential learning, documenting experiential learning, determining a credit request, and organizing a portfolio for assessment. *Prerequisite: Individualized Studies Majors or Individualized Studies special students only*

**IS 203. Portfolio Development Workshop. 1.00.**

A short course designed to support students for transition into higher education programs. Specific content includes identifying college-level experiential learning, documenting learning outcomes achieved from experience, documenting learning, determining credit request and organizing a portfolio assessment. *Prerequisite: Individualized Studies Majors or Individualized Studies special students only.*

**IS 205. Orientation to Learning Services. 1.00 - 6.00.**

A short orientation course designed to prepare students for transition into higher education programs. Specific content includes using the university library, accessing university support services, managing time, developing appropriate study techniques, participating in cultural and workplace diversity exercises, implementing goal-setting strategies, and



participating in wellness, nutrition, and stress management programs.

**IS 206. Researching, Writing and Documenting Prior Learning. 3.00.**

This course provides an opportunity for students to analyze and articulate college-level learning they have acquired outside a classroom context. Specific content includes identifying college-level learning, writing narrative evaluations of learning, integrating multiple sources of learning and disciplinary theory, producing and arranging sufficient documentation of learning, and organizing a portfolio for assessment. At the end of the class, students who have completed all of the assignments will have the components of a portfolio ready for submission for credit evaluation. May not be repeated. *Prerequisite: Individualized studies majors only and successful completion of IS 200.*

**IS 250. Service Learning. 1.00 – 6.00.**

Leadership, citizenship, and professional competencies may be acquired through community service experiences. Documented service learning competence will be assessed by the Center for Leadership, Service, and Transition and credit awarded, as appropriate. *Prerequisite: BIS 203.*

**IS 270. Selected Topics. 1.00 – 6.00.**

In-depth study of selected topics with current importance and interest to lower division students that are not otherwise covered in the regular course offerings of academic departments/schools. Course content will vary. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.*

**IS 290. Special Studies. 1.00 – 6.00.**

Designed to give students an opportunity to do lower-division independent study in selected interdisciplinary areas under the supervision of a faculty member in the appropriate department/school. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.*

**IS 300. Sponsored Learning. 1.00 – 6.00.**

A structured learning activity related to a student's area of study and sponsored by an employer, volunteer agency, or other appropriate organization. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study head.*

**IS 480. Cooperative Studies. 1.00 – 6.00.**

Two or more upper-division students may elect to study cooperatively in a selected area of current importance and interest under the supervision of a faculty member in the appropriate department/school. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.*

**IS 490. Special Studies. 1.00 – 6.00.**

Designed to give students an opportunity to do upper-division independent study in selected interdisciplinary areas under the supervision of a faculty member in the appropriate department/school. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.*

**IS 498. Individualized Study Project. 3.00 – 6.00.**

An in-depth study of an interdisciplinary topic directly related to the student's area of concentration. A final oral report is required. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head.*

**IS 499. Honors. 6.00.**

Multiple-semester course. *Prerequisite: Approval of the "Course Agreement Form" by the Individualized Study department head and the Honors Program.*

## Industrial Design

**INDU 200. Introduction to Industrial Design. 6.00.**

This studio focuses on the design process through the creation of objects and interior spaces. Projects involve investigations into syntax and design language, program interpretation, materiality, ritual, use and the constructed order of built space. Emphasis is placed on experimentation, risk and play. Design projects will incorporate constructed drawings, sketching, diagramming, model-building, and writing. *Prerequisite: Art, Art History, Graphic Design, or Industrial Design Majors Only*

**INDU 202. Industrial Design Studio. 6.00.**

Industrial Design Studio builds on the fundamentals of INDU 200. Projects will address design thinking, research methods, user analysis, project definition and iterative process. Course work will further explore design sketching and drawing techniques, prototyping, collaboration, concept development, and aesthetics. *Prerequisite: INDU 200.*

**INDU 208. Portfolio Review. 0.00.**

Portfolio review required to enroll in industrial design courses at upper division standing. May be repeated once for pass/fail standing. *Prerequisite: INDU 200 and INDU 202. Corequisite: INDU 202.*

**INDU 220. CAD I: 3D Modeling. 3.00. Crosslisted with ARCD 220.**

This course will introduce students to principles used in 3D Cad and BIM modeling. Technologies to draw three dimensionally on the computer will be considered as a discipline within itself, and students will be instructed to use the machine for design exploration. Various software packages will be utilized during the semester.

**INDU 300. Product Design. 6.00.**

This course expands on foundations learned in INDU 200 and INDU 202 and emphasizes a research-driven design process as it applies to the design of objects, including commercial products, packaging design, furniture and more. Students will use quantitative and qualitative research methods and analyze market segments and/or users.

**INDU 302. Transportation Studio. 6.00.**

A study of transportation system design utilizing a multi-disciplinary effort. Students will engage with civil engineers, city planners, urban designers, community members and various stakeholders to understand transportation needs and develop creative solutions. *Prerequisite: INDU 208.*

**INDU 380. Materials and Processes. 3.00.**

Combination studio and lecture course introducing students to historic, contemporary and emerging materials and manufacturing processes used in the creation of mass manufactured goods. *Prerequisite: INDU 208 and Senior Standing; or permission of the Instructor*

**INDU 390. Independent Studies in Industrial Design. 1.00 – 3.00.**

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

**INDU 392. Topics in Industrial Design. 3.00.**

Study of selected topics in art, art history, graphic design, interior design, or industrial design at the intermediate level. May be repeated when course content changes. See MyMadison for current topics.

**INDU 400. Systems and Services. 6.00.**

This studio course aims to engage students in a systems-based approach to problem solving. Students will design and test concepts and solutions that focus on interaction and experience. The course emphasizes problem framing, system and service prototyping, graphic design and illustration, user interaction/user experience, and end-user engagement. *Prerequisite: INDU 208.*

**INDU 402. Social Innovation and Social Entrepreneurship. 6.00.**

This advanced studio explores design problems and solutions ranging from sanitation and poverty to environmental degradation and access to basic human services. Students will work individually and on teams to target specific areas of need and develop proposals to create products, systems and services to address those needs while generating revenue.

Prerequisite: INDU 208

**INDU 404. Indu Advanced Special Topics Studio. 6.00.**

Study of selected topics in industrial design at the advanced level. May be repeated when course content changes.

**INDU 406. Senior Thesis Studio. 6.00.**

Industrial design students with senior standing submit a proposal focused on developing a semester long studio project. *Prerequisite: INDU 208 and Senior Standing; or permission of the instructor.*

**INDU 408. Swing Studio Option. 6.00.**

Students may take a six credit hour studio in ARCD or the equivalent in any one other SADAH studio disciplines (i.e., ART 240 and ART 340). The ID program coordinator must approve proposals for swing studio options in advance. Art and design elective courses taken for the ID advanced studio requirement may not be double-counted as swing studios. *Prerequisite: INDU 208.*

**INDU 490. Independent Studies in Industrial Design. 1.00 - 3.00.**

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the director.

**INDU 491. Studio Assistant. 1.00 - 3.00.** Crosslisted with ARCD 491, ARED 491, ART 491, GRPH 491.

An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control, and the proper operation of equipment found within various individual classroom studios. *Prerequisite: Permission of the instructor and director.*

**INDU 492. Topics in Industrial Design. 3.00 - 6.00.**

Study of selected topics in art, art history, graphic design, interior design, or industrial design at the advanced level. May be repeated when course content changes. See MyMadison for current topics. *Prerequisite: INDU 208.*

**INDU 496. Internship in Industrial Design. 1.00 - 8.00.**

An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts.

## Integrated Science and Technology

**ISAT 100. Environmental and Energy Sustainability [C3PP]. 3.00.**

This course explores scientific and technical issues important to environmental and energy sustainability. Students study fundamental chemistry and physics and then apply this knowledge to better understand air quality, water quality, and conventional and alternative energy processes. The class also explores the societal impacts of our energy choices and the potential impact we as individuals can have through personal initiative. May be used for general education credit.

**ISAT 112. Environmental Issues in Science and Technology (2,3) [C3PP]. 4.00.**

This course integrates the study of biology, chemistry and statistics within the context of environmental issues that include ozone depletion, acid rain, global warming, waste management and biodiversity. May be used for general education credit.

**ISAT 113. Biotechnology Issues in Science and Technology (2,2) [C3NS]. 4.00. Crosslisted with ISAT 113H.**

This course introduces the concepts of differential and integral calculus and ordinary differential equations to model real-world applications in science, business, technology and economics. This course includes a computer laboratory component emphasizing modeling and numerical methods. Course assumes familiarity with algebra and trigonometry. May be used for general education credit.

**ISAT 113H. Biotechnology Issues in Science and Technology [C3NS]. 4.00. Crosslisted with ISAT 113.**

This course introduces current topics in the life science technologies through lecture and laboratory exercises. Topics include advances in genetic engineering, the hierarchy of life and the rise of infectious diseases. May be used for general education credit. *Prerequisite: Honors Students*

**ISAT 131. Technology, Science, and Society. 3.00.**

This course introduces the social aspects of technology and science. It covers social science methods and related philosophical and ethical analyses. Students learn how the practice of science relates to the human-built world and why critical evaluations of science and technology policies are important.

**ISAT 150. Algebra Essentials. 1.00.**

This course provides review and practice in algebra concepts that are needed to successfully complete GISAT 151. Various mathematical models, including trigonometric, are also reviewed. The course is designed for students who possess a basic understanding of algebra but are not proficient in its application. *Corequisite: ISAT 151*

**ISAT 151. Topics in Applied Calculus in ISAT [C3QR]. 4.00.**

This course introduces the concepts of differential and integral calculus and ordinary differential equations to model real-world applications in science, business, technology and economics. This course includes a computer laboratory component emphasizing modeling and numerical methods. Course assumes familiarity with algebra and trigonometry. May be used for general education credit.

**ISAT 151L. Topics in Applied Calculus Computer Laboratory. 1.00.**

This course is the computer laboratory portion of GISAT 151: Topics in Applied Calculus in ISAT. It is intended for students who already have AP credit or calculus lecture credit. Students will use numerical methods to solve mathematical modeling and calculus problems with Microsoft Excel. Students will study linear, polynomial, exponential, logarithmic, S-curve, and trigonometric models in business and the physical and natural sciences. Permission of instructor or department required.

**ISAT 152. Topics in Applied Physics in Isat. 4.00.**

This course introduces topics in general physics including one- and two-dimensional motion, mechanics, energy, waves, electricity, magnetism, optics, lasers, and early quantum theory. Vectors, algebra, and differential and integral calculus, are used to model physical system behavior. Laboratory experiments and computer exercises enhance understanding of the concepts. *Prerequisite: ISAT 151 or permission of the instructor*

**ISAT 160. Problem Solving Approaches in Science and Technology [C1CT]. 3.00. Crosslisted with ISAT 160H.**

This course examines issues in modern science and technology as a means to introduce, develop and enhance critical thinking and problem solving skills. Current scientific and technological research and applications will be introduced to reinforce problem solving, instruction in systems thinking and critical inquiry. The course provides opportunities for using both oral and written communication in a variety of learning activities. May be used for general education credit *Prerequisite: If you have already completed, or are currently registered for, a Cluster One Critical Thinking class, you must secure permission to receive credit for a second Cluster One Critical Thinking class.*

**ISAT 160H. Problem Solving Approaches in Science and Technology [C1CT]. 3.00. Crosslisted with ISAT 160.**

This course examines issues in modern science and technology as a means to introduce, develop and enhance critical thinking and problem solving skills. Current scientific and technological research and applications will be introduced to reinforce problem solving, instruction in systems thinking and critical inquiry. The course provides opportunities for using both oral and written communication in a variety of learning activities. May be used for general education credit.

**ISAT 171. Governance of Sociotechnical Systems. 3.00.**

Solutions to human problems are mediated by economic and political institutions, which in turn help to shape technology and science. The course covers basic political and economic concepts, institutions and processes as they relate to American and international science and technology.

**ISAT 180. Topics in Integrated Science and Technology. 1.00 - 4.00.**

Special topics in integrated science and technology which are of interest to the entry-level student. May be repeated for credit when course content changes. Students should consult the instructor prior to enrolling for the course. *Prerequisite: Permission of instructor.*

**ISAT 181. Student Research Project. 1.00 - 6.00.**

Research project on a science and technology topic of interest, as arranged with a faculty research adviser. Projects will include an assessment of the non-technical issues that surround the technical problem.

**ISAT 190. Introduction to Holistic Problem Solving in the ISAT Major. 1.00.**

This course introduces holistic problem solving through the lens of the ISAT major. Skills such as effective teaming, information literacy, systems thinking, stakeholder identification and complex problem analysis are developed.

**ISAT 190. Introduction to the Bachelor of Science in Integrated Science and Technology Program. 3.00.**

This course introduces the mission, goals, and structure of the Bachelor of Science in Integrated Science and Technology (BSISAT) degree program. Students will evaluate different approaches to science and technology problems. Skills such as effective teaming, information literacy, systems thinking, stakeholder identification, and self assessment are developed.

**ISAT 203. Viral Discovery. 2.00. *Crosslisted with BIO 203.***

An exploratory laboratory experience, designed for incoming freshmen. Students will learn about the life cycle and ecology of viruses infecting bacteria. Soil samples will be collected, and techniques for isolation and purification of the viruses will be performed by the students. Isolated viruses will be visualized using electron microscopy. The genomic material will be isolated and prepared for nucleic acid sequencing.

**ISAT 203H. Viral Discovery - Honors. 2.00. *Crosslisted with BIO 203H.***

An exploratory laboratory experience, designed for incoming freshmen. Students will learn about the life cycle and ecology of viruses infecting bacteria. Soil samples will be collected, and techniques for isolation and purification of the viruses will be performed by the students. Isolated viruses will be visualized using electron microscopy. The genomic material will be isolated and prepared for nucleic acid sequencing.

**ISAT 204. Viral Genome and Bioinformatics. 2.00. *Crosslisted with BIO 204.***

A computer-based laboratory experience, designed for students completing the Viral Discovery course. Students will learn to identify genes in a viral genome, compare the predicted proteins with known proteins in databases, describe the contents of the genome and notate all the relevant information for publication. Students will also research the role of bacteriophages in ecology and evolution.

**ISAT 204H. Viral Genome and Bioinformatics - Honors. 2.00. *Crosslisted with BIO 204H.***

A computer-based laboratory experience, designed for students completing the Viral Discovery course. Students will learn to identify genes in a viral genome, compare the predicted proteins with known proteins in databases, describe the contents of the genome and notate all the relevant information for publication. Students will also research the role of bacteriophages in ecology and evolution. *Prerequisite: ISAT 203 or BIO 203*

**ISAT 211. Issues in Modern Production Systems. 3.00.**

This course explores the principles of making, designing, integrating and improving production systems by asking the following questions: What is the right way to transform materials and who (or what) determines that? How do political, environmental, social, technological, legal/regulatory, ethical and economic factors impact the way individuals and organizations make, design, integrate and improve? How do production systems affect our ecosystem at different scales, ranging from artisanal craft methods to complex global supply chains and continuous production? Advanced manufacturing, continuous improvement and sustainable production systems will be explored. Includes a lab component. *Prerequisite: ISAT 251 with a grade of "C-" or better or MATH 220 and ISAT 212 with a grade of "C-" or better.*

**ISAT 212. Energy Issues in Science and Technology. 3.00.**

Introduction to scientific and economic concepts relevant to energy. Concepts are taught within the context of three or four themes, e.g. residential energy efficiency, renewable energy sources, "make-or-buy" fossil energy application and space power systems. Themes may change from year to year reflecting contemporary issues and opportunities to link with industry and government agencies. *Prerequisite: ISAT 152 or Permission of the Instructor.*

**ISAT 215. Telecommunications, Networking and Security. 3.00.**

This course introduces Telecom, Networking & Security concepts. Students learn how networked applications and services are designed, implemented and secured using wireless and wireline networks, network services and protocols. Examples of topics are Virtualization, Internet, Intrusion Detection & Prevention, Wireless Ethical Hacking, and Web Apps & Services. The course includes a lab component focusing on hands-on integration and troubleshooting of networked apps, network security methods and services. *Prerequisite: ISAT 152 with a grade of "C-" or better or permission of instructor.*

**ISAT 231. Political Economy of Technology and Science. 3.00.**

Solutions to human problems are mediated by economic and political institutions, which in turn help to shape technology and science. The course covers basic political and economic concepts, institutions, and processes as they relate to American and international science and technology.

**ISAT 251. Topics in Applied Statistics in ISAT [C3QR]. 3.00.**

This course introduces statistical thinking – the discipline and methods for collecting, analyzing, and interpreting data for making decisions, doing science, and understanding our world. Topics covered include an introduction to data analysis methods, probability and chance, statistical reasoning and inference, and experimental design. The course includes a laboratory component emphasizing hands-on analysis of data taken from a variety of applications in ISAT. May be used for general education credit. *Prerequisite: Sophomore standing or permission of the instructor.*

**ISAT 252. Programming and Problem Solving. 3.00.**

Introduction to computational thinking and formal logic. Students create software to solve problems in applied science, business, and engineering taking social context into account. Programming paradigms include procedural, object-oriented, event-driven, and declarative. Emphasis is placed on effective analysis, planning, documentation, communication, and teamwork in professional software development settings. *Prerequisite: Sophomore standing or permission of the instructor.*

**ISAT 253. Instrumentation and Measurement in ISAT. 3.00.**

Fundamental nature of measurement in the practice of science, how and why measurements are taken, and representative instrumentation. Data collection in science (measuring physical properties and biometrics), statistical tools for analyzing data and visualization of data. *Prerequisite: ISAT 152 and ISAT 251 or MATH 220.*

**ISAT 271. Technology, Science and Society. 3.00.**

This course introduces the social aspects of technology and science. It covers social science methods and related philosophical and ethical analyses. Students learn how the practice of science relates to the human-built world and why critical evaluations of science and technology policies are important. *Prerequisite: ISAT 171.*

**ISAT 280. Projects in ISAT. 1.00 - 4.00.**

Projects or special topics in integrated science and technology which are of interest to the lower-division student. May be repeated for credit when course content changes. Projects

or topics selected may dictate prerequisites. Students should consult the instructor prior to enrolling for the course. *Prerequisite: Permission of instructor.*

**ISAT 290. Introduction to Systems Thinking for Complex Problems. 3.00.**

Students will develop skills to apply systems thinking methodology to investigate, define and describe complex problems. They will build a recognition and appreciation of common causal structures that influence the evolution of a problem over time. Structures include interactions between cultural, institutional, natural and technological factors. Collaboration, integration of diverse knowledge sources and project management skills will be emphasized. *Prerequisite: ISAT 190 or permission of the instructor and ISAT 212 with a grade of "C-" or better.*

**ISAT 301. Instrumentation and Measurement in Energy (0, 2). 1.00.**

Instrumentation is used to acquire data from representative systems that include mechanical, thermal, solar, chemical and nuclear energy. Students analyze the data to enhance understanding of these forms of energy. Energy transport processes are also characterized. Computer-based data acquisition is emphasized. *Prerequisite: ISAT 212 and ISAT 253 or permission of the instructor.*

**ISAT 302. Instrumentation and Measurement of the Environment (0, 2). 1.00.**

Traditional and contemporary analytical laboratory and field techniques used in environmental quality monitoring are surveyed. Emphasis is placed on understanding the physical, chemical and biological basis of these techniques. Hands-on laboratory and field work will be emphasized, in addition to quality control/assurance of environmental data.

**ISAT 303. Production Systems Automation Lab. 1.00.**

The role, function and implementation of sensors, actuators and controls in open and closed loop control systems are explored and implemented in constant process flexible manufacturing systems. Programmable logic controllers (PLCs) are emphasized. The synthesis of automation technologies is realized by exploring physical mechatronic systems via hands-on lab experiences using real world equipment. *Prerequisite: ISAT 331. Corequisite: ISAT 331.*

**ISAT 305. Instrumentation and Measurement in Biotechnology (0, 2). 1.00.**

This course provides a hands-on experience of the techniques and instrumentation used in the modern biotechnology laboratory. Topics include aseptic techniques for establishing microbial cultures, detection and analysis of recombinant DNA molecules, protein purification, SDS gel electrophoresis and the use of PCR technology for genetic analysis.

**ISAT 306. Instrumentation and Measurements in Data Communications and Networking. 1.00.**

This is an introductory course on hands-on performance measurements of data, computer and telecommunications channel transmission techniques. The course includes a set of lab experiments focusing on the physical and data link layers of data communications and telecommunications networks. *Prerequisite: ISAT 360 or instructor permission*

**ISAT 310. Energy Fundamentals I. 3.00.**

This course covers the integration of fundamental concepts from physics, chemistry, mathematics and engineering within the context of energy applications. Principles governing energy transformations, transport and conversion, including laws of thermodynamics, chemical and nuclear reactions and thermal science. *Prerequisite: ISAT 212 is the prerequisite.*

**ISAT 311. Role of Energy in Modern Society. 3.00.**

This course covers the role of energy in the U.S. and world economies. Geology of energy-valued natural resources: size, quality and economics of domestic and world resource base. Models for energy use by different sectors. The role of energy in global climate change; other energy-related environmental concerns; and the implications for national and international security will be studied. *Prerequisite: ISAT 212 or consent of instructor.*

**ISAT 320. Fundamentals of Environmental Science & Technology I. 4.00.**

This course provides the student with a basic understanding of environmental processes, pollution and control technologies. Grounded in ecology and systems thinking, ISAT 320 integrates classroom learning, field-based studies and laboratory analysis of field samples to explore local aquatic and terrestrial environments and contextualize them in broader scientific knowledge. *Prerequisite: ISAT 112 or permission of the instructor.*

**ISAT 321. Fundamentals of Environmental Science & Technology II. 3.00.**

This course builds on the student's basic understanding of environmental pollution, processes and control technologies in the context of systems thinking and sustainable practices. Content includes solid and hazardous waste and its management, the principles of environmental risk assessment, air quality analysis and management, drinking water and wastewater treatment, and life cycle analysis. *Prerequisite: ISAT 320.*

**ISAT 330. Sustainable Manufacturing Systems. 3.00.**

Introduces and applies principles of production planning and control with an emphasis on sustainable production and environmentally conscious manufacturing. Topics include scheduling, inventory control, facility layout, capacity planning, forecasting and lean manufacturing. *Prerequisite: ISAT 211 and ISAT 251 or permission of instructor.*

**ISAT 331. Cyber-Physical Industry. 3.00.**

In-depth introduction to cyber-physical systems for automated production, from maker scale to global supply chains, emphasizing quality, usability and cybersecurity. Topics include robotics and flexible manufacturing systems, industrial monitor and control systems (RTU, PLC, SCADA, HMI, SIS, DCS), Machine-to-Machine (M2M) and Industrial Internet of Things (IIoT), human factors and ergonomics in HMIs including virtual/augmented/mixed reality; autonomy, critical infrastructure, and smart cities. *Prerequisite: ISAT 211 and ISAT 251 or permission of the instructor.*

**ISAT 340. Software Development. 3.00.**

This course is an introduction to the processes, methods and techniques of efficient and effective software application development. Students will create or enhance software systems in a sophisticated development environment. *Prerequisite: ISAT 252*

**ISAT 341. Machine Learning and Data Science. 3.00.**

Explores the data science and machine learning landscapes by developing and implementing programs capable of learning from data extracted from several knowledge domains. Students will use production ready tools that facilitate model development and deployment to a variety of computing platforms. *Prerequisite: Junior standing and ISAT 340 or CS 149.*

**ISAT 344. Intelligent Systems. 3.00. Crosslisted with ISAT 344.**

In-depth introduction to current and future intelligent systems, including expert systems, neural networks, hybrid intelligent systems, and other intelligent system technologies and their development, uses and limitations.

**ISAT 348. The Multimedia Industry. 3.00.**

Students are introduced to a variety of tools for viewing multimedia and to the issues in designing effective human-computer interactions. This includes an introduction to the many forms of media that occur in computing systems (text, graphics, images, sound, animation) and to the characteristics of well-produced media. *Prerequisite: ISAT 340 or CS 139 with sophomore standing is the prerequisite.*

**ISAT 350. Biotechnology for the New Millennium I. 3.00.**

This course covers the scientific foundations and historical development of biotechnology. Specific topics include living system nanotechnology; cell structure and function; origins of genetic engineering; and recombinant DNA technology. *Prerequisite: ISAT 113 or equivalent.*

**ISAT 351. Biotechnology for the New Millennium II. 3.00.**

This course is a continuation of ISAT 350 and describes applications of biotechnology in agriculture, industry and medical science as well as associated social, ethical and philosophical issues. Topics include study of an emerging infectious disease, energy transduction in living systems and novel applications of biotechnology. *Prerequisite: ISAT 113, or BIO 240 and BIOT 260 or permission of the instructor.*

**ISAT 360. Introduction to Networking & Security. 3.00.**

This course focuses on the underlying principles of networking and how these principles are utilized to provide efficient and secure networks in support of voice, data, video and mobility services and applications. Emphasis is also placed on understanding the network standards and protocols, network architectures, network security, network analysis/trouble shooting and network management issues and resolution/mitigation strategies. The course has a technology (hands-on) focus. *Prerequisite:* ISAT 252 or CS 239 or CS 149 or instructor permission. *Corequisite:* For CIS majors: CIS 304.

**ISAT 361. Fundamentals of Data Communications and Networking II. 3.00.**

The course is an introduction to data communications, telecommunications and networking. The focus is on the physical and data link layers. At the physical layer, it includes network models, data and signal rates, digital & analog transmission (modulation), bandwidth utilization (multiplexing), switching (circuit, packet). At the data link layer, it includes error detection & correction, multiple access methods, LANs (wired, wireless, connecting), WANs (SONET, ATM, cellular, satellite). *Prerequisite:* ISAT 360 or instructor permission

**ISAT 390. Holistic Problem Solving Workshop I. 3.00.**

In this course, students will practice holistic problem-solving approaches to analyze and propose solutions for complex problems that involve a mix of scientific, technological, and societal elements. The course will use a variety of case studies that represent real-world problems that significantly impact society. For each case study, students will explore the system dynamics from which the problem emerges and evaluate both short- and long-term consequences of possible solutions. *Prerequisite:* ISAT 290

**ISAT 391. Holistic Problem Solving Workshop 2. 3.00.**

This course continues the practice of holistic problem-solving initiated in ISAT 390. In this follow-up course, students will operate in a self-guided manner to analyze and propose solutions for complex problems that involve a mix of scientific, technological, and societal elements. Students will explore the system dynamics from which the problem emerges and evaluate both short- and long-term consequences of possible solutions. *Prerequisite:* ISAT 390

**ISAT 401. Advanced Computer-Based Instrumentation I. 3.00.**

This is largely a laboratory course in which students build and program their own instruments. Topics include programming techniques for real-time instrumentation programming; buffered analog and digital input and output; timing considerations; passive analog filters and active analog filters; digital-filtering techniques; and real-time programming issues. *Prerequisite:* ISAT 253 and ISAT 242.

**ISAT 410. Sustainable Energy Development. 3.00.**

This course is concerned with science and the applications of solar and other renewable technologies, e.g., solar thermal electric, photovoltaics, wind power, biomass-derived alcohols, solar hydrogen and ocean thermal energy conversion Energy storage systems and materials, combined renewableconventional systems for peaking and load management and alternative energy sources for transportation will be studied. *Prerequisite:* ISAT 310 or permission of the instructor.

**ISAT 411. Energy Economics and Policy. 3.00.**

This course is concerned with methods for analyzing the economics, environmental and societal benefits of energy technologies. Topics include optimization techniques, utility planning and finance, cost-benefit techniques, discounting for time and risk, econometric models and input-output analysis. The role of government in determining energy costs supply and markets will be considered. *Prerequisite:* ISAT 311 or permission of the instructor.

**ISAT 412. Dynamic Control of Energy Systems. 3.00.**

This course considers methods for developing dynamic models of energy processes and technologies to achieve improved process control and increased efficiency with applications of differential equations and discrete math equations. Dynamic models are used to evaluate load management strategies and to develop computer control algorithms for building energy systems. *Prerequisite:* ISAT 310 or consent of instructor.

**ISAT 413. Options for Energy Efficiency. 3.00.**

This course makes detailed examination of new technologies to increase the efficiency of energy conversion, transportation systems and end-use technologies. Examples include MHD, combined-cycle systems, advanced nuclear reactors, intelligent transportation systems, high-efficiency lighting, energy management and utilization of low-temperature heat. Consideration is made of the socioeconomic and governmental barriers to energy efficiency. *Prerequisite:* ISAT 310 and ISAT 311 or consent of the instructor.

**ISAT 414. Energy Fundamentals II. 3.00.**

Introduction to the sciences of fluid mechanics and heat transfer and the physical laws governing the mechanical behavior of liquids and gasses. Conservation of mass, energy and momentum. Discussion of heat transfer by one-dimensional conduction, convection and radiation. Fluid statics, internal and external fluid flow, pipe networks and heat exchanger analysis. *Prerequisite:* ISAT 310 or permission of the instructor.

**ISAT 416. International Energy Studies. 3.00.**

Study-abroad course examining international energy problems and providing team-oriented project experiences. Addresses energy issues associated with economic and social development. Project participation, tours and meetings with local experts illustrate energy-related problems that are compared with those in the United States. *Prerequisite:* ISAT 212 and ISAT 253.

**ISAT 420. Environmental Analysis and Modeling. 3.00.**

This course explores applications of mathematical techniques and computer models to the environmental field. The course introduces the principles underlying environmental analysis and modeling, including limitations and pitfalls. Several environmental models and analytical systems are then discussed and applied, using a variety of computational platforms. *Prerequisite:* ISAT 321 or permission of the instructor.

**ISAT 421. Environmental Policy & Regulation. 3.00.**

This course will familiarize students with basic environmental laws and regulations. The course discusses the purpose of environmental policy, the role of environmental economics in policy decisions and the policy instruments available to environmental regulators. Current federal and state statutes affecting waste disposal, air quality and water quality are discussed. *Prerequisite:* ISAT 321.

**ISAT 422. Industrial Environmental Management. 3.00.**

This course addresses environmental issues faced by industry, including such topics as waste management, chemical inventories, pollution prevention and discharge permitting. Industrial ecology is introduced as an approach to the development of a sustainable industrial society, including treatment of life cycle analysis, design for environment, environmentally conscious manufacturing, and ISO14000. *Prerequisite:* ISAT 320 or permission of the instructor.

**ISAT 423. Environmental Remediation. 3.00.**

This course will examine chemical, physical, economic, and regulatory aspects of the remediation of contaminated soil and groundwater. Topics include chemical properties of major contaminants, environmental site assessments, remediation design, and current and emerging remediation technologies and their limitations in soil and groundwater restoration. *Prerequisite:* ISAT 320 and ISAT 321.

**ISAT 424. Natural Resource Management. 3.00.**

This course focuses on how resource management decisions affect the human and natural communities involved. Topics include definition and importance of natural resources, resource management styles and policies, and planning for resource conservation. Conservation biology is introduced as a tool for developing sustainable resource use policies. Mandatory weekend filed trip. *Prerequisite:* ISAT 320 and ISAT 321.

**ISAT 425. Environmental Hydrology. 3.00.**

This course integrates the study of surface water and ground water hydrology and examines current technologies used to assess the behavior and quality of water in the environment. Topics include monitoring and management at the watershed level, the influence of wetlands on water quality, and the impact of current regulations. *Prerequisite: ISAT 320.*

**ISAT 426. Environmental Information Systems. 3.00.**

This course provides students with practical experience applying advanced environmental information systems technologies to environmental problems. Students will employ such technologies as decision support systems, geographic information systems, expert systems, relational databases, multimedia systems, and modeling and simulation. This course is often offered in a study-abroad format.

**ISAT 427. Industrial Hygiene. 3.00.**

This course provides an introductory survey of the field of Industrial Hygiene. Chemical hazards are addressed first, focusing on respiratory and dermal exposures, followed by a treatment of physical hazards including sound, radiation, and temperature. The course includes industrial case studies illustrating administrative and engineering controls in common use. *Prerequisite: ISAT 320 or permission of the instructor.*

**ISAT 428. Industrial Ecology. 3.00.**

Industrial Ecology, the 'science of sustainability', seeks to encourage the development of a sustainable industrial society. This course introduces and examines this relatively new field of inquiry and practice. We address various practical topics which are associated with Industrial Ecology, including Life Cycle Assessment, Design for Environment, and Environmentally Conscious Manufacturing.

**ISAT 429. Sustainability: An Ecological Perspective. 3.00. *Crosslisted with GEOG 429.***

This course examines present global environmental impacts and efforts made to change production and consumption patterns toward those that reduce impact or promote increased ecosystems health. The focus lies in understanding the basic resources of productivity including soils, agricultural systems, agroforestry, forestry, and aquatic environments and applying solutions on a personal and community level. *Prerequisite: ISAT 320.*

**ISAT 430. Materials and Manufacturing Processes. 3.00.**

The purpose of this class is to introduce chemical and physical properties of materials (metals, ceramics, polymers, composites, sustainable materials), manufacturing processes (casting, finishing, molding, forming, joining, and machining), and automated design and manufacturing. The topics include the following: Material properties and product attributes, Engineering materials, Solidification processes, Processing of metals and ceramics, Metal forming and sheet metalworking, Metal removal processes, Property enhancing & surface processing operations, Joining and assembly processes, *Prerequisite: ISAT 211 or permission of the instructor.*

**ISAT 431. Advanced Manufacturing Processes and Systems. 3.00.**

This course provides an introduction to processes, systems and sustainability improvement in advanced manufacturing. Topics include advanced manufacturing processes and systems, such as additive manufacturing, nano/micro-manufacturing, digital manufacturing, industrial sustainability analysis and systems thinking in sustainable manufacturing. *Prerequisite: ISAT 330 and ISAT 251*

**ISAT 432. Materials Selection in Product Design. 3.00.**

This course deals with the interplay among requirements specifications, design, economics, environment, energy, materials selection, fabrication, manufacturing cost and product life cycle considerations. Students will complete a product design case study from requirements to final design concept, including translating requirements to design, selecting appropriate materials and choosing between design and production concepts using qualitative and quantitative analytical methods. *Prerequisite: ISAT 330 and junior standing or permission of the instructor.*

**ISAT 433. Foundations of Lean and Six Sigma. 3.00.**

This course addresses the questions: What is lean? What is six sigma? How are they different, why do many organizations combine them and how should they be applied for continuous improvement? Lean topics include toyota production system, hoshin kanri, lean culture, reducing waste and process stability. Six Sigma topics include project selection, deployment, forming teams, performance measures and methodologies (e.g. define, measure, analyze, improve control and define, measure, analyze, design and verify). *Prerequisite: ISAT 330 or admission to the global supply chain management minor.*

**ISAT 434. Industrial Informatics. 3.00.**

Hands-on application of advanced analytical methods selected from topics in supply chain management, forecasting, measurement systems analysis (MSA), quality and process improvement, marketing research and analytics, design of experiments (DOE), and reliability modeling. Data acquisition from enterprise databases and industrial sources and analysis leveraging big data are addressed. *Prerequisite: ISAT 211 and ISAT 251 or MATH 220 or admission to the global supply chain management minor.*

**ISAT 435. Lean Six Sigma Applications. 3.00.**

This course focuses on applying lean and Six Sigma in industry, with an emphasis on selection and application of tools in a production or supply chain environment. Students will learn to map and model business processes, analyze these processes, and implement and document the improved process. Lean topics include standardized work, just-in-time production, value stream mapping and jidoka. Six Sigma topics include ishikawa diagrams, hypothesis testing, quality function deployment, process sigma calculation and control plans. *Prerequisite: ISAT 433 or admission to the global supply chain management minor or permission of the instructor.*

**ISAT 437. Technological Innovation and Sustainable Design. 3.00.**

This course is a holistic approach to the nature of technological innovation as an intrinsic dynamic of human society, with an explicit focus on understanding why innovations succeed or fail and the compelling need for sustainable design. The critical relationship between technical innovation and the design process is explored through case studies that illustrate sustainability-inspired models of technology such as biomimicry, design for environment, appropriate technology, zero waste production systems and human-centered design. *Prerequisite: ISAT 211 and junior standing or permission of the instructor.*

**ISAT 440. Cultural, Ethical, Legal and Social Issues in Computing. 3.00.**

An exploration of the cultural, ethical, legal and social issues inherent in computing. This course is designed to strengthen students' proclivity and ability to consider and communicate about the reciprocal impacts of computing technology on people and the environment, particularly as it pertains to their roles in designing, developing, procuring, implementing or maintaining computing technology within an organization. *Prerequisite: ISAT 271 or permission of instructor.*

**ISAT 440. Seminar in Knowledge Management. 3.00.**

Philosophical, ethical, social, and political issues in information and knowledge management, the information and knowledge management industries, and information and knowledge management systems. *Prerequisite: Senior Standing.*

**ISAT 441. Simulation and Modeling. 3.00.**

The purpose of this class is to introduce students to the use of models to understand, analyze and improve systems in several areas of science and technology through computer simulation modeling techniques. *Prerequisite: ISAT 211 or permission of instructor.*

**ISAT 445. Software Engineering and Agile Development. 3.00.**

Study of means for the development and maintenance of high quality software products delivered on time and within budget. Topics include requirements analysis and specification, software design, implementation, testing, maintenance, project management, ethics, and the responsibilities of software engineering professionals. Focuses primarily on agile software development. *Prerequisite: ISAT 340*

**ISAT 445. Software Engineering and Agile Development. 3.00.****ISAT 447. Interaction Design. 3.00. *Crosslisted with WRTC 447.***

Study of and practice with processes, principles, tools, models, and techniques for designing interactions between humans and digital products and systems. Topics include physiological and psychological factors affecting interaction design, interaction design process, interaction models, styles, and paradigms, design notations and representations, prototyping, and interaction design evaluation.

**ISAT 451. Biotechnology in Industry and Agriculture. 3.00.**

This course illustrates the applications of biotechnology in agriculture and industry, linking scientific discoveries to business and manufacturing practices. Topics include pharmaceutical product development, genetic engineering in agriculture, biotechnology in food processing and regulatory issues. *Prerequisite: ISAT 330 or ISAT 350 or BIO 240 and BIOT 260 or permission of the instructor.*

**ISAT 452. Medical Biotechnology. 3.00.**

This course will explore the way in which modern biotechnology can be used as a tool to define and solve problems related to human health. Insights will come through the review and critical analysis of molecular evidence, modeling of the human body and the drug discovery pipeline as complex systems, and an identification and appreciation for stakeholder perspectives. *Prerequisite: ISAT 351 or BIO 240 or permission of the instructor.*

**ISAT 453. Energy and Living Systems. 3.00.**

The potential of living systems as alternative energy sources will be explored by describing energy production and transduction in living systems in the context of current and anticipated applications of biotechnology to energy production. *Prerequisite: ISAT 310, ISAT 351 or BIO 214 or Permission of Instructor*

**ISAT 454. Computer Applications in Biotechnology. 3.00.**

Students learn how complex biological molecules support and regulate processes in living systems, through building interactive computer models of protein and nucleic acid structure and function. The course requirements include written and oral presentations and creation of Web pages. *Prerequisite: ISAT 351 or BIO 240 and BIOT 260 or permission of the instructor.*

**ISAT 455. Regulatory Issues Biotechnology. 3.00.**

This course examines the policies and guidelines of federal government agencies that regulate the use of recombinant DNA technology, genetically engineered organisms and the manufacturing of biotechnology products. Issues of product safety, product labeling, physical and biological containment, environmental release, and mammalian cloning are presented. *Prerequisite: ISAT 350 or BIO 240 and BIOT 260 or permission of the instructor.*

**ISAT 456. Ethical, Legal, & Social Implications of Biotechnology. 3.00.**

The ethical, legal, and social implications of the field of biotechnology and its applications are explored in this course. Students will analyze at an in-depth level the social impacts and ethical implications of human subjects and biological materials research, cloning, human genetic engineering, and transgenic agricultural crops. *Prerequisite: ISAT 131 & ISAT 231 or BIOT 260 or Permission of Instructor*

**ISAT 459. Awareness and Understanding of Chemical, Biological, and Radiological Weapons of Mass Destruction. 3.00. *Crosslisted with IA 459.***

This course introduces awareness, science, and societal impact of Weapons of Mass Destruction (WMD) agents. Students study the development of vaccines, therapeutic and diagnostic drugs used in the detection and treatment of these agents. The course consists of lectures and safety training sessions that introduce tactical and logistical techniques used against chemical, biological and radiological WMD.

**ISAT 460. Top/Ip Networks. 3.00. *Crosslisted with CS 460.***

An overview of Local Area Network hardware, LAN topology and design, and LAN protocols. Includes installation and management of network operating systems and TCP/IP services (address management, name management, file and print sharing, account management). *Prerequisite: CS 350 or CIS 320.*

**ISAT 461. Internetworking. 3.00. *Crosslisted with CS 461.***

Wide Area Network (WAN) and Metropolitan Area Network (MAN) design. Audio, voice, data and TV transmission over ATM/B-ISDN networks. The SONET signal hierarchy and Q3 standard interface model. Network security. Performance analysis of a given network. *Prerequisite: CS 361 or ISAT 460*

**ISAT 462. Network Applications Development. 3.00.**

Design and implementation of network-based applications using languages and architectures such as sockets, JAVA, TL1 and CORBA. Concepts in distributed processing, including synchronization of interprocess communication and management of replicated data. Analysis of performance issues related to distributed applications. *Prerequisite: ISAT 360.*

**ISAT 465. Wireless Networking, Security and Forensics. 3.00.**

An introduction to wireless networking and wireless LAN security and forensics. Radio frequency fundamentals are introduced with emphasis on applications and services. Hands-on network configurations and analysis tools for wireless LAN are introduced and exercised with emphasis on network performance, security and forensic applications. *Prerequisite: ISAT 360 or CIS 320/CS 320 or equivalent.*

**ISAT 471. Transportation: Energy, Environment & Society. 3.00.**

This course provides an overview of transportation's role in energy demand, environmental change, and economic development. Domestic and global transportation trends are compared and their impacts on fossil fuel consumption, air pollution, climate, ecosystems, and social structure are analyzed. Contemporary technological, policy, and behavioral solutions are critically examined with an emphasis on alternative fuels, advanced vehicle architectures, and regulatory measures. *Prerequisite: Junior or Senior Standing Only*

**ISAT 473. Local Agriculture and Farm Internships. 4.00.**

The objectives for this course include understanding local ecology and its impacts on farming, as well as how farming impacts local ecology; practicing diversified farming techniques; understanding how small-scale farms operate as businesses; examining localization and slow-food movements and recognizing the impacts of globalized or industrial food and fiber production; identifying the strengths and limitations of small-scale farming.

**ISAT 474. Political Ecology. 3.00.**

This seminar focuses on political ecology as a framework and body of work that examines environmental change, particularly notions of degradation, through analyses of complex social, economic, political and ecological interrelationships. Course materials raise and address questions of how people study and have perceived ways in which human societies and various 'environments' shape one another over time, as well as the contexts in which 'development' efforts are constructed, implemented and, sometimes, abandoned.

**ISAT 477. Complex Systems and How They Fail. 3.00.**

Interdisciplinary study of complex system operation, interdependencies, and failure focusing on real-world critical infrastructure systems (e.g., electric power, telecommunications, and health). system response to natural and human-induced hazards, including cascading effects. Examination of risk management strategies including technical and policy solutions.

**ISAT 480. Topics in Integrated Science & Technology. 1.00 - 4.00.**

Topics in integrated science and technology which are of interest to the upper-division student but not otherwise covered in the regular course offerings. Offered only with the approval of the program coordinator. May be repeated for credit when course content changes. Students should consult the instructor prior to enrolling for the course. Topic selected may dictate prerequisite. *Prerequisite: Junior or senior standing only.*

**ISAT 485. Gender Issues in Science. 3.00. *Crosslisted with WGSS 485.***

An interdisciplinary course that looks at the scientific process, science practitioners, and science students through the lens of gender analysis. Students read literature, lead

discussions, perform experiments, and analyze both data and processes to address the effects of educational systems on the preparation and careers of scientists, the influence of politics and culture on scientific inquiry, and the effects of critiques grounded in gender analyses on understanding the scientific process.

**ISAT 490. Capstone Experience I. 1.00.**

This is the first of a four-course sequence. Students perform an independent research project, either alone or within an investigative team, to identify and analyze a science- or technology-based problem (broadly defined), culminating in a public presentation at the ISAT Senior Symposium. In this course, students will identify an appropriate problem to investigate for their Capstone experience and assemble a Team to develop their Capstone Proposal.

**ISAT 491. Senior Capstone Project I. 1.00.**

First course in a three-course sequence. Student generates an idea for and writes a proposal for an independent or team-based research project. Student must identify and analyze a science- or technology-based problem (broadly defined), identify potential solutions, recommend an approach, and prepare a written proposal.

**ISAT 492. Senior Capstone Project II. 2.00.**

Second course in a three-course sequence. Student performs the bulk of the research needed for an independent research project, either alone or within an investigative team, to address a technologically based problem.

**ISAT 493. Senior Capstone Project III. 2.00.**

Third course in a three-course sequence. Student finishes the research and prepares an oral and a written report on the work (either alone or within an investigative team), addressing a technologically based problem and developing alternative solutions.

**ISAT 495. Technology in Our World: Better By Design. 3.00.**

Students explore the importance of design in technology and engineering and contrast the design process with the scientific method. This includes evaluating functional requirements, ergonomics, usability, cost, risk and environmental impact. Students complete a design project integrating these factors to address a real-world problem.

**ISAT 499A. Honors Thesis. 1.00.**

**ISAT 499B. Honors Thesis. 1.00.**

**ISAT 499C. Honors Thesis. 2.00.**

**ISAT 499D. Honors Thesis. 2.00.**

## Intelligence Analysis

**IA 150. Introduction to Intelligence Analysis. 3.00.**

This course presents a holistic understanding of intelligence analysis: its core definition, domains where it is practiced, how it is done by both individuals and teams, relevant reasoning and technological methods, the significance of communication skills, the broader context that shapes the process, and relevant principles of professional ethics and legal compliance. This course is required for students majoring in intelligence analysis and is recommended for those considering the major. *Prerequisite:* First year students and sophomores only; others by permission of the program.

**IA 200. Introduction to National Security Intelligence. 3.00.**

Intelligence analysis is a complex, dynamic process that includes determining the intelligence needs, data collection, pre-processing, analysis and production of the customer's product. This is an introduction to the history, structure and practices of the national security intelligence community (IC). The course is team-oriented, project-based and grounded in the relevant legal and ethical context. *Prerequisite:* A minimum grade of "C" in IA150

**IA 210. Introduction to Global Competitive Intelligence. 3.00.**

This course will focus on global competitive intelligence (CI): the tools and methods that enhance strategic and tactical decision making in the analysis and interpretation of business data related to current and emerging competitors. This course is team oriented, project based and grounded in the relevant legal and ethical context. *Prerequisite:* A minimum grade of "C" in IA 150.

**IA 240. Technology Applications in a Networked World. 3.00.**

Students develop broad technical competencies of current and future technology applications, such as databases, spreadsheets and Internet-of-things. They explore technical-socio-ethical aspects of the cyber world. This hands-on and team-based course supports development of working technical knowledge for accessing, evaluating, modeling and analyzing information and data for problem solving. Students develop a systematic appreciation of computing, network and cyber security. *Prerequisite:* A grade of "C" in IA 150.

**IA 241. Introduction to Programming and Data Science. 3.00.**

The course introduces students to data analysis through computer programming. The course will focus on key elements from data science that are critical to the intelligence analyst such as manipulating, processing, cleaning and crunching data. The course will serve as a practical, modern introduction to scientific computing in Python, tailored for data-intensive applications. This course will introduce the Python language and libraries students need to effectively solve a broad set of data analysis problems. The course is hands-on and places emphasis on practical case studies with a broad scope of techniques useful for the data analyst. *Prerequisite:* IA 240

**IA 250. Research Design and Writing for Intelligence Analysis. 3.00.**

In this course, students will learn how intelligence analysts can produce assessments using a research design framework and communicate those assessments effectively in writing. This includes how intelligence analysts develop research (intelligence) questions, conduct research, evaluate sources, choose methodologies, develop assessments and present those assessments in the form of an argument with an emphasis on precision, clarity and brevity in the written format. *Prerequisite:* IA 150 and IA 200.

**IA 261. Hypothesis Testing. 3.00.**

Examines hypothesis testing in national, military, counter, and competitive intelligence. By comparing alternate theories in terms of their explanatory power and predictive success, students will learn the most relevant methods for integrating facts into unified theories, assessing theories, and properly qualifying and reevaluating theories to compensate for risk and uncertainty. *Prerequisite:* A minimum grade of "C" in IA 150.

**IA 280. Selected Project in Intelligence Analysis. 3.00.**

This course will examine projects of interest to lower-division students in intelligence analysis not otherwise offered in regular course offerings. They are offered only with the approval of the program director and they may be repeated when course content changes. Students should consult with the instructor prior to enrolling in the course. *Prerequisite:* Junior standing.

**IA 300. Seminar on Issues in Intelligence Analysis. 3.00.**

This course will focus on important issues in the theory and practice of intelligence analysis. Students will learn about intelligence analysis by examining its purpose, history, methods, processes, context of existing challenges, and recommendations for improvement. *Prerequisite:* IA 200 and IA 210.

**IA 312. Causal Analysis. 3.00.**

Examines causal analysis in national, military, counter- and competitive intelligence. By assessing a factor's amount and kind of efficacy, students will learn the most reliable methods for distinguishing between relevant/irrelevant events and factors, identifying and excluding "pseudo-causes," and anticipating higher order effects of a causal process. *Prerequisite:* IA 261.



**IA 313. Counterfactual Reasoning. 3.00.**

Examines counterfactual reasoning in national, military, counter and competitive intelligence. By analyzing alternate scenarios and their consequences, students will learn the most relevant methods for employing creative thinking in generating, developing, and assessing possibilities; substantiating "after-action" reports, and structuring futures analysis.

*Prerequisite: IA 312.*

**IA 314. Strategy Assessment (Rational Decision Theory). 3.00. *Crosslisted with PHIL 314.***

Examines strategy assessment in national, military, counter, and competitive intelligence. By applying probabilities and goals to potential threats and opportunities (short and long-term), students will learn the most relevant methods for formulating and evaluating possible courses of action, and projecting and explaining actions by assessing an agents' strategic interests and circumstances. *Prerequisite: IA 313.*

**IA 340. Data Mining, Modeling and Knowledge Discovery. 3.00.**

Data mining is the nontrivial extraction of previously unknown and potential useful information from (large) data sets to help explain current behaviors and anticipate future outcomes. Students will apply data mining and knowledge discovery methods to data sets from business, industry and government. The course is team oriented, project based and grounded in the relevant legal and ethical context. *Prerequisite: IA 241.*

**IA 341. System Dynamics Modeling, Simulation and Analysis. 3.00.**

System dynamics analysis is a perspective and a set of conceptual and computing tools to help us understand the structure and dynamics of complex systems. This course will apply system dynamics analysis to complex systems (problems) that involve the interplay of physical and social-political factors. The course is team-oriented, project-based and grounded in the relevant legal and ethical context. *Prerequisite: IA 312*

**IA 342. Visualization Methods, Technologies and Tools for Intelligence Analysis. 3.00.**

Data visualization presents laboratory or simulation data or the results from sensors out in the field in a way that aids reasoning about and hypothesis building in complex data sets. This course will apply data visualization technologies and tools to timely data sets from business, industry and government. The course is team oriented, project based and grounded in the relevant legal and ethical context. *Prerequisite: IA 340 or ISAT 252. Programming and Problem Solving.*

**IA 360. Terrorism and Counterterrorism. 3.00.**

This course will address key concepts in the study of terrorism, to include definitions, history, justifications, explanations and strategies. It will also address the effectiveness of different kinds of counterterrorism strategies and policies and the role that intelligence analysis plays in the process. *Prerequisite: IA 200.*

**IA 363. Apocalypticism, Religious Terrorism and Peace. 3.00. *Crosslisted with REL 363.***

This course traces apocalypticism from its ancient Jewish and Christian roots to its contemporary manifestations in religious groups around the world. Since apocalypticism is a worldview that cuts across religious traditions, the course covers a variety of religious groups. The last half of the course focuses on the complex relationships between apocalyptic thinking and religious terrorism and entails an independent research project.

**IA 365. Cyber Intelligence. 3.00.**

Cyber intelligence is the acquisition of information to identify and analyze cyber adversaries' capabilities, intentions and activities that can be used to support proactive decision-making. Students will explore common cyber security terminology (lexicon), frameworks and methodologies used to analyze cyber security threats in organizations. Using case studies, they will collect and analyze open source information to identify and monitor evolving threats and understand how adversaries operate.

**IA 370. Advanced Competitive Intelligence. 3.00.**

Competitive intelligence is developing actionable foresight regarding competitive dynamics that can be used to enhance the speed and quality of decision-making. The main objectives of this course are to teach students to think and act strategically as a CI professional and to develop students' capacity to think strategically about a company, its business position, how it can gain sustainable competitive advantage and how its strategy can be implemented and executed successfully with the support of CI. *Prerequisite: IA 210.*

**IA 400. Cognitive Science and Intelligence Analysis. 3.00.**

Cognitive science examines a wide range of mind/brain processes, including thinking, learning, language acquisition, pattern recognition, memory, creativity, volition, etc. This course will take an information processing systems approach to study cognitive processes that comprise intelligence analysis. The course is team-oriented, project-based and grounded in the relevant legal and ethical context. *Prerequisite: IA 314*

**IA 405. Ethics, Law and Intelligence Analysis. 3.00.**

This course will examine ethical and legal issues raised in the practice of intelligence analysis. It will draw on philosophical ethical theories and reasoning to explicate the issues addressed, and will explore the relevant constitutional and other legal constraints on the practice of intelligence analysis, particularly issues of information privacy, civil liberties and limitations on government action. *Prerequisite: IA 314*

**IA 440. Intelligence Analysis Capstone Project Preparation. 3.00.**

This course will focus on preparing students for developing team projects in the IA Capstone Seminar. Students will individually identify, analyze, plan and report on a feasible capstone seminar project. Students will then organize teams and develop plans to complete a subset of the most promising projects in the Capstone Seminar. *Prerequisite: Senior standing in the IA program and IA 314.*

**IA 450. Capstone Project in Intelligence Analysis. 3.00.**

Building on the Seminar on Issues in Intelligence Analysis students will complete and present solutions for team-based intelligence community or competitive intelligence IA projects. Students will produce written and oral technical reports/briefs of their results. *Prerequisite: IA 440.*

**IA 459. Awareness and Understanding of Chemical, Biological and Radiological Weapons of Mass Destruction. 3.00. *Crosslisted with ISAT 459.***

This course introduces awareness, science and societal impact of weapons of mass destruction (WMD) agents. Students study the development of vaccines and therapeutic and diagnostic drugs used in the detection and treatment of these agents. The course consists of lectures and safety training sessions that introduce tactical and logistical techniques used against chemical, biological and radiological WMD. *Prerequisite: Basic chemistry and/or biology.*

**IA 460. All Hazards Response And Management Systems. 3.00.**

Incident Command Systems enables incident management by integration of facilities, equipment, personnel, procedures, and communications operating in a common organizational structure. ICS is used to organize near and long-term operations for a spectrum of emergencies, small to complex incidents, natural and man-made. ICS is used by government, many private and nongovernmental organizations in 5 major functional areas: command, operations, planning, logistics, and finance and administration.

**IA 480. Selected Topics in Intelligence Analysis. 3.00.**

This course will examine topics of interest to upper-division students in intelligence analysis not otherwise offered in regular course offerings. They are offered only with the approval of the program director and they may be repeated when course content changes. Students should consult with the instructor prior to enrolling in the course. *Prerequisite: Junior standing.*

**IA 499A. Honor Thesis I. 1.00.**

This is an honors thesis proposal course. It is the first of the three-course sequence intended to satisfy the requirements for the honors program as well as the Intelligence Analysis program. Students will develop a thesis proposal, including objectives, audience, literature review, timeline and deliverables. The goal of the course is for the student to develop a compelling and complete senior thesis proposal. *Prerequisite: Junior standing; must be in the honors program.*

**IA 499B. Honor Thesis II. 3.00.**

This is an honors thesis development course. It is the second of the three-course sequence intended to satisfy the requirements for the honors program as well as the Intelligence Analysis program. Most of the course will be jointly administered/taught with IA 440: Senior Seminar in Intelligence Analysis. In addition, students may be required to meet with the instructor to discuss progress on his or her project. *Prerequisite: Senior Standing and Honor Student.*

**IA 499C. Honors. 3.00.**

This is an honors thesis completion course. It is the third of the three-course sequence intended to satisfy the requirements for the honors program as well as the Intelligence Analysis program. Most of the course will be jointly administered/taught with IA 450, Capstone Project in Intelligence Analysis. In addition, students may be required to meet with the instructor to discuss progress on his or her project. *Prerequisite: Senior standing; enrollment in the honors program.*

**Interdisciplinary Liberal Studies****IDLS 350. Literacy and Society. 3.00.**

An exploration and analysis of societal literacy practices as viewed through cognitive, cultural, class, workplace, and technological lenses. *Prerequisite: WRTC 103.*

**IDLS 391. Study Abroad. 1.00 - 6.00.**

Credit for academically-grounded, interdisciplinary study abroad. Students seeking credit must secure the approval of the department head and a faculty supervisor who will provide the academic structure, assignments, and student evaluation.

**IDLS 395. Topics in IDLS. 1.00 - 6.00.**

Examination of selected interdisciplinary topics of importance to Teacher Education content areas. May be taken for a maximum of six credit hours toward the major.

**IDLS 400. Seminar in Liberal Studies. 3.00.**

Capstone seminar for IDLS studies in the Humanities/Social Sciences content area. Will apply different disciplinary perspectives to a single topic. Course requirements will emphasize superior written and oral communication skills, and the integration and application of content area knowledge to the teaching environment. Students must have completed their lower division Core requirements and be within one course of completing the concentration area. Education minors should be in their third semester of their teacher education program.

**IDLS 486. Internship & Field Experience. 1.00 - 6.00.**

IDLS credit for academically-grounded internships and field experiences. Students seeking credit must secure the approval of the department head for the use of academic structures, assignments, and evaluation plans provided by qualified internship or field experience supervisors.

**IDLS 490. Independent Study in Liberal Studies. 3.00.**

Individualized projects in interdisciplinary liberal studies.

**IDLS 499A. Honors. 1.00 - 6.00.****IDLS 499B. Honors. 1.00 - 6.00.****IDLS 499C. Honors. 1.00 - 6.00.****Interdisciplinary Social Sciences****ISS 300. Experiential/Service Applications. 3.00.**

Provides students with practical work experience through an internship, service learning program, etc. This experience culminates in the application of knowledge and skills emerging from previous courses. *Prerequisite: Junior or Senior Standing Only*

**ISS 330. Maps, Money and World Trade. 3.00.**

This is an interdisciplinary class designed to help students, especially future teachers, integrate perspectives from various disciplines, especially history, geography, and economics, into a coherent account of an increasingly globalized world. We will pay particular attention to map construction and use (both historical and contemporary) and the relationship between economic ideas and world events focusing on a variety of case studies over the last millennium.

**ISS 400. Senior Seminar in Social Sciences. 3.00.**

The course builds upon all previous course listings and serves as the final integrating experience providing closure to the interdisciplinary social sciences. Students are expected to integrate theories, research and or methods from several social science disciplines to present a senior level research paper. *Prerequisite: ISS Majors only.*

**International Affairs****INTA 295. CrossNational Research Skills. 4.00.**

Students learn how to conduct research from theory formulation through data collection and hypothesis testing in the field of international affairs. Special emphasis on research and computer literacy. *Prerequisite: MATH 220, POSC 230 and POSC 240.*

**INTA 301W. The Washington Semester Experience: Global Affairs. 3.00.**

Part of the "Global Affairs" Washington Semester program, the course entails intensive study of a global theme. The theme's dynamics will be explored in varied settings: localities, nation-states, global geographic regions, and international organizations (both governmental and non-governmental). The course provides outlets for engagement with policy actors and institutions based in Washington, D.C., as well as for individual and group experiential learning activities.

**INTA 489. Senior Seminar in International Affairs. 4.00.**

This is the capstone course in the international affairs major. It provides an interdisciplinary overview of the fields within international affairs and an opportunity for students to complete individual research projects on international problems. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Senior INTA majors*

**International Business****IB 294. Internship Abroad. 3.00.**

A course providing students an opportunity to work in an organization abroad in order to gain insight into the practical side of modern business operations.

**IB 298. Special Topics in International Business. 3.00.**

The course is designed to allow exploration of current topics in international business. Course content will vary. See program director for current content.

**IB 480. International Business Theory and Policy. 3.00.**

The course is designed to serve as an application of theory for business students to allow them to put the total picture of international business together. *Prerequisite: IB major, senior standing.*

**IB 490. Special Studies in International Business. 1.00 - 3.00.**

Designed to give capable students in international business an opportunity to complete an independent study under faculty supervision. *Prerequisite: 2.8 GPA, recommendation of the instructor and approval of the director prior to registration.*

**IB 494. International Business Internship. 3.00.**

Provides students an opportunity to work in and with an organization in order to gain insight into the practical side of modern international business operations. *Prerequisite: IB major, completion of 85 credit hours and COB 300, minimum cumulative GPA of 3.0, and approval of the director of International Business program prior to registration.*

**IB 498. Special Topics in International Business. 3.00.**

An advanced course designed to allow exploration of current topics in international business. Course content will vary. See the program director for current content. *Prerequisite: COB 300 and permission of the instructor.*

**IB 499A. Honors. 1.00.**

**IB 499B. Honors. 3.00.**

**IB 499C. Honors. 1.00 - 3.00.**

**Interprofessional Experiences****IPE 201. Health Professionals in Diverse Communities. 1.00.**

An introduction to skills in professionalism & interprofessional collaboration in addressing local and global health challenges. First year pre-professional health students examine social determinants of health and diverse communities, and learn skills in reflection as they interact with health professionals and faculty.

**IPE 202. Health Care Service in Diverse Communities. 2.00.**

This is the second course in a two-course sequence for first year, pre-professional health students in the Huber Learning Community. Students examine interprofessional perspectives on complex global health issues and apply skills in professionalism, integration, collaboration, and reflection to community-based, experiential service learning. *Prerequisite: IPE 201*

**IPE 314. Rural Health: an Interprofessional Approach. 3.00. *Crosslisted with HTH 314, NSG 314, SOWK 314.***

Students study, observe and participate in interprofessional assessment, planning and delivery of community-based primary health care in partnership with residents and agencies of a host rural county. Learning activities will emphasize rural culture, rural health care and interprofessional practice.

**IPE 391. Introduction to Informatics for Health Care Professionals. 1.00.**

Electronic health records and health apps exemplify how health information technology (IT) is changing health care today. Students will learn how health IT tools and big data can improve communication between health providers, support better patient outcomes, and reduce spending on health care. Designed with an emphasis on interprofessional collaborative practice, students will learn about their own and others' professional roles and responsibilities in achieving health goals using health IT.

**IPE 401. Workshops in Interprofessional Education and Practice (IPE). 0.00.**

HHS workshops offer a time-limited and concentrated focus on issues that are specific to interprofessional education and/or practice.

**IPE 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach. 1.00. *Crosslisted with NSG 415.***

Health care ethics is a shared, relevant concern among health and human service disciplines and is an ideal vehicle for students from different fields to learn about one another's disciplines and to participate in inter-professional team analysis, discussion, and problem-solving. We have designed an integrated cross-disciplinary learning experience for students interested in the complex, real-world dilemmas encountered in practice. The readings and activities will emphasize ethical, legal, moral and spiritual issues and principles for practice within the context of communicating in inter-professional teams.

**IPE 490. Special Topics in Health and Human Services. 0.00 - 4.00.**

This course involves topics of special interest in the area of health and human services but is open to all students. The focus of specific courses is identified for specific offerings. Courses are offered based on faculty and student interest.

**Integrated Sciences****ISCI 101. Physics, Chemistry & the Human Experience [C3PP]. 3.00.**

A survey of the fundamental concepts, principles and ideas of chemistry and physics. Particular emphasis is placed on understanding the development of the principles and their application in understanding the world around us. May be used for general education credit. *Prerequisite: One of the following: MATH 103, MATH 107, MATH 205, MATH 220, MATH 231 or MATH 235. Corequisite: One of the following: MATH 103, MATH 107, MATH 205, MATH 220, MATH 231 or MATH 235.*

**ISCI 101H. Physics, Chemistry and the Human Experience - Honors [C3PP]. 3.00.**

A survey of fundamental scientific ideas and principles, and ideas of chemistry and physics. Particular emphasis is placed on understanding the development of these principles and their application in understanding the world around us. May be used for general education credit. Honors course. *Prerequisite: Honors Students*

**ISCI 104. Scientific Perspectives [C3L]. 1.00.**

A study of topics selected to allow students to participate in mathematical and scientific problem solving approaches to knowledge. May be used for general education credit. *Prerequisite: As indicated on MyMadison. Corequisite: As indicated on MyMadison.*

**ISCI 104H. Scientific Perspectives - Honors [C3T1L]. 1.00.**

A study of topics selected to allow students to participate in scientific problem-solving approaches to knowledge. Prerequisite or corequisite as indicated in the schedule of classes. Honors course.

**ISCI 171. Earth and Planetary Science for Teachers [C3NS]. 3.00.**

This course provides university-level foundations of earth and planetary science for future pk-8 teachers. Content aligns with various teacher competencies, and includes such topics as the formation and evolution of the earth and the earth's solar system, the characteristics of stars, planets, asteroids, and comets, and how earth and planetary science knowledge and technologies function with social context. Hands-on, experiential inquiry will be integrated into the course, as will an exploration of such methods as observation, classification, comparison, measurement, data interpretation, mathematical analysis, inference, prediction and hypothesis testing. Normally open to IDLS majors only, but other students may request admission by special permission. May be used for general education credit.

**ISCI 172. Physical Science for Teachers [C3PP]. 3.00.**

This course provides university-level foundations of physical science for future pk- 8 teachers. Content aligns with various teacher competencies, and includes such topics as matter, conservation of mass and energy, chemical structures and bonds, coordinate systems and their use in describing motion and force, thermodynamics, light, sound, magnetism and electricity, and how physical science knowledge and technologies function with social context. Hands-on, experiential inquiry will be integrated into the course, as will an exploration of such methods as observation, classification, comparison, measurement, data interpretation, mathematical analysis, inference, prediction and hypothesis testing. Normally open to IDLS majors only, but other students may request admission by special permission. May be used for general education credit.

**ISCI 173. Life and Environmental Science for Teachers [C3L]. 3.00.**

This course provides university-level foundations of life science for future preK-8 teachers. Content aligns with various teacher competencies, and will prepare students to be scientifically literate. Topics will focus on biological structure and function; information flow, storage and exchange; transformations of energy and matter; evolution; and the interconnection and interactions of living systems. The course will engage students in the learning of foundational concepts as well as the process of science and the relevance of biology to society. Normally open to IDLS majors only, but other students may request admission by special permission. May be used for general education credit.

**ISCI 450A,B,C. Interscience Research. 1.00 - 4.00, repeatable to 6 credits.**

An investigative experience spanning more than one field of science which may require supervision by multiple faculty members from different disciplines. Students must get prior approval for this course from each of the supervising faculty members and the department head of their program. *Prerequisite: Junior status and permission of the instructors.*

**ISCI 499H. Honors. 1.00 - 4.00.**

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction.

**Italian****ITAL 101. Elementary Italian I. 3.00 - 4.00.**

The fundamentals of Italian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**ITAL 101F. Elementary Italian-Florence. 3.00.**

*Prerequisite: Studies Abroad-Florence*

**ITAL 102. Elementary Italian II. 3.00 - 4.00.**

The fundamentals of Italian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. Prerequisite: ITAL 101.

**ITAL 102F. Elementary Italian II. 3.00.**

The fundamentals of Italian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. If student has had two or more years of the language in high school he/she will not get credit for the course. *Prerequisite: ITAL 101 Studies Abroad in Florence.*

**ITAL 109. Accelerated Review of Elementary Italian. 3.00.**

Reviews elementary Italian grammar, reading, writing, speaking and listening skills in Italian. One hour of work a week in the language laboratory. For students who have had no more than two or three years of Italian in high school or qualify through the placement exam.

**ITAL 111. Intensive Italian. 6.00-8.00.**

The fundamentals of Italian through listening, speaking, reading and writing. The course is the equivalent of ITAL 101-102.

**ITAL 212. Intensive Italian. 6.00.**

The fundamentals of Italian through listening, speaking, reading, and writing. The course is the equivalent of ITAL 231-232.

**ITAL 231. Intermediate Italian I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: ITAL 102, ITAL 109, ITAL 111 or Departmental Permission*

**ITAL 231F. Intermediate Italian-Florence I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: ITAL 102, 109, 111 or per placement exam score.*

**ITAL 232. Intermediate Italian II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: ITAL 231*

**ITAL 232F. Intermediate Italian-Florence II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: Studies Abroad-Florence*

**ITAL 300. Italian Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Italian. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: ITAL 232 or ITAL 212 or Per Placement Exam Score*

**ITAL 300F. Grammar and Communication. 3.00.**

*Prerequisite: Studies Abroad-Florence*

**ITAL 307. Italian Civilization. 3.00.**

A study of the history and the arts of Italy from the Etruscans to 1814. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 308. Contemporary Italian Civilization. 3.00. Crosslisted with HIST 308\*.**

A study of Italian society, economics, politics and the arts from 1814 to the present. Instruction in English. (Research papers for Italian majors/minors in the language).

**ITAL 315. Italian Phonetics. 3.00.**

Intensive drill in Italian sounds and intonation patterns. Instruction is in Italian. *Prerequisite: ITAL 300.*

**ITAL 317. Strategies for Italian Oral Communication. 3.00.**

In this course students will develop linguistic competencies and learn basic tools to improve their oral communication skills. *Prerequisite: ITAL 232*

**ITAL 320. Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Italian with emphasis on conversation and composition. Readings in Italian will provide a context for discussion and writing.

*Prerequisite: ITAL 300 or permission of instructor*

**ITAL 320F. Oral and Written Communication. 3.00.**

Intensive training in the use and comprehension of everyday Italian with emphasis on conversation and composition to give students confidence to express themselves in idiomatic Italian. Taught in Italian. *Prerequisite: Studies Abroad-Florence*

**ITAL 330. Business Italian. 3.00.**

A study of commercial and technical vocabulary and trade customs in conjunction with practice in the art of commercial communication, including interviews, letter writing and simultaneous interpretation. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 335. Introduction to Italian Literature. 3.00.**

A survey of Italian literature from its beginning to the late 18th century. Textual analysis of sample writings representative of the most important literary movements. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 375. Business and Society in Italy. 3.00.**

This course studies Italian Business, Economy, Politics, and the influence the Italian society has on them. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 380. Italian Language and Culture Through Regional Cuisine. 3.00.**

This course is designed to introduce the student to the rich Italian culinary tradition. Through readings and presentations, students will familiarize themselves with the diversity present in Italian cuisine and prepare the dishes that best represent various regions of Italy. Taught in Italian. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 386. Italian Short Stories. 3.00.**

A study of literary Italian short stories from the Middle Ages to the 21st century, including a selection of texts by prominent authors such as Giovanni Boccaccio, Giambattista Basile, Giovanni Verga, Grazia Deledda, Gabriele D'Annunzio, Luigi Pirandello, Natalia Ginzburg, Italo Calvino, and Ada Negri. *Prerequisite: ITAL 300 or the permission of the instructor*

**ITAL 397. Creative Writing in Italian. 3.00.**

This course will develop strategies both for writing well and for writing creatively. Another opportunity to practice speaking skills. *Prerequisite: ITAL 300 or permission of instructor*

**ITAL 400. Advanced Conversation. 3.00.**

Discussions deal with topics of current interest. Instruction is in Italian. *Prerequisite: ITAL 300.*

**ITAL 410. Italy Through Broadcast and Print Media. 3.00.**

This course is an analysis of modern Italy through television, radio, newspapers, the internet, and commercial advertisement. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor.*

**ITAL 421. A Study of Italian Theatre. 3.00.**

A study of Italian theatre from the Renaissance to the 21st century, including a selection of texts by prominent authors such as Niccolò Machiavelli, Torquato Tasso, Carlo Goldoni, Alessandro Manzoni, Luigi Pirandello and Dario Fo. *Prerequisite: ITAL 300 or the permission of the instructor.*

**ITAL 422. A Study of Italian Poetry. 3.00.**

A study of Italian poetry from the Middle Ages to the 21st century, including a selection of texts by prominent authors such as Dante Alighieri, Francesco Petrarca, Ludovico Ariosto, Gaspara Stampa, Torquato Tasso, Ugo Foscolo, Giacomo Leopardi, Giovanni Pascoli, Giuseppe Ungaretti, Eugenio Montale, Mario Luzi, and Alda Merini. *Prerequisite: ITAL 300 or the permission of the instructor.*

**ITAL 423. A Study of Italian Prose Fiction. 3.00.**

A study of Italian prose fiction from the Middle Ages to the 21st century, including a selection of texts by prominent authors such as Giovanni Boccaccio, Alessandro Manzoni, Primo Levi, Giuseppe Tomasi di Lampedusa, Elsa Morante, Italo Calvino Umberto Eco, and Elena Ferrante. *Prerequisite: ITAL 300 or the permission of the instructor.*

**ITAL 425. Modern Italian Literature. 3.00.**

A study of the works of major Italian writers from the 19th century to the present. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor.*

**ITAL 435. Translation Strategies. 3.00.**

This course discusses aspects of translation theory such as skopos, translation loss, translation gain, and language bias. Students learn several translation strategies at the phrase and sentence levels and practice these strategies thoroughly before investigating terminology, terminology mining and terminology management. Instruction is in English and Italian. *Prerequisite: ITAL 300 or permission of instructor.*

**ITAL 437. Studies in Italian Literature. 3.00. Crosslisted with ENG 437.**

A study of selected works of Italian literature. Instruction is in English. May be repeated for credit when content varies.

**ITAL 446. Special Topics in Italian Literature. 3.00.**

Study of a particular topic in Italian literature. It may cover all or specific Italian literature genre. Course may be repeated if content varies. *Prerequisite: ITAL 300 or permission of instructor.*

**ITAL 447. Special Topics in Italian Civilization and Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of Italy. Course may be repeated if content varies. *Prerequisite: ITAL 300.*

**ITAL 448. Special Topics in Italian Linguistics. 3.00.**

Students will study a particular topic in Italian linguistics. Topics could include an introduction to Italian sociolinguistics and psycholinguistics. Course may be repeated if content varies. *Prerequisite: ITAL 300.*

**ITAL 465. Italian Cinema. 3.00.**

A study of Italian cinema from the early days to the present, with a focus on its relation to key features of Italian history, society, and cultures. Instruction is in Italian. *Prerequisite: ITAL 300 or permission of instructor.*

**ITAL 480. Advanced Italian Language Lab. 1.00-2.00.**

This language lab is aimed at complementing 300- and 400-level Italian content courses. In addition to enrolling into each upper-level content course, students may be required to enroll in the correspondent advanced language lab. The language lab may be taught by the same instructor of the content course or by a different instructor. In the language lab, the students will work on the linguistic component of the course by practicing reading advanced literary/specialized texts in the target language and speaking and/or writing about the contents of the course. The lab will focus on technical/literary lexicon, advanced grammar, and pragmatic and stylistic features. *Prerequisite: ITAL 300 or permission of the instructor.*

**ITAL 490. Special Studies in Italian. 1.00 - 4.00.****ITAL 490F. Special Studies in Italian. 3.00.**

*Prerequisite: Studies Abroad-Florence*

**ITAL 499A. Senior Honors Project. 1.00.****ITAL 499B. Senior Honors Project. 3.00.****ITAL 499C. Senior Honors Project. 2.00.****Japanese****JAPN 101. Elementary Japanese I. 4.00.**

The fundamentals of Japanese through listening, speaking, reading, and writing. Practice in pronunciation and development of comprehension. One hour of work each week in the language laboratory.

**JAPN 102. Elementary Japanese II. 4.00.**

The fundamentals of Japanese through listening, speaking, reading, and writing. Practice in pronunciation and development of comprehension. One hour of work each week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite: JAPN 101.*

**JAPN 111. Intensive Japanese I. 6.00.**

The fundamentals of Japanese through listening, speaking, reading and writing. The course is the equivalent of JAPN 101-102.

**JAPN 212. Intensive Japanese II. 6.00.**

The fundamentals of Japanese through listening, speaking, reading and writing. The course is the equivalent of JAPN 231-232. *Prerequisite: JAPN 102 or permission of instructor.*

**JAPN 231. Intermediate Japanese I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition, and reading. A student cannot earn credit for JAPN 231 after completing JAPN 232. *Prerequisite: JAPN 102, JAPN 111, or permission of the instructor.*

**JAPN 232. Intermediate Japanese II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition, and reading. *Prerequisite: JAPN 231 or permission of instructor.*

**JAPN 300. Japanese Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Japanese. Fulfills the College of Arts and Letters writing-intensive requirement for possible International Affairs majors and/or IBUS majors. *Prerequisite: JAPN 232 or JAPN 212.*

**JAPN 320. Japanese Oral and Written Communications. 3.00.**

Intensive training in the use of modern, everyday Japanese with emphasis on conversation and composition. Readings in Japanese will provide a context for discussion and writing. Instruction is in Japanese. *Prerequisite: JAPN 231 or permission of the instructor.*

**JAPN 446. Special Topics in Japanese Literature. 3.00.**

Study of a particular topic in Japanese literature. It may cover all or a specific Japanese literature genre. Course may be repeated if content varies. *Prerequisite: JAPN 300.*

**JAPN 447. Special Topics in Japanese Civilization. 3.00.**

Students will study a particular topic in the civilization and/or culture of Japan. Course may be repeated if content varies. *Prerequisite: JAPN 300.*

**JAPN 448. Special Topics in Japanese Linguistics. 3.00.**

Students will study a particular topic in Japanese linguistics. Topics could include an introduction to Japanese sociolinguistics or psycholinguistics. Course may be repeated if content varies. *Prerequisite: JAPN 300*

**JAPN 490. Special Studies in Japanese. 1.00 - 4.00.**

Special topics or independent studies in Japanese.

## Justice Studies

**JUST 100. Justice Studies Proseminar. 1.00.**

This course is designed to help justice studies majors explore opportunities for internships, careers, graduate and professional education, and civic and community engagement. The course focuses on developing skills in resume writing, interviewing and networking techniques, job and internship search skills, and investigating graduate and law school opportunities. *Prerequisite: JUST 200 and admission to the major.*

**JUST 200. Introduction to Justice Studies. 3.00.**

This course introduces students to the interdisciplinary field of justice studies, including the development of justice concepts, principles, and theories and their application to public issues. This course also provides an overview of the three tracks in the justice studies major: crime and criminology, global justice, and social justice. *Prerequisite: Justice Studies Majors only*

**JUST 210. Crime and Criminal Justice. 3.00.**

This course provides an introduction to the nature of the crime problem in the United States, including patterns of victimization and offending, and the ways in which the criminal justice system responds to these behaviors. *Prerequisite: JUST 200 and admission to the major.*

**JUST 212. Theories of Crime and Criminal Justice. 3.00.**

This course provides an in-depth exploration of theoretical perspectives pertaining to the two central realms of criminological inquiry: crime and the response to crime (criminal justice). Both classic and contemporary perspectives are examined. The course will examine why people commit crime, why crime occurs, why it differs across groups, and the objectives underlying crime control policy. *Prerequisite: JUST 200.*

**JUST 221. Social Justice Theories. 3.00.**

This course serves as a theoretical introduction to the social justice track of the Justice Studies major. It includes an examination of the major concepts regarding inequality. How do we define and create inequality? Can we rid ourselves of inequality or should we accept it as a necessary element in society? *Prerequisite: JUST 200.*

**JUST 223. Social Justice Interventions and Policies. 3.00.**

This class provides a review of the general structures of American social justice interventions and policies including governmental, corporate, and not-for-profit organizations. Emphasis will be placed on macro-structures such as entitlement programs and micro-structures such as neighborhood and grassroots organization. *Prerequisite: JUST 200.*

**JUST 225. Justice and American Society [C4AE]. 4.00.**

This course introduces the student to the concept and reality of justice in America. It is a broad-based, interdisciplinary consideration of justice: What it is, what it means, and how it intersects with society and social institutions in American. Philosophical and theoretical underpinnings of the notion of justice and the historical context of justice in American society will be considered. May be used for general education credit. May not be used for major credit.

**JUST 235. Justice in the Global Community. 3.00. Crosslisted with JUST 235H.**

A survey of different definitions of justice relating to the operation and development of a global community in international affairs. *Prerequisite: JUST 200.*

**JUST 235H. Justice in the Global Community. 3.00. Crosslisted with JUST 235.**

A survey of different definitions of justice relating to the operation and development of a global community in international affairs. *Prerequisite: Honors Students*

**JUST 237. Dilemmas in Global Justice. 3.00.**

This course applies the concepts and frameworks of global justice to examine a selection of the world's greatest challenges, placing global affairs in historical, geographical and political contexts. *Prerequisite: JUST 200.*

**JUST 300. Perspectives on Comparative Justice. 3.00.**

This course provides an overview of the various systems of justice existent in different cultures throughout the globe. The emphasis here is on legal systems and the ways in which they are used to promote--or not promote--justice. The course also includes a discussion of such topics as war, peace, terrorism, political and social oppression and the ways in which these phenomena are either created by or ameliorated by justice systems. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 301. Special Topics in Justice Studies. 3.00.**

This course provides an examination of topics which are of current interest in the field of Justice Studies. The class may be repeated for credit when course content changes. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 307. Justice and Crime. 3.00.**

The purpose of this course is to provide a critical and interdisciplinary examination of the relationship between justice and criminal behavior. Drawing from social psychology and criminology, this course will examine various conceptions of justice, the implications that (in)justice has for the perpetration of crime and how principles of justice operate in the criminal justice system. In addition, this course will briefly investigate miscarriages of justice and the implications they have for offending behavior. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 309. Global Crime. 3.00.**

This course explores crimes of the powerful from a global criminological perspective by examining historical and current cases of governmental, corporate and political crime. The complex relationships that will be investigated include how the interests of states, corporations and international financial institutions intersect in the commission of different types of global crimes. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 311. Women, Crime and Criminal Justice. 3.00.**

This class provides an overview of the ways in which women are involved in the phenomenon of crime--as victims, as offenders and as employees in the criminal justice system. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 316. Human Development and Crime. 3.00. *Crosslisted with PSYC 316.***

This course examines how psychological research and theory shed light on the development of criminal careers, the factors that protect children and adolescents from becoming criminals, how being a victim of crime influences well-being, and the efficacy of rehabilitation. Special attention will be paid to the knowledge base on delinquency and childhood/adolescent victimization. *Prerequisite: PSYC 101; For justice studies majors, JUST 200 and one additional 200 level JUST course, excluding JUST 225.*

**JUST 317. Victimization of Children. 3.00.**

This course provides an overview of patterns, causes, and remedies for the various victimization's of children in the United States and throughout the world (abductions, child abuse, sexual exploitation, etc.). *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 318. Sex Offenders. 3.00.**

This course is designed to introduce students to the issue of sex offenders in society. Students will consider sexual values in American society and how they relate to the development, thought patterns, and behavior of individuals who sexually violate others. Students will learn about theories of sex offending, the effects of sex offending on victims and society, and strategies for treating and managing sex offenders. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 320. Organized Crime. 3.00.**

This course is designed to give an overview of issues associated with Organized Crime. Organized Crime is an increasingly global phenomenon, and as such the class focuses not only on the situation in the United States, but the rest of the world as well. Attention is also given to the 'businesses' of organized crime (e.g., drug trafficking, counterfeiting), the law enforcement responses to Organized Crime, and the role/depiction of Organized Crime in popular culture. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 322. Understanding Violence and Nonviolence. 3.00.**

This course is organized around better understanding the complex dimensions of both violence and nonviolence. Is violence (sometimes) necessary? Is nonviolence naïve? Is one approach more effective than another? When? Where? Why? How are these related to justice? This course will critically examine these different approaches to dealing with social conflict and social change, with special emphasis on comparing the motivations, dynamics and outcomes of these two approaches. We will examine both theoretical and applied approaches from a wide assortment of writers and social interactions that deal with interpersonal, institutional and structural pathways to violence and/or nonviolence. The underlying assumption is that one cannot understand violence or nonviolence separately, because they are intimately connected. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 323. Comparative Criminal Justice. 3.00.**

A comparative study of criminal justice systems derived from the major world legal systems. The relevant background factors, government, laws, law enforcement, courts, corrections, youthful offenders are examined in each representative country studied. Multinational criminal justice organizations and special issues are addressed. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 324. Death Penalty. 3.00.**

This course provides students with a broad survey of the death penalty as penal sanction and the controversies and issues which surround it. Key topical areas covered are history and foundations, legal landscape, execution and death penalty processes, contemporary issues including innocence, cost, discrimination and deterrence, and perspectives and voices surrounding the death penalty. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 326. Victimology. 3.00. *Crosslisted with SOCI 326.***

This course provides an overview of various perspectives (social, psychological, legal, etc.) on the experience of victimization. Explanations of the phenomenon are discussed in the context of responses to various types of victimization *Prerequisite: Justice studies majors: JUST 200 and one additional 200 level JUST course, excluding JUST 225.*

**JUST 327. Criminal Law. 3.00.**

Study of substantive criminal law including common law sources and elements of various criminal offenses, justification and defenses. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 328. Race, Class and Justice. 3.00.**

This course provides students with an overview of contemporary justice issues in a comparative perspective. It includes an introduction to case-studies, comparative research methods and cross-national comparisons of justice issues concerning race and class. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 329. Perspectives On Law. 3.00.**

In this course, a broad array of perspectives on law and legal processes in the United States are examined. Students will examine perspectives from the realms of jurisprudence, philosophy, sociology, psychology, economics, anthropology, and literature among others and will consider the intersection of these realms with law, legal processes, legal evolution and development, and the legal professions. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 330. Corrections. 3.00. *Crosslisted with SOWK 330.***

The history, philosophy, policies and problems of the treatment of violators by the police, courts and correctional institutions. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 331. Human Rights in Theory and Practice. 3.00. *Crosslisted with POSC 331.***

This course will explore the nature and value of human rights by investigating some major debates over their status and meaning, and by examining some of the ways people have tried to secure human rights in practice. *Prerequisite: Open to justice studies, political science and international affairs majors only. Prerequisites for justice studies majors: JUST 200 and one other 200 level JUST course, excluding JUST 225*

**JUST 334. Media and Justice. 3.00. *Crosslisted with SMAD 334.***

This course will examine media constructions of justice. Students will be required to critically analyze the portrayal of justice issues in various media forms including television, internet, and film. Attention will be given to the accuracy of such portrayals and whether they have any broader social implications in regards to how we view complex justice issues. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 339. Mapping Justice. 3.00.**

This course examines maps and practices of mapping to analyze distributions of justice and injustice across space. Using case studies, multimedia content and hands-on exercises spanning the fields of criminal, global and social justice, students learn the fundamentals of geospatial analysis while designing their own digital maps and interactive web sites. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 341. Gender and Justice. 3.00. *Crosslisted with WGSS 341.***

This course is an interdisciplinary examination of the causes, structure and consequences of gender oppression. Consistent with the social justice track of the major, notions of fairness, justice, and equality with respect to gendered social, political and economic relations will be examined. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 343. Justice and Society. 3.00.**

This course focuses on the various intra- and interpersonal processes that underlie situations related to (in)justice at the individual and group levels. Theories, empirical research and real-world examples of social perception (e.g., prejudice and discrimination), social influence (e.g., attitudes, conformity) and social relations (e.g., altruism, aggression) related to

(in)justice will be examined. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 345. Restorative Justice. 3.00.**

In this course, the restorative justice paradigm will be examined at multiple levels including consideration in the international, local community, and criminal justice contexts. Both the underlying principles and practical applications of restorative justice will be explored. The related concept of community justice will also be addressed. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 350. Justice and Globalization. 3.00.**

Globalization is the phenomenon of interconnectedness of economic, political and cultural activities across different parts of the globe. The class will survey several aspects of globalization through the lens of justice and injustice. Class time will be devoted to discussion and student presentations. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 351. Building Democracy. 3.00.**

This course will review historic and modern transitions to democracy, explore democracy as a 'just' form of government, examine correlates with its strengths and weaknesses, and provide an overview on how to build a quality democracy. *Prerequisite: JUST 200 and one track foundation course.*

**JUST 353. Justice and Development. 3.00.**

This course examines introduces the concept of justice as a standard for evaluating strategies for political, economic and social development in the contemporary international system. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 357. Environmental Justice. 3.00.**

This course provides students with an interdisciplinary introduction to environmental justice. Emphasizing how contemporary environmental issues are profoundly rooted in social, political, and economic conditions, students will apply principles and conceptions of justice to ecological challenges and sustainability efforts in local, national, and global contexts. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 361. Terrorism. 3.00.**

This course is a survey of the evolution of the phenomenon of terrorism and an analysis of its causes, strategies and forms. This course also discusses the consequences of terrorism in terms of government responses to terrorist threats (homeland security and counter-terrorism) and the economic and political costs of such responses. An interdisciplinary approach linking history, sociology, criminology and political science is used to make sense of this multifaceted phenomenon. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 365. Justice in Literature, Film and Art. 3.00.**

This class provides an opportunity for students to consider the ways in which issues related to the Justice fields are expressed in literature, film, and/or art and the ways in which such media may influence or create our conceptions of justice. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 372. Ethics and International Politics. 3.00. *Crosslisted with POSC 372.***

This course investigates the significance of ethical questions in the theory and practice of contemporary international politics, introducing a variety of normative approaches that shape the issues of peace and conflict, morality and justice in global affairs. Practical case studies will also be used to address issues of policy relevance, with particular attention paid to the American experience. *Prerequisite: JUST, INTA and POSC majors only; JUST majors must have completed JUST 235.*

**JUST 373. Rebuilding Post Conflict Societies. 3.00.**

This course examines the social, economic, security and political problems faced in rebuilding societies that are emerging from a period of intense and prolonged conflict. This course presents an overview of the scope of this multidimensional challenge as well as strategies that have been used to address them. In the course of doing so, evaluation standards are discussed that can be used to measure the success, failure and justness of the newly emerging political system. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 374. War and Justice. 3.00. *Crosslisted with POSC 374.***

This course is an empirical and normative investigation of the relationship between war and justice. Empirically, it examines the causes of war and the ways in which wars end. From a normative perspective it raises the questions of when are wars just; how should a just war be fought; and what is a just peace. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 375. Genocide in the 20th Century. 3.00.**

This course is an interdisciplinary examination of the various definitions, causes, structure and consequences of genocide. We will study some of the major 20th century genocides (Indigenous peoples, Armenia, USSR, Jewish Holocaust, Cambodia, Bosnia/Kosovo, Rwanda, and Darfur) using the following conceptual schemes: social death, structural violence, oppression, and mass murder. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 376. Global Social Movements. 3.00.**

This course introduces justice studies students to the origins, development and outcomes of global social movements. It involves a comprehensive approach, which entails an in-depth examination of the main theories explaining the rise of social movements, as well as an empirical focus on global dynamics of popular mobilization. Special attention will be devoted to the examination of the global justice movement. *Prerequisite: JUST 200 and one other 200-level JUST course, excluding JUST 225.*

**JUST 377. Global Futures. 3.00.**

Explores possible future directions that the global system may take in selected issue areas such as energy, democratization, food supplies, and infectious diseases. Emphasis is on active learning strategies, introducing the analytical tools used for analysis of international trends and addressing questions of how to respond in a manner that promotes global justice. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 385. Disability and Justice. 3.00.**

An interdisciplinary exploration of justice & disability which examines issues such as the historical and theoretical contexts of disability, the social and rhetorical construction of disability, disability legislation and public policy, disability and the criminal justice system, and disability rights movements and inclusion as they relate to larger civil and human rights movements in the US & globally. The course highlights the importance of disability in broader conversations about justice. *Prerequisite: JUST 200 and one other 200 level JUST course, excluding JUST 225.*

**JUST 386. Sexual Orientation and Social Policy. 3.00.**

The concept of sexual orientation is a relatively recent development in academic, legal, medical and other social policy contexts in the U.S. and globally. This course surveys key social policies pertaining to sexual orientation and examines relevant research from multiple disciplines and appeals to classical and contemporary conceptions of justice that shape public debates and policy decisions. *Prerequisite: JUST 200 and one other 200-level JUST course, not including JUST 225.*

**JUST 392. Peace Studies. 3.00. *Crosslisted with POSC 392.***

A study of the evolution, theory and practice of peace studies. The course focuses on how we wage and resolve conflict, how we effect social change and how we provide for security through nonviolent means. *Prerequisite: JUST 200 and one other 200-level JUST course.*

**JUST 399. Justice Research Methods. 4.00.**

This course provides students with the tools necessary for conducting independent research in the area of Justice Studies. Both quantitative and qualitative methods are covered. A



term project, in which the skills covered in the course are applied, is a significant part of the class. *Prerequisite: JUST 200, one other 200 level JUST course, excluding JUST 225 and MATH 220.*

**JUST 400. Senior Seminar in Justice Studies. 3.00.**

This is the capstone course of the Justice Studies major. Students are expected to enter JUST 400 with a proposed area of study, and will spend the semester in developing a thesis. Class discussion and review of individual projects, along with oral presentation of work, are integral parts of the course. Students are expected to produce a piece of original scholarship related to their study in the major. *Prerequisite: JUST 200, JUST 399 and senior JUST major.*

**JUST 401. Internship in Justice Studies. 4.00.**

This course allows students to receive academic credit for work experience in an agency or organization related to the Justice Studies major. Students should consult the Justice Studies director for assistance in arranging approved internships. *Prerequisite: JUST 200, JUST 399 or permission of instructor.*

**JUST 402. Advanced Research in Justice Studies. 3.00.**

This course is designed to give students a context in which to pursue advanced research in a Justice Studies context. It is especially appropriate for students interested in graduate study in the field. *Prerequisite: JUST 200, JUST 399 or permission of instructor.*

**JUST 403. Nelson Institute Seminar. 3.00.**

Students enrolled in this course will be assigned to consider a contemporary problem Justice Studies. Working individually and in teams, students will first study the problem, and then propose workable solutions. *Prerequisite: Junior or Senior Standing Only*

**JUST 404. Practicum in Community-Based Research. 3.00.**

This course provides students with an intensive, collaborative community-based research experience working in partnership with a community organization or group. Students will integrate and apply principles and conceptions of justice and methods of scholarly inquiry to a community-identified problem. This course may be taken only once for credit. *Prerequisite: JUST 200, JUST 399 or permission of instructor.*

**JUST 405. Research Assistantship in Justice Studies. 1.00-3.00.**

A student registered for JUST 405 will work as a research assistant under faculty supervision. This course does not count toward meeting any core or elective requirements in the justice studies major. Students may take this course only by invitation from a faculty member in justice studies and may register for this course only through departmental approval. No student may take more than three credits of JUST 405. *Prerequisite: JUST 200 and two other 200-level JUST courses, excluding JUST 225; one 300-level JUST course; invitation of the instructor; and permission of the department head.*

**JUST 499. Honors. 1.00 - 3.00.**

Year course. An independent research topic initiated and completed by qualified majors wishing to graduate with distinction.

## Kinesiology

**KIN 100. Lifetime Fitness & Wellness (2,2) [C5W]. 3.00.**

This course is designed to help students adopt and maintain the behaviors associated with an active and healthy lifestyle. Through this course students will learn the importance of maintaining wellness through a physically active lifestyle. Through lectures and labs, students study and develop the behavioral patterns consistent with the current knowledge base in fitness and wellness. May be used for general education credit.

**KIN 121. Flying Disc Sports. 1.00.**

This class will focus on various flying disc sports and activities. Participants will learn the skills and techniques, such as basic frisbee, freestyle frisbee, ultimate frisbee and disc golf, as well as the etiquette and rules of each activity.

**KIN 122. Road Cycling. 1.00.**

The following courses provide basic instruction in the activities listed: 122, road cycling; 124, experiential adventure education; 125, tennis; 126, golf; 128, fencing; 129, badminton; 131, skiing; 133, bowling; 138, racquetball; 139, river canoeing; 140, swimming; 145, conditioning; 148, jogging; and 149, aerobic dance.

**KIN 123. Mountain Cycling. 1.00.**

**KIN 124. Basic Rock Climbing and Experiential Activities. 1.00.**

**KIN 125. Basic Tennis. 1.00.**

**KIN 126. Basic Golf. 1.00.**

**KIN 138. Racquetball. 1.00.**

Elementary level in specific individual sports: 122, cycling; 125, tennis; 126, golf; 127, archery; 128, fencing; 129, badminton; 131, skiing; 133, bowling; 138, racquetball.

**KIN 149. Group Fitness. 1.00.**

Development and maintenance of cardiovascular and physical fitness through selected dance routines.

**KIN 151. Swim Conditioning. 1.00.**

The following courses provide intermediate instruction in the activities listed: 151, swim conditioning; 152, lifesaving/lifeguarding; 156, scuba and skin diving; 161, intermediate skiing; 162, intermediate swimming; 163, intermediate tennis.

**KIN 152. Lifesaving/Lifeguarding. 1.00.**

**KIN 156. Scuba and Skin Diving. 1.00.**

**KIN 157. Self-Defense for Women. 1.00.**

This course is designed to teach the basic principles and techniques of self-defense. Class time will be divided into both skill acquisition and discussions concerning safety and ways to avoid potentially dangerous situations.

**KIN 159. Basic Aerobic Kickboxing. 1.00.**

**KIN 162. Intermediate Swimming. 1.00.**

**KIN 170. Fitness Instructor Training. 1.00.**

This course gives the student the opportunity to obtain the basic skills and knowledge necessary to facilitate fitness related activities and programming. Lecture topics include the components of physical fitness, fitness assessment, muscular anatomy, exercise programming and nutrition. Each class will contain a lecture and practical component.

**KIN 171. Basic Group Fitness Instructor Training. 1.00.**

Basic Group Fitness Instructor Training is designed to help the student lead a full group exercise class. Students will be given exercise/health/fitness information via lectures, handouts, assignments, and practical experience.

**KIN 172. Group Fitness Instructor Training Mind Body. 1.00.**

Group Fitness Instructor Training is designed to help the student experience the basics of Yoga and Pilates and develop basic instructional skills for these two areas. Standards taught in the course correspond to national standards and certifications. Students will be given exercise/health/fitness information via lectures, handouts, assignments, and practical experience.

**KIN 173. Intro to Adventure Trip Leading. 1.00.**

To explore basic aspects of adventure trip leading which include planning and logistics, risk management, leadership styles, teaching techniques and basic adventure activity skills.

**KIN 175. Wilderness First Aid. 1.00.**

The course Wilderness First Aid course focuses on the basic skills of: Response and Assessment, Musculoskeletal Injuries, Environmental Emergencies, Survival Skills, Soft Tissue Injuries, and Medical Emergencies.

**KIN 179. Volleyball. 1.00.****KIN 190. Basic Sports Officiating. 1.00.**

This course will teach the fundamentals and skills necessary for officiating sports (football, basketball, softball or soccer) at any level. It will also focus on developing an officiating philosophy, understanding the psychology of officiating, being physically prepared to officiate, understanding the responsibilities of officiating and knowing how and where to work as an official.

**KIN 199. New Directions in Kinesiology and Recreation. 1.00 - 3.00.**

In-depth exploration of topics significant in Kinesiology and Recreation. The topic for each semester will be announced on MyMadison.

**KIN 199B. Convention 1.00.****KIN 199M. Basic Karate. 1.00.****KIN 201. Intro to Kinesiology & Recreation. 2.00.**

Students are introduced to the discipline of kinesiology and recreation. They will study the effects of physical activity on human beings; survey the subdisciplines, including exercise physiology, biomechanics, motor behavior and sociological, historical and philosophical perspectives; and discuss how the discipline can be applied professionally.

**KIN 202. Biological Foundations of Kinesiology & Recreation. 3.00.**

Introduction to the biological scientific foundations within the disciplines of kinesiology and recreation. Includes applied anatomy and physiology, biomechanics and exercise physiology.

**KIN 211-218. Coaching Techniques. 2.00.**

The following courses provide motor skills, strategy, rules and officiating techniques in the activities listed: 211, team; 212, track and field; 213, soccer; 214, football; 215, basketball; 216, individual; 217, volleyball; 218, softball.

**KIN 217. Coaching Techniques of Volleyball. 2.00.**

This course provides motor skills, strategy, rules and officiating techniques in volleyball.

**KIN 221-225. Skill Laboratories. 2.00 - 10.00.**

The skill laboratories are designed for participants who will be in a role of educating others in a particular area of movement. Each skill laboratory provides: a) basic movement skills, b) analysis of movement, c) developmentally appropriate progressions and teaching ideas, d) curriculum development, and e) microteaching opportunities. These courses are: KIN 221. Rhythmic and Dance Activities; KIN 222. Teaching Fitness and Wellness in the Schools; KIN 223. Individual and Lifetime Activities; KIN 224. Court and Field Games; KIN 225. Wilderness and Adventure Education.

**KIN 242. Introduction to Sport Communication. 3.00.**

This class provides a foundation for students who are pursuing a minor in Sport Communication. The course provides an overview about information management and how it applies to the professional sporting industry. Students will learn about careers in sport information, how an organization communicates with the media and its constituents, and how communication in sport has evolved and continues to evolve.

**KIN 243. Sport Communication Techniques: Broadcasting. 3.00. Crosslisted with SMAD 243.**

Study and practice of broadcast and A/V techniques applied in a variety of sport settings. *Prerequisite: KIN 242.*

**KIN 244. Sport Communication Techniques: Writing and Reporting. 3.00. Crosslisted with SMAD 244.**

Basic skills of sport writing and reporting are studied and applied. Students gain experience in a variety of sports and learn and apply skills in researching, interviewing, reporting, writing columns and features involving the world of sports. *Prerequisite: KIN 242.*

**KIN 302. Exercise Physiology. 3.00.**

This course is designed to help the student explore and understand the physiological changes that occur during an acute bout of exercise and as a result of chronic physical training. Students will study the role various (e.g. cardiovascular, respiratory, nervous, neuro-endocrine, and renal etc.) systems play in maintaining homeostasis during physical activity. The physiology of physical performance under a range of environmental conditions will also be examined. *Prerequisite: KIN 202 and BIO 270 or BIO 370. Corequisite: KIN 302L.*

**KIN 302L. Exercise Physiology Laboratory. 1.00.**

Laboratory experiences in exercise physiology. This course must be taken concurrently with KIN 302. *Corequisite: KIN 302.*

**KIN 303. Motor Development & Learning. 3.00.**

This course provides understanding of motor development from early childhood through adulthood. The focus is on the constraints to development and the interaction between the environment, task and learner. The course provides an understanding of the learning processes underlying performance. Emphasis is given to the application in both teaching and coaching settings.

**KIN 304. History and Philosophy of Physical Education and Sport. 2.00.**

Introductory analysis of various theoretical approaches to the discipline of physical education fitness and sport; brief historical study of the development of school programs and sport; and debates on current professional issues.

**KIN 305. Social/Psychological Foundations in Kinesiology. 3.00.**

The focus of this course is on exploring psychological concepts related to participation and performance in sport and exercise contexts. Additionally, knowledge from the related discipline of motor learning will be integrated to explore psychological aspects of the learning process that take place in these domains. *Prerequisite: KIN 302 & KIN 302L.*

**KIN 306. Human Biomechanics. 3.00.**

Studies of anatomical, physical and mechanical factors, as these factors affect human movement. This course must be taken concurrently with KIN 306L. *Prerequisite: BIO 290 and KIN 202. Corequisite: KIN 306L.*

**KIN 306L. Human Biomechanics Laboratory. 1.00.**

This laboratory course is designed to complement and supplement the lecture course KIN 306. The course will focus on enhancing the student's laboratory experiences in biomechanics. This course must be taken concurrently with KIN 306. *Corequisite: KIN 306.*

**KIN 310. Instructional Methods in Physical Education. 3.00.**

Students will apply the affective, cognitive and psychomotor principles in class management, unit and lesson planning, and instructional techniques. This course introduces students to effective teaching strategies and allows application through peer microteaching and teaching students in a school setting. Principles of self-evaluation and reflective teaching are reinforced. *Prerequisite: Acceptance to the PETE program. Prerequisite: Acceptance to the PHETE program. Corequisite: KIN 311.*

**KIN 311. Elementary Curriculum in Physical Education. 2.00.**

Theory and application of games, dance and gymnastic activities compatible with the developmental characteristics of elementary children and the educational objectives of the elementary school. *Prerequisite: Acceptance to the PHETE program. Corequisite: KIN 310.*

**KIN 312. The Profession of Teaching Health & Physical Education. 2.00. Crosslisted with HTH 312.**

Introductory study of the roles of the teacher and the learner and the pedagogical content knowledge of health and physical education. An in-depth examination of the unique position and qualifications of the specialist in physical education and health. Systematic observations will occur.

**KIN 313. Adapted Physical Education. 3.00.**

Principles and procedures for adapting elementary physical education programs for students with physical, emotional and mental limitations. Laboratory experience included. *Prerequisite: Acceptance to teacher education. Corequisite: KIN 310.*

**KIN 314. Assessment in Elementary Physical Education. 3.00.**

Introductory study of developmentally appropriate authentic and formal assessment techniques unique to elementary physical education. *Prerequisite: Admission to student teaching.*

**KIN 321. Principles of Health Fitness Assessment. 3.00.**

Emphasizes the skills in conducting various health and fitness tests for assessing the five areas of health related physical fitness (body composition, cardiorespiratory fitness, muscular strength, muscular endurance and flexibility). Interpretation of the test results will also be reviewed. This course must be taken concurrently with KIN 321L. *Prerequisite: KIN 202. Corequisite: KIN 321L.*

**KIN 322. Fundamentals of Exercise Prescription. 3.00.**

Emphasizes the knowledge and skills necessary to effectively develop and implement an appropriate exercise prescription for improving health-related physical fitness for apparently healthy adults. *Prerequisite: KIN 321 and KIN 321L*

**KIN 325. Kinesiology Honors Research Prep. 3.00.**

This course is designed to provide Honors Students (Tracks 1, 2 & 3) with insight into the research carried out by current Kinesiology faculty members prior to enrolling in KIN 499A. Students will identify a research topic suitable for their Honors Thesis, gain insight into the application of the scientific method in Kinesiology research, and interact with Kinesiology faculty members and students actively involved in the research process. The course is by permission only.

**KIN 329. Social Aspects of Sport. 3.00.**

This class is designed to familiarize students with the concepts of sport as they relate to individuals and the larger society in which they live and the ways in which this relationship is reciprocal, with both people impacting the world of sport and sport impacting individual, social, cultural, economic and political developments. Students learn the tools needed to think in a critical way about sports in society and make informed choices about sports and participation.

**KIN 332. Introduction to Marketing in the Sport Industry. 3.00.**

This course will introduce students to the application of basic principles of marketing and consumer behavior to the managed sport industry (i.e., professional sport, intercollegiate athletics, commercial fitness, sporting goods, etc). This class will provide a foundation for students to engage in advanced work in marketing, consumer behavior, and related fields. *Prerequisite: KIN 241.*

**KIN 353. Maximizing Sports Performance. 3.00.**

This course explores current sport psychology theories, models and concepts as they relate to sport behavior and performance. Students examine the theoretical basis of cognitive sport skills and apply the information to the sport environment. No prerequisites.

**KIN 407. Rehabilitative Biomechanics. 3.00. Crosslisted with HTH 441.**

This course is designed to introduce the student to a variety of biomechanical concepts and applications as related to the health professions. Specific attention will be given to the biomechanical aspects of the musculoskeletal system. *Prerequisite: BIO 290.*

**KIN 410. School Health Content for PHETE. 3.00.**

An overview of selected topics in health content required for teacher candidates preparing to teach health education in public schools. Special emphasis will be on issues relevant to teaching those topics in schools. *Prerequisite: Admission to the PHETE program.*

**KIN 411. Measurement and Evaluation in Kinesiology. 3.00.**

The administration and interpretation of measurement and evaluation procedures in kinesiology and recreation.

**KIN 420. Exercise Programming for Special Populations. 3.00.**

This course will include an in-depth study of the recommended procedures for exercise testing and prescription for non-diseased special populations, children and youth, elderly, women and pregnant women. *Prerequisite: KIN 302 and KIN 302L.*

**KIN 422. Advanced Principles of Group Exercise Leadership. 3.00.**

Theories, principles and procedures involved with leading group fitness classes. Will gain knowledge and experience in class design and choreography development. Programming for children, older adults, pregnancy and aquatic exercise will be included. Practical and written assessments will occur throughout the semester. Requires participation in group exercise classes. Students will have the opportunity to enroll in the AFAA Primary Group Exercise Certification. *Prerequisite: KIN 100, KIN 202 or permission of the instructor.*

**KIN 424. Exercise and Nutrition in Chronic Disease. 3.00. Crosslisted with NUTR 455.**

This interdisciplinary course examines the evidence-based relationship between exercise and diet patterns and behaviors, and major chronic diseases. Students will understand the epidemiology and pathogenesis of prevailing chronic diseases. Emphasis will be placed on developing exercise and dietary strategies to reduce the burden of chronic disease. *Prerequisite: BIO 290, NUTR 280, KIN 302 and KIN 302L.*

**KIN 425. Concepts of Strength and Conditioning. 3.00.**

Theory and application of coaching concepts in strength/conditioning training including program design, testing and specific techniques for the physical development of athletes. Designed for students interested in working with athletic populations, this course also prepares students for NSCA certification. *Prerequisite: KIN 100 or HTH 100 and KIN 202.*

**KIN 426. Physical Activity Behaviors. 3.00.**

This course will focus on the theoretical and practical applications of behavior change related to healthy lifestyles with an emphasis on physical activity. In addition, course content will include a detailed investigation into the psychological and environmental factors associated with adoption and maintenance of healthy behaviors including a regular physical activity program. *Prerequisite: Senior Standing*

**KIN 428. Advanced Topics in Exercise Science and Leadership. 3.00.**

This course is designed to allow students to study specific topics in exercise science and leadership. Topics will be chosen each semester and reflect current research in exercise science related to clinical exercise physiology, human performance and methodologies or trends in exercise science/leadership. May be repeated once (maximum 6 credits) for credit when course content changes. *Prerequisite: KIN 302 and KIN 302L.*

**KIN 429. Special Topics in Adapted Physical Education. 3.00.**

This course provides an in depth look into specific areas within the field of adapted physical education and adapted physical activity. This application-based course provides hands-on

experiences that will allow students to work with individuals with disabilities in a variety of settings. Graduate students will also be asked to analyze and provide feedback on the instructional behaviors of the undergraduate student instructors.

**KIN 430. Exercise Across the Lifespan. 3.00.**

An advanced course in exercise science that examines aspects of physical activity and exercise as they relate to specific phases of the human lifespan. This course will address the importance of physical activity for children, pregnant women, and older adults and will include an in-depth study of aspects of exercise physiology that are unique to these populations.

**KIN 431. Environmental Exercise Physiology. 3.00.**

An advanced course in exercise physiology that examines how human physiological systems respond and adapt to exercise performed in challenging environmental conditions (i.e. high altitude, diving, hot, cold). *Prerequisite: KIN 302 & KIN 302L.*

**KIN 432. Physiology of Endurance Performance. 3.00.**

This course aims to provide students with an understanding of how to utilize endurance training to maximize athletic performance. Various factors that limit endurance performance and examine methods to overcome these factors will be explored. Emphasis will be placed on the role of seasonal periodization and program planning to maximize the long-term development of athletes. Supplemental factors that may also aid performance, such as equipment, nutrition, and ergogenic aids will be discussed. *Prerequisite: KIN 302 & KIN 302L*

**KIN 433. Exercise, Cardiovascular Disease and Ecg Assessment. 3.00.**

This course is designed to provide students with a foundational information related to electrocardiography, diagnostic exercise testing and the effects of exercise on specific cardiovascular diseases. *Prerequisite: KIN 302 & KIN 321L*

**KIN 435. Marketing and Sales. 3.00.**

This course will examine how promotional activities and sales efforts are closely intertwined and impact upon the success or failure of the sport and leisure industry. Particular emphasis will be placed on ticket sales and sport sponsorship. *Prerequisite: SRM 335 and MKTG 380*

**KIN 450. Principles of Coaching. 3.00.**

Concepts, competencies and principles of coaching as they relate to sports in general. Includes the personal and professional responsibilities of a coach.

**KIN 471. Practicum in Exercise Science and Leadership. 3.00.**

A sequence of selected practicum experiences in Exercise Science and Leadership, which provide the student with supervised practicum experience. May be repeated in different settings. *Prerequisite: KIN 302. Corequisite: KIN 302.*

**KIN 473. Practicum in Coaching. 3.00.**

A sequence of selected practicum experiences in coaching, which provides the student with supervised practicum experience.

**KIN 474. Practicum in Sport Communications. 3.00.**

A sequence of selected practicum experiences which provides the student with supervised practicum experience in Sport Communications.

**KIN 480. Student Teaching in Physical Education. 8.00.**

A supervised teaching experience at the elementary school setting that provides teacher candidates with opportunities to experience the classroom environment, grow professionally, and develop their pedagogical skills. *Prerequisite: Acceptance into student teaching.*

**KIN 481. Internship in Exercise Science and Leadership. 4.00 - 12.00.**

A full-time professional experience in Exercise & Leadership, which affords the opportunity to apply theory and methodology under qualified supervision from the cooperating agency and the university. *Prerequisite: Successful completion of all professional courses (KIN 100, KIN 202, BIO 270, BIO 290, and CHEM 131).*

**KIN 490. Special Studies in Kinesiology and Recreation. 1.00 - 3.00.**

Designed to give superior students in physical education an opportunity to complete independent study and/or research under faculty supervision. *Prerequisite: Permission of the department head.*

**KIN 499A. Honors. 1.00.**

**KIN 499B. Honors. 3.00.**

**KIN 499C. Honors. 2.00.**

## Korean

**KOR 101. Elementary Korean I. 3.00 - 4.00.**

The fundamentals of Korean through listening, speaking, reading, and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language lab. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**KOR 102. Elementary Korean II. 3.00 - 4.00.**

The fundamentals of Korean through listening, speaking, reading, and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language lab. If student has had two or more years of the language in high school he/she will receive credit for the course. *Prerequisite: KOR 101 or permission of the instructor.*

**KOR 231. Intermediate Korean I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition, and reading. A student cannot earn credit for KOR 231 after completing KOR 232. *Prerequisite: KOR 102 or permission of the instructor.*

**KOR 232. Intermediate Korean II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition, and reading. *Prerequisite: KOR 231 or permission of instructor.*

**KOR 300. Korean Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Korean. Fulfills the College of Arts and Letters writing-intensive requirement for possible International Affairs majors and/or IBUS majors. *Prerequisite: KOR 232.*

**KOR 320. Korean Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Korean with emphasis on conversation and composition. Readings in Korean will provide a context for discussion and writing. Instruction is in Korean. *Prerequisite: KOR 300.*

**KOR 490. Special Studies in Korean. 1.00 - 4.00.**

Special topics or independent studies in Korean.

## Latin

**LAT 101. Elementary Latin I. 3.00 - 4.00.**

An introductory course for students who intend to acquire only a reading knowledge of classical and medieval Latin. Systematic study of the fundamentals of grammar. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**LAT 102. Elementary Latin II. 3.00 - 4.00.**

An introductory course for students who intend to acquire only a reading knowledge of classical and medieval Latin. Systematic study of the fundamentals of grammar. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite: LAT 101.*

**LAT 231. Intermediate Latin I. 3.00.**

An introduction to Latin literature. The further study of Latin grammar and the elements of Latin prosody are also presented. A student cannot earn credit for LAT 231 after completing LAT 232. *Prerequisite: LAT 102 or permission of the instructor.*

**LAT 232. Intermediate Latin II. 3.00.**

An introduction to Latin literature. The further study of Latin grammar and the elements of Latin prosody are also presented. *Prerequisite: LAT 231 or permission of instructor.*

**LAT 490. Special Studies in Latin. 1.00 - 4.00.****Latin American, Latinx and Caribbean Studies****LACS 490. Independent Study in Latin American, Latinx and Caribbean Studies. 3.00.**

Designed to give capable students in Latin American, Latinx and Caribbean Studies an opportunity to complete independent study under faculty supervision. *Prerequisite: Admission by recommendation of the instructor and permission of the program coordinator.*

**LACS 495. Special Topics in Latin American, Latinx and Caribbean Studies. 3.00.**

In-depth examination of selected topics of current importance to the field of Latin American, Latinx and Caribbean Studies. May be repeated for credit when course content changes. *Prerequisite: Permission of the program coordinator required.*

**Learning, Technology and Leadership Education****LTLE 150. Information in Contemporary Society. 3.00.**

Concerns the individual's need for information, especially that which will assist in solving problems related to everyday needs and interests and with the agencies and resources which can help to meet those needs. Will not count as social science course for teacher licensure.

**LTLE 332. Video Production. 1.00.**

A basic understanding of the principles of video equipment along with skills in the use, set up and operation of editing applications.

**LTLE 370. Instructional Technology. 3.00.**

Principles and procedures of a teaching/learning process designed to provide reliable, effective instruction to learners through systematic application of instructional technology. Includes selecting, producing, evaluating and utilizing nonprint media and equipment for application to instructional process.

**LTLE 372. Visual Literacy. 3.00.**

This foundational course will cultivate the ability to evaluate and create conceptual visual representations. Students will practice the necessary critical attitude, principles, tools and feedback to develop their own high-quality graphics for learning and performance. Topics also include the impact of visual literacy on the learning process related to instructional design, instructional technology, and information presentation.

**LTLE 374. Photography for Learning. 1.00.**

Students will develop a basic understanding of the principles of photography, including the use of related digital equipment and the 35mm SLR camera. Note: All needed equipment will be supplied.

**LTLE 376. Video for Learning. 1.00.**

Students will develop an intermediate understanding of the principles of instructional video design, production, and post-production editing including the use of related hardware and software. Note: All needed equipment will be supplied.

**LTLE 377. Augmented/Virtual Reality and 360 Media: Innovation in Immersive Technology for Education. 3.00.**

This course is an applied exploration of immersive technology, focused on applications to training and education. Virtual, augmented, mixed reality, 360° media, 3D scanners and other emerging related technology will be covered. The course is intended for novices to the field of AR/VR and immersive media production. Students will develop unique applications, media and more through interdisciplinary team-based projects for real clients, focused on areas of immersive technology in education.

**LTLE 378. Web Design for Learning. 1.00.**

Students will develop an intermediate understanding of the principles of Web site design including the use of html and design templates. Note: Server space will be provided for one semester. Students may move their Web sites to another server space afterward.

**LTLE 385. Foundations of Instructional Design. 3.00.**

The purpose of this course is to apply instructional theory to the creation of instructionally sound education programs and materials.

**LTLE 490. Special Study in LTLE. 1.00 - 3.00.**

Designed to provide in-depth and up-to-date exposure to the topics/issues pertinent to human resource development and allow students to explore topics of special interest in human resource development. *Prerequisite: Permission of the instructor.*

**Literacy Education****LED 240. Children's Literature. 3.00.**

The study of a variety of children's literature and the practices, principles and procedures for selecting and evaluating works for children, giving consideration to their motivational and developmental effects. *Prerequisite: Completion of Cluster One.*

**LED 254. Literature for Adolescents. 3.00.**

A study of literature which has been written for or appeals to young adults and adolescents, including practices, principles and procedures for evaluating and making literary materials appealing to adolescents. *Prerequisite: Completion of Cluster One.*

**LED 312. Reading & Writing Across the Curriculum in the Middle Grades. 3.00.**

An introduction for preservice teachers to the foundations of reading and writing development and the elements of balanced literacy instruction in the middle grades. Through reading, writing, and field applications across the content areas, preservice teachers explore literacy engagement, diversity, and special needs. *Corequisite: EDUC 310, MIED 311 and practicum.*

**LED 355. Inclusive Early Literacy Development and Acquisition. 3.00.**

This is the first course in a two-course sequence designed to provide pre-service inclusive early childhood teachers with the foundation of literacy development for children, as well as instruction to support and enhance the emergence and continued development of literacy learning. *Prerequisite: IECE 303.*

**LED 366. Early Literacy Development and Acquisition. 3.00.**

This course will provide preservice teachers with an understanding of the foundations of early literacy development, and instructional strategies and assessment techniques which support the acquisition of literacy. *Prerequisite: Teacher Ed Program 02 Flag*

**LED 401. Problems in Literacy Education. 3.00.**

Considers current problems and issues in reading education as these problems and issues relate to the professional education of preservice teachers. Prerequisite: Permission from the coordinator of the program where the student is enrolled. *Prerequisite: Teacher Ed Program 02 Flag*

**LED 420. Content Area Literacy, K-12. 2.00.**

This course is designed for preservice teachers and will provide an introduction to the foundations of reading and balanced literacy instruction for students in kindergarten through grade 12. Through reading and writing across content areas, preservice teachers will explore literacy engagement, diversity and special needs. *Prerequisite: Teacher Educ 01*

**LED 430. Development, Assessment and Instruction of Literacy: K-12. 3.00.**

This course is designed to provide preservice teachers with a foundation of literacy development, instructional strategies and assessment techniques which support the acquisition and development of literacy in diverse classrooms across the curriculum in grades K-12.

**LED 435. Literacy Development and Instruction for English Language Learners. 3.00.**

Prepares for literacy instruction of English Language Learners beyond the emergent stage. Content includes assessment and instruction, particularly comprehension instruction for individuals, small groups, and whole class instruction. Students examine heterogeneous classroom structure and plan instruction for the diversity of abilities, personalities, cultures, languages, and all individual learners in every educational setting. A practicum accompanies this course. *Corequisite: TESL 383.*

**LED 436. Literacy Learning in the Elementary Grades. 3.00.**

This course will provide preservice teachers with an understanding of developmentally appropriate instructional strategies and assessment techniques to help all students in elementary grades become literate using reading, writing, listening and speaking in strategic and authentic ways. *Prerequisite: Grade of "C" or better in LED 366*

**LED 440. Literacy-Based Learning in Secondary Education. 3.00.**

This course will provide preservice teachers in secondary education with an understanding of how to create productive contexts for literacy-based learning. Particular areas of emphasis include selecting reading materials, understanding literacy development, and facilitating individual student engagement.

**LED 456. Inclusive Literacy Learning in the Primary Grades. 3.00.**

This course is the second of a two-course sequence covering the development of the reading process and methods for teaching reading in elementary classrooms, as well as assessment and intervention for students at risk for or with identified disabilities. Participants will develop an understanding of the reading process and reading disabilities. Emphasis will be on the use of effective practices for primary, secondary and tertiary instruction for children across the lifespan. *Prerequisite: LED 355.*

**LED 462. Literacy Across the Curriculum. 3.00.**

Accurate decoding is a necessary but not sufficient condition for the true goal of reading: comprehension. Skills for comprehension may predate decoding, may develop simultaneously with decoding skill and may be fine-tuned long after students are experienced decoders. This is a course that explores how students comprehend and learn with text and how teachers assist them in these processes. Pre-service teachers will expand their repertoire of instructional strategies for supporting student literacy development beyond decoding, understanding that fluency is a necessary but not sufficient skill for comprehension to occur. Participants will explore the nature and meaning of comprehension through purposeful, student-centered teaching and learning. This class is built on the understanding that students are given material on their instructional reading level in order for comprehension to take place and that students are engaged and interactive with the text. Current research will frame the exploration, modeling and practice of effective instruction, with an emphasis on the social constructivist perspective of literacy development. *Prerequisite: LED 366 and LED 436.*

**LED 472. Literacy Assessment & Instruction in the Content Areas for the Middle Grades. 3.00.**

This course will introduce preservice teachers to the relationship between literacy assessment practices and instructional design for teaching reading and writing in content area classrooms. Using case study methodology, preservice teachers will explore individual students' literacy strengths, areas that need development, and specific instructional strategies. *Prerequisite: LED 312. Corequisite: MSSE 370, MSSE 371 and practicum.*

**LED 490. Special Studies in Literacy. 1.00 - 3.00.**

Designed to give capable students, under faculty guidance, an opportunity to engage in the independent study of educational problems. Prerequisite: Plan for the study must be approved by the faculty adviser and the coordinator of the program in which the student is enrolled.

**Management****MGT 305. Management and Organizational Behavior. 3.00.**

A study of management functions, decision processes and human behavior in business organizations. Ethical and political considerations are addressed, as are behavioral science research and its applicability to understanding organizational behavior. *Prerequisite: Non-COB Majors, Junior Standing, and a cumulative GPA of 2.0 or greater.*

**MGT 310. Business Fundamentals for Entrepreneurs. 3.00.**

This course requires students to develop basic literacy in the language of business and will include foundational concepts related to forms of business ownership, management, marketing, operations and financial resources. It is designed for students from non-business majors who enroll in the entrepreneurship minor. *Prerequisite: Open only to non-business majors who have been accepted into the entrepreneurship minor.*

**MGT 320. Management of Innovation and Technology. 3.00.**

This course focuses on technological innovation as a primary source of achieving and sustaining competitive advantage for established firms as well as start-ups. Students explore the current challenges facing business leaders in their attempts to build firms that can consistently and successfully bring technological innovations to market. The course provides students with opportunities to integrate creativity, innovation, and problem-solving processes. Innovation management includes topics such as technology strategy, fit between product strategy and business unit strategy, the psychology of discovery and invention, the entrepreneurial mindset, managing innovation processes and teams, and protecting innovation. *Prerequisite: COB 300 and Management majors; or departmental permission.*

**MGT 325. Project Management. 3.00.**

This course focuses on the knowledge and skills needed to select, plan, schedule, evaluate, control, and complete a variety of complex projects that help achieve organizational goals. Students learn foundational concepts and current project management frameworks. Applying project management tools and techniques to workplace situations using project management software is emphasized. *Prerequisite: COB 300 and Management majors; or departmental permission.*

**MGT 340. International Management. 3.00.**

A comparative analysis of management styles and organizational effectiveness across cultural boundaries and within other political, legal and economic environments. *Prerequisite: COB 300 and management or international business major.*

**MGT 357. Evidence-Based Decision Making. 3.00.**

This course provides students with the opportunity to use research and data analysis to explore managerial and organizational situations, and to develop and practice empirically based decision making skills. Students will learn about evidence based management, an approach to decision making based on the best obtainable evidence and unbiased organizational facts. The course will help students to develop the knowledge and skills needed to identify, access, interpret, and use factual information and empirical evidence to be more effective decision makers and managers. *Prerequisite: COB 300 and Management majors; or departmental permission.*

**MGT 365. Fundamentals of Human Resource Management. 3.00.**

A study of employer-employee relationships in business and industry including personnel policies and methods; selection, placement, training and promotion of employees; and

recent trends in employment practices. *Prerequisite:* COB 300 for management majors, or PPA 265 for PPA majors; or departmental permission. *Corequisite:* COB 300 for management majors, or PPA 265 for PPA majors.

**MGT 370. Quality Management. 3.00.**

The application of statistics to the control of quality in planning, organizing, motivating and controlling quality. Application of models and distributions in statistical quality control, process capability, control charts, acceptance sampling and reliability. Emphasis is on the design, implementation and management of quality throughout the firm. *Prerequisite:* COB 300 and junior standing.

**MGT 375. Business Ethics and Social Responsibility. 3.00.**

This course explores the nature of moral values, moral judgments, and ethical decision and behaviors in modern business organizations. Alternative perspectives of right and wrong will be considered. A highly interactive course, students will analyze and discuss ethics-related current events, case studies, real-world scenarios, and common ethical dilemmas in order to improve skills in recognition, understanding, and decision-making related to business ethics and social responsibility at various organizational levels. This course is open to students in any COB major provided they meet the course prerequisites. *Prerequisite:* COB 300 and management major, or departmental permission.

**MGT 390. Organizational Leadership. 3.00.**

This course provides a foundation for understanding and applying leadership knowledge and skills at the individual, dyadic, team, and organizational levels. It enables students to better understand themselves and others, and utilize that knowledge to more effectively lead and manage in organizational settings. The course incorporates theory, cases, assessment tools, empirical evidence, and application-based exercises. Contemporary leadership theories and related frameworks involving values, attitudes, motivation, ethics, and group processes are used to foster leadership development. *Prerequisite:* COB 300 and Management majors; or departmental permission

**MGT 405. Topics in Management for Non-majors. 3.00.**

This course is designed to allow exploration of areas of current topical or unique interest or to leverage special situations. Course content will vary. Consult your adviser for specific topics each semester when the course is offered. Course may be repeated for credit when topics vary. *Prerequisite:* Cumulative 2.0 GPA in all courses taken at JMU, open only to non-business majors.

**MGT 457. Business Analysis and Consulting Fundamentals. 3.00.**

This course provides an overview of business analysis, the consulting industry and the analytical practices used in the consulting process. Students explore the business analysis process, learning to identify and communicate the need for organizational change, and define solutions that maximize organizational value. Also, students examine the nature and purpose of consulting, explore careers related to consulting, learn consulting frameworks and methods, and develop an understanding of the consultant-client relationship. *Prerequisite:* MGT 357.

**MGT 460. Employment Law. 3.00.**

This course provides students with an in-depth understanding of federal regulations, court decisions, and public labor policies that influence employment decisions, employee and labor relations, and employee safety and health. Includes historical evolution of federal legislation relating to employment, the labor movement, and the emergence of public sector bargaining. Explores the impact of regulations, court cases, and union contracts on general business operations. *Prerequisite:* COB 300 and MGT 365.

**MGT 461. Introduction to Supply Chain Management. 3.00.**

Introduction to Supply Chain Management provides the student with a foundational knowledge of the content and processes of supply chains, with an emphasis on the strategic nature of supply chain management decisions. This course offers a survey of critical supply chain topics such as design, sourcing, networks, risk management, transportation, revenue generation, and sustainability. Selected topic areas will be evaluated through the lens of geographic information systems (GIS) using ArcGIS. *Prerequisite:* COB 300 (for Management majors), or COB 300 and admission to the Global Supply Chain Management minor (for all other COB Majors), or ISAT 211 and admission to the Global Supply Chain Management minor (for CISE majors).

**MGT 467. Management Consulting. 3.00.**

This is an applied course where students will work in teams on consulting projects for businesses or organizations. Students apply knowledge and skills developed in MGT 357 and MGT 457. Students engage in a comprehensive consulting experience designed to build competence and confidence in analysis, problem-solving, and managing client relations. Grades will be determined largely by the quality of client deliverables. *Prerequisite:* MGT 457.

**MGT 470. Acquiring and Developing Human Capital. 3.00.**

This course provides an in-depth study and application of staffing concepts and practices, including how to identify, place, and develop the best candidates for a given position. Topics include workforce planning, recruitment, selection, training and development of employees, and succession planning. *Prerequisite:* MGT 365.

**MGT 471. Entrepreneurship and Small Business Management. 3.00.**

This course provides an in-depth examination of entrepreneurship and its impact and significance in the global economy, including a focus on small business. Students will learn theory and then apply it through experiential exercises and a number of different engagements. This course explores topics such as the entrepreneurial process, idea generation methodology, sources of funding, growth, succession planning, and exit strategies. Students engage in activities such as feasibility analysis, selection of appropriate entry and growth strategies, and firm valuation techniques. *Prerequisite:* COB 300 and management major, declared entrepreneurship minor or permission of the instructor.

**MGT 472. New Venture Creation. 3.00.**

This experiential course explores the context and entrepreneurial process involved in creating new ventures. Students work in multidisciplinary teams to recognize and evaluate opportunities, develop feasible business models, and demonstrate high-performance team practices. Working with experienced entrepreneurs, teams develop and apply financing strategies for the prelaunch and launch of new ventures. *Prerequisite:* MGT 320, MGT 471 and management major, or departmental permission.

**MGT 475. Managing and Retaining Human Capital. 3.00.**

This course provides an in-depth study of two major aspects of HR policy and practice: performance management and compensation systems. Students participate in applied exercises and projects that focus on best practices in performance management and performance appraisal systems. The design of compensation and benefits systems is studied as a means to effectively retain workers. *Prerequisite:* MGT 365 and Management major.

**MGT 480. Organization Theory and Design. 3.00.**

Examines the theory and research underlying the design of complex organizations. Takes a macro approach to the study of organizations, placing particular emphasis upon the interaction between an organization and its environment and the impact that the environment has on organizational design, structure and processes. *Prerequisite:* COB 300 and management major.

**MGT 481. Negotiation and Dispute Resolution. 3.00.**

The purpose of this course is to develop an understanding and effective improvement of participants' skills in the areas of both business and interpersonal negotiations. Through case-based exercises, attention will be given to various strategies for negotiation including distributive, integrative, intra-organizational, and multi-lateral bargaining. Additional applications include how negotiation skills can serve as tools for conflict resolution in the workplace and broader life experiences. *Prerequisite:* COB 300 and senior standing.

**MGT 490. Special Studies in Management. 1.00 - 3.00.**

Designed to give capable students in management an opportunity to complete independent study under faculty supervision. *Prerequisite:* Management major and senior standing; recommendation of the instructor and written permission of the director prior to registration. *Prerequisite:* Management major and senior standing (90 hours); recommendation of the

instructor and written permission of the director prior to enrollment.

**MGT 494. Management Internship. 3.00.**

A course providing an opportunity to work in and with local industry to gain insight into the real side of modern management. *Prerequisite: Management major and permission of the internship coordinator prior to enrollment.*

**MGT 498. Special Topics in Management. 3.00.**

This course is designed to allow explorations of areas of current topical concern or to exploit special situations. Course content will vary. For current course content consult your adviser. *Prerequisite: COB 300 and management major and senior standing (90 hours).*

**MGT 499A. Honors. 1.00.**

Year course. See catalog description entitled "Graduation with Distinction" and "Graduation with Honors."

**MGT 499B. Senior Honors Project. 3.00.**

Year course. See catalog description entitled "Graduation with Distinction" and "Graduation with Honors."

**MGT 499C. Honors Thesis. 2.00.**

Year course. See catalog description entitled "Graduation with Distinction" and "Graduation with Honors."

## Marketing

**MKTG 380. Principles of Marketing. 3.00.**

Deals with fundamentals involved in the marketing process; concerned with the functions, institutions and channels used to distribute goods and services from producer to consumer. *Prerequisite: Junior standing and a cumulative 2.0 grade point average in all courses taken at JMU.*

**MKTG 384. Integrated Marketing Communications. 3.00.**

Integrated marketing communications includes advertising, sales promotions, packaging, public relations, publicity, personal selling, direct marketing and event sponsorship. Students will be involved in creating, planning, implementing and evaluating client-oriented projects by developing an integrated marketing communication campaign. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 385. Consumer Behavior. 3.00.**

Deals with the behavioral science concepts of individual and group behavior of consumers. Stresses the application of buyer behavior research to marketing management. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 386. Services Marketing. 3.00.**

Application of marketing principles to the services sector. The course focuses on review of customer demand for and assessment of services; the employee/customer interface; services operation management; review of the services marketing mix; and development of marketing plans for service organizations. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 388. Retail Marketing. 3.00.**

Study of the institutions of retailing, retailing research, selection of store location and layout, retail organizational structure, and merchandise planning and management. Retail store image, promotion, retail pricing, retail strategy and retail trends will be evaluated. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 405. Survey Research. 3.00.**

This course covers techniques and principles, skills and activities that are required to conduct an effective survey project. The course will cover survey planning, survey methods, sampling, survey instrument design, data collection and analysis, and survey reporting. Survey findings are linked to future marketing decision making. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 410. Social Media Marketing. 3.00.**

The class covers the foundations of social media including the predominantly used social media platforms, when and how to use each effectively, and a glimpse into the social psychology behind interactions within and across social media platforms. *Prerequisite: MKTG 384.*

**MKTG 430. Professional Selling. 3.00.**

Provides an understanding of many aspects of personal selling including preparing for selling, selling techniques and the role of selling in our society. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 440. Retail Strategy and Buying. 3.00.**

This course examines merchandising as a major element in the marketing of consumer goods. The student will learn the software tools and formulas for merchandising strategy in a computer mediated environment and the basics of market centers and global sourcing. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 450. Business Marketing. 3.00.**

An analysis of the policies and procedures in marketing to business buyers. The course provides emphasis on special problems connected with the segmentation and target marketing, purchase, distribution, promotion, and development of business-to-business goods and services. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 455. Sales Leadership. 3.00.**

Sales leadership guides students through the various leadership styles and the adoption of the appropriate leadership style for various contexts. The use of sales management skills, coaching and mentoring in a professional sales environment are covered. The course includes experiential use of these skills by providing the opportunity to lead a team of students enrolled in MKTG 430. *Prerequisite: COB 300 and MKTG 430, or permission of the instructor.*

**MKTG 460. Global Marketing. 3.00.**

Examines marketing in international environments, including foreign entry, local marketing in individual countries and global or standardized marketing across many countries. Emphasis is placed on cultural, economic and strategic variables in deciding how to enter and compete in various markets. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 462. International Logistics. 3.00.**

The goal of the course is to tie the international logistics concepts and tools to real world situations, preparing students for dynamic decision-making and problem solving. For marketing majors, this elective would complement such courses as global marketing, business-to-business marketing, retail management and marketing analytics and provide students with an understanding of one of the key elements of marketing: place/physical distribution, from an international perspective. *Prerequisite: COB 300 (for Marketing majors), or COB 300 and admission to the Global Supply Chain Management minor (for all other COB majors), or ISAT 211 and admission to the Global Supply Chain Management minor (for CISE majors).*

**MKTG 465. CRM Technology for Sales Professionals. 3.00.**

The objective of this course is to introduce students to customer relationship management (CRM) technologies used in professional selling. Students will investigate sources of customer data, data management technology, and the use of customer information for professional selling. The course develops technology skills applicable in carrying out sales strategies. *Prerequisite: MKTG 430.*



**MKTG 466. Advanced Professional Selling. 3.00.**

The purpose of this class is to build on the selling skills first learned in MKTG 430. It will focus on enhancing existing skills and learning new ones in order to even better prepare students for a successful career in sales. In addition, students may be selected to compete in regional or national sales competitions during the semester. *Prerequisite: MKTG 430.*

**MKTG 470. Strategic Internet Marketing. 3.00.**

Studies the culture and demographics of the Internet and examines online business strategies. Students will learn the hardware and software tools necessary for Internet commerce, identify appropriate target segments, develop product opportunities, price structures and distribution channels over the Internet and execute marketing strategy in computer-mediated environments. *Prerequisite: COB 300 and MKTG 384 or permission of the academic unit head.*

**MKTG 477. Digital Marketing Practicum. 3.00.**

With an applied focus, this course introduces students to some of the most important and fastest growing sectors in digital marketing. Students apply marketing theories in a uniquely applied manner as they become active learners involved in online marketing campaigns, facing real pressures similar to those in the professional workplace (i.e., account management, client relationships, financial constraints, market competition, time limitations, technology, etc.). Student teams will plan and execute paid search, display advertising, paid social, and other campaign types for actual clients. Throughout their campaigns, students continually make decisions based on real world data and market conditions. *Prerequisite: MKTG 384 and permission of the instructor.*

**MKTG 480. Product Development and Management. 3.00.**

The process of developing new products will be developed and explored. The marketing tasks which are unique to this operation will be investigated. An understanding of the marketing management of products throughout their life cycles will complete the course. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 482. Marketing Analytics. 3.00.**

This course focuses on the use of information technology and marketing metrics to increase marketing productivity. Students learn how to evaluate marketing strategies and performance using database queries and statistical analysis. Information technologies are applied in market segmentation and target marketing, lifetime value analysis and RFM (recency, frequency and monetary value) analysis. *Prerequisite: COB 300 or permission of the academic unit head.*

**MKTG 485. Marketing Management. 3.00.**

Case studies are used to develop analytical and decision-making skills. Knowledge gained from previous course work is applied to actual circumstances faced by marketing managers in private, public, profit and not-for-profit organizations. Extensive preparation of case materials outside of class provides the basis for case presentations and discussion of case situations in class. *Prerequisite: COB 300, MKTG 384, MKTG 385 and senior standing required.*

**MKTG 490. Special Studies in Marketing. 1.00 - 3.00.**

Designed to give capable students in marketing an opportunity to complete independent study under faculty supervision. *Prerequisite: GPA of 2.8, instructor recommendation and department head approval prior to registration.*

**MKTG 494. Marketing Internship. 3.00 - 6.00.**

A course providing an opportunity to work in and deal with local industry to gain insight into the realities of modern business. *Prerequisite: COB 300, minimum cumulative GPA of 2.80, senior standing, recommendation of the internship coordinator and approval of the academic unit head prior to registration.*

**MKTG 498. Special Topics in Marketing. 3.00.**

This course is designed to allow explorations of areas of current topical concern, or to exploit special situations. Course content will vary. For current course content consult your adviser. *Prerequisite: permission of the instructor.*

**MKTG 498A. Special Topics in Marketing. 3.00.**

This course is designed to allow explorations of areas of current topical concern or to exploit special situations. Course content will vary. For current course content consult your adviser.

**MKTG 498B. Special Topics in Marketing. 3.00.**

This course is designed to allow explorations of areas of current topical concern or to exploit special situations. Course content will vary. For current course content consult your adviser.

**MKTG 499A. Honors. 1.00.****MKTG 499B. Senior Honors Project. 2.00.****MKTG 499C. Senior Honors Project. 3.00.****Materials Science****MATS 375. An Introduction to Materials Science. 3.00. *Crosslisted with CHEM 375, PHYS 375.***

An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials. *Prerequisite: CHEM 131 and PHYS 150, PHYS 250, ISAT 212 or permission of the instructor.*

**MATS 498R. Undergraduate Materials Science Research. 1.00 - 3.00.**

Research in a selected area of materials science arranged with and approved by a faculty research advisor. *Prerequisite: Study proposal must be approved by research advisor and director of Center for Materials Science prior to registration.*

**Mathematics****MATH 103. The Nature of Mathematics [C3QR]. 3.00.**

Topics such as geometry, computing, algebra, number theory, history of mathematics, logic, probability, statistics, modeling and problem solving intended to give students insight into what mathematics is, what it attempts to accomplish and how mathematicians think. May be used for general education credit.

**MATH 105. Quantitative Literacy and Reasoning [C3QR]. 3.00.**

Applications and interpretation of numerical information in context. Selection and use of appropriate tools: scientific notation, percentages, descriptive summaries, absolute and relative changes, graphs, normal and exponential population models, and interpretations of bivariate models. Making informed decisions and effectively communicating them. Identifying limitations of information sources, assessing reasonableness of results, and basic concepts of confidence amid uncertainty. Not open to majors in mathematics or statistics. May be used for general education credit. Not open to students who have previously earned credit in courses requiring MATH 105 competency except with consent of the Mathematics and Statistics department head.

**MATH 107. Fundamentals of Mathematics I [C3QR]. 3.00.**

MATH 107 and MATH 108, along with MATH 207, form a sequence that covers the topics of sets, logic, numeration systems, development of real numbers, number operations, number theory, geometry, measurement, algebra, functions, probability and data analysis. Sequence is required for early childhood, elementary, or middle school teacher licensure. May be used for general education credit.

**MATH 108. Fundamentals of Mathematics II. 3.00.**

MATH 107 and MATH 108, along with MATH 207, form a sequence that covers the topics of sets, logic, numeration systems, development of real numbers, number operations, number theory, geometry, measurement, algebra, functions, probability and data analysis. Sequence is required for early childhood, elementary, or middle school teacher licensure. *Prerequisite: MATH 107 with a grade of "C-" or better and a passing score on Basic Skills Test.*

**MATH 135. Elementary Functions. 4.00.**

Algebraic, exponential, logarithmic and trigonometric functions; matrices and matrix solutions to systems of linear equations; vectors. Not open to students who have previously earned credit in MATH 155, 156, 205 or 235, except with the consent of the department head.

**MATH 155. College Algebra. 3.00.**

Polynomial, rational, exponential and logarithmic functions and applications, systems of equations and inequalities, sequences. *Prerequisite: Demonstration of proficiency in algebra at an intermediate level. A test is required to determine placement in MATH 155 or MATH 156. Not open to students who have previously earned credit in MATH 135, MATH 156, MATH 205, MATH 205, MATH 232 or MATH 235.*

**MATH 156. College Algebra. 3.00.**

Covers same topics as MATH 155. MATH 156 will meet five times a week for students requiring more instructional time. *Prerequisite: Demonstration of proficiency in algebra at an intermediate level. A test is required to determine placement in MATH 155 or MATH 156. Not open to students who have previously earned credit in MATH 135, MATH 155, MATH 205, MATH 231, MATH 232, or MATH 235.*

**MATH 167. Topics in Mathematics. 1.00 - 3.00.**

Topics or projects in mathematics which are of interest to the lower-division student. May be repeated for credit when course content changes. Topics or projects selected may dictate prerequisites. Students should consult the instructor prior to enrolling for this course.

**MATH 199. Algebra/Precalculus Gateway. 1.00.**

Review of fundamental mathematics required to be successful in MATH 205 or MATH 231, including graphs of functions, factoring, simplifying, solving equations and inequalities, and exponential/logarithmic/trigonometric functions. Self-paced study with required proctored tests. Students needing more instruction should register for MATH 155 instead. *Corequisite: MATH 231 or MATH 205 with appropriate calculus placement score.*

**MATH 205. Introductory Calculus I [C3QR]. 3.00.**

Topics from differential and integral calculus with applications to the social, behavioral or life sciences and business or management. *Prerequisite: MATH 135 or MATH 155 or MATH 156 or sufficient score on the mathematics placement exam. Not open to mathematics or physics majors or to students who have already earned credit in MATH 232 or MATH 235.*

**MATH 207. Fundamentals of Mathematics III. 3.00.**

A continuation of topics listed in the MATH 107-108 description will be covered. The MATH 107-108-207 sequence fulfills the requirements for licensure of prospective early childhood, elementary, or middle school teachers. *Prerequisite: MATH 107 and MATH 108 with a grade of "C-" or better.*

**MATH 220. Elementary Statistics [C3QR]. 3.00.**

Descriptive statistics, frequency distributions, sampling, estimation and testing of hypotheses, regression, correlation and an introduction to statistical analysis using computers. May be used for general education credit. *Prerequisite: MATH 105 with a grade of "C-" or better or sufficient score on the Mathematics Placement Exam.*

**MATH 220H. Elementary Statistics - Honors [C3QR]. 3.00.**

Descriptive statistics, frequency distributions, sampling, estimation and testing of hypotheses, regression, correlation and an introduction to statistical analysis using computers. May be used for general education credit. *Prerequisite: Honors Students*

**MATH 227. Discrete Structures I. 3.00. Crosslisted with CS 227.**

An introduction to discrete mathematical structures including functions, relations, sets, logic, matrices, elementary number theory, proof techniques, basics of counting, graphic theory, discrete probability, digital logic, finite state machines, integer and floating point representations. *Prerequisite: CS 159. Corequisite: CS 159.*

**MATH 229. Introduction to Applied Statistics Using R. 3.00.**

An introduction to applied statistics that is more in-depth than MATH 220 and is encouraged for students majoring or minoring in STEM fields. Descriptive statistics, data collection, frequency distributions, sampling distributions and the Central Limit Theorem, estimation, confidence intervals, testing of hypotheses, simple linear regression, correlation, and chi-square test of independence are covered. Emphasis is on the analysis and interpretation of real data in context. Uses the R programming language. *Prerequisite: Sufficient statistics and calculus placement scores. The calculus placement score requirement may be waived for students with "C-" or better in MATH 231. Not open to students with credit in MATH 220, MATH 220H, MATH 318, MATH 329 or equivalent.*

**MATH 231. Calculus with Functions I [C3QR]. 3.00.**

MATH 231 and MATH 232 form a sequence that combines first-semester calculus with algebra and trigonometry. The sequence is designed for students whose pre-calculus skills are not strong enough for MATH 235. Calculus material in MATH 231 includes limits and derivatives of algebraic functions and their applications. May be used for general education credit. *Not open to students who have already earned credit in MATH 234 or MATH 235. Prerequisite: MATH 155, MATH 156 or sufficient score on the Mathematics Placement Exam. MATH 231-MATH 232 together are equivalent to MATH 235 for all prerequisites.*

**MATH 232. Calculus with Functions II. 3.00.**

A continuation of MATH 231. Calculus topics include limits and derivatives of transcendental functions, the theory of integration and basic integration techniques. NOTE: MATH 231-232 together are equivalent to MATH 235 for all prerequisites. Not open to students who have already earned credit in MATH 234 or MATH 235. *Prerequisite: MATH 231 with a grade of "C-" or better.*

**MATH 233. Calculus with Modeling I. 3.00.**

MATH 233 and MATH 234 form a sequence that combines first-semester calculus with pre-calculus for students with skills not strong enough for MATH 235. Calculus is motivated by static and dynamic models in the context of scientific applications. MATH 233 includes limits, continuity, summation, and the definite integral as accumulation of change and as the limit of Riemann sums. May be used for general education credit. *Prerequisite: MATH 155, MATH 156 or sufficient score on the Mathematics Placement Exam. MATH 233-234 together are equivalent to MATH 235 for all prerequisites. Not open to students who have already earned credit for MATH 232 or MATH 235.*

**MATH 234. Calculus with Modeling II. 3.00.**

MATH 233 and MATH 234 form a sequence that combines first-semester calculus with pre-calculus for students with skills not strong enough for MATH 235. Calculus is motivated by static and dynamic models in the context of scientific applications. MATH 234 includes differentiation and antidifferentiation, including trigonometric functions, as well as the fundamental theorem of calculus. *Prerequisite: MATH 233 with a grade of "C-" or better. Not open to students who have already earned credit for MATH 235. MATH 233-234 together are equivalent to MATH 235 for all prerequisites. Not open to students who have already earned credit for MATH 235.*

**MATH 235. Calculus I [C3QR]. 4.00.**

Differential and integral calculus of functions of one variable. Sequences and infinite series. MATH 235 may be used for general education credit. MATH 235 is not open to students who have already earned credit in MATH 232 or MATH 234. *Prerequisite: Sufficient score on the Mathematics Placement Exam.*

**MATH 236. Calculus II. 4.00.**

Differential and integral calculus of functions of one variable. Sequences and infinite series. *Prerequisite: MATH 232 or MATH 234 or MATH 235 with a grade of "C-" or better.*

**MATH 237. Calculus III. 4.00.**

Vectors. Multivariate calculus. *Prerequisite: MATH 236 with a grade of C- or better.*

**MATH 238. Linear Algebra with Differential Equations. 4.00.**

Matrices; determinants; vector spaces; linear transformations; eigenvalues and eigenvectors; separable, exact and linear differential equations; and systems of linear differential equations. *Prerequisite: MATH 236. Not open to students with credit in MATH 300 or MATH 336 without departmental permission.*

**MATH 245. Discrete Mathematics. 3.00.**

Logic, set theory, relations and functions, mathematical induction and equivalent forms, recurrence relations, counting techniques. *Prerequisite: MATH 236. Corequisite: MATH 236.*

**MATH 248. Computers & Numerical Algorithms. 4.00.**

Programming in a high-level computer language. Applications of numerical algorithms to problems basic to areas such as mathematics, the sciences, and economics and finance. This course is not open to students who have previously earned credit in MATH/CS 448. *Prerequisite: MATH 236. Corequisite: MATH 236 and permission of instructor.*

**MATH 268. Data Analysis and Visualization. 3.00.**

This course is intended to give students hands-on experience on the basics of the data analysis techniques using R. It will focus on data management, data visualization, data exploration using descriptive data summaries, the basics of model building and the basics of inference. Topics include data management (creating data frames, splitting data, efficient data search); exploratory data analysis; data visualization; major distributions (univariate and multivariate); numerical summaries and outlier detections; and the basics of dimension reduction using principle component analysis and exploratory factor analysis. *Prerequisite: MATH 220, or MATH 318 and permission of instructor.*

**MATH 285. Data Analysis. 4.00.**

Topics include experimental and survey design, distributions, variation, chance, sampling variation, computer simulation, bootstrapping, estimation and hypothesis testing using real data generated from classroom experiments and large databases. *Not open to students who have already earned credit in MATH 220, MATH 229, MATH 318 or MATH 329. Prerequisite: MATH 206, MATH 236 or permission of the instructor.*

**MATH 297. Undergraduate Research. 1.00 – 4.00.**

Students pursue research in a selected area of mathematics and/or statistics. Student must make arrangements with a supervising instructor prior to registration. May be repeated.

**MATH 300. Linear Algebra. 3.00.**

Vector spaces, linear transformations, matrices, determinants, systems of linear equations, and eigenvalues and eigenvectors. *Prerequisite: MATH 236; Not open for credit to students with credit in MATH 238.*

**MATH 304. Principles of Algebra. 3.00.**

Algebraic structures, number systems, matrices, groups, rings, factors and solutions to equations, graph theory. *Prerequisite: C- or better in MATH 107, MATH 108, and MATH 207*

**MATH 305. Principles of Geometry. 3.00.**

Finite geometries, geometric transformations, constructions, geometry of inversion, projective geometry, non-Euclidean geometry. *Prerequisite: C- or better in MATH 107, MATH 108, and MATH 207.*

**MATH 306. Principles of Analysis. 3.00.**

Sequences, discrete calculus and difference equations, derivatives and integrals, concepts of differential equations and applications. *Prerequisite: C- or better in MATH 107, MATH 108, and MATH 207.*

**MATH 307. Principles of Probability and Statistics. 3.00.**

Descriptive statistics, measures of central tendency and dispersion, correlation, probability, probability distributions and statistical inference. *Prerequisite: C- or better in MATH 107, MATH 108, and MATH 207.*

**MATH 309. SAS Programming and Data Management. 3.00.**

Use of statistical software to manage, process and analyze data. Writing of statistical programs to perform simulation experiments. *Prerequisite: Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 310. Elem Number Theory. 3.00.**

Properties of integers and prime numbers, divisibility, congruence, residues and selected topics. *Prerequisite: MATH 245 or consent of the instructor.*

**MATH 315. Real Number System. 3.00.**

A development of the real number system through a systematic approach to the natural numbers, integers, rationals and irrationals. *Prerequisite: MATH 245 or consent of the instructor.*

**MATH 318. Introduction to Probability and Statistics. 4.00.**

This class covers descriptive statistics, counting, probability axioms, discrete and continuous univariate random variables, expected values of random variables and sums of independent random variables, and sampling distributions. It also covers the Central Limit Theorem, single and two sample inference for proportions and means, chi-square test of independence, simple linear regression and correlation. Not open to students with credit in MATH 229 or MATH 329. *Prerequisite: MATH 236.*

**MATH 321. Analysis of Variance and Experimental Design. 3.00.**

Introduction to basic concepts in statistics with applications of statistical techniques including estimation, test of hypothesis, analysis of variance and topics in experimental design. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 322. Applied Linear Regression. 3.00.**

Introduction to basic concepts and methods in regression analysis and the application of these models to real-life situations. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 324. Applied Nonparametric Statistics. 3.00.**

Methods of analyzing data from non-normal populations including binomial tests, contingency tables, use of ranks, Kolmogorov-Smirnov type statistics and selected topics. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 325. Survey Sampling Methods. 3.00.**

Theory and practice of sampling including stratified random samples, discussion of simple random samples, cluster sampling, estimating sample size, ratio estimates, subsampling, two-state sampling and analysis of sampling error. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 326. Statistical Quality Control. 3.00.**

Uses and concepts of probability and sampling procedures. Acceptance sampling by attributes and variables, Shewhart concepts of process control, control chart process capability studies, reliability and life testing. Design of sampling plans. *Prerequisite: MATH 318.*

**MATH 327. Categorical Data Analysis. 3.00.**

Exact inference for population proportions, comparison of population proportions for independent and dependent samples, two- and three-way contingency tables, Chi-square tests of independence and homogeneity, Chi-square goodness-of-fit tests, and Poisson and logistic regression. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 328. Time Series Analysis. 3.00. *Crosslisted with FIN 328.***

Regression and exponential smoothing methods for forecasting nonseasonal and seasonal time series, stochastic processes, Box-Jenkins' autoregressive and moving average models. *Prerequisite: MATH 238 or MATH 300; and MATH 318 or MATH 329.*

**MATH 329. Introduction to Probability and Theoretical Statistics. 3.00.**

This course covers counting, probability axioms, discrete and continuous univariate random variables, expected values of random variables and sums of independent random variables. It also discusses theoretical underpinnings of sampling distributions and the Central Limit Theorem, computer simulation, two-sample estimation and inference for proportions and means, and estimation and inference including verification of assumptions in simple linear regression. Uses the R programming language. *Prerequisite: MATH 236 and "C-" or better in MATH 229. MATH 220 with a grade of "B-" or better may be substituted for MATH 229 by permission if student has suitable experience with R. Not open to students with credit in MATH 318.*

**MATH 336. Elementary Differential Equations. 3.00.**

Development of techniques for obtaining, analyzing and graphing solutions to differential equations, with emphasis on first and second order equations. *Prerequisite: MATH 236; Not open for credit to students with credit in MATH 238*

**MATH 337. Methods of Applied Calculus. 3.00.**

Laplace transforms, power series and their application to differential equations. Vector differential and integral calculus; parametric curves; coordinate systems; line, surface and volume integrals; and gradient, divergence, and curl including the theorems of Green, Stokes and Gauss. *Prerequisite: MATH 237; and MATH 238 or MATH 336.*

**MATH 340. Mathematical Modeling I - Optimization. 3.00.**

Linear and nonlinear optimization with an emphasis on applications in the sciences, economics and social sciences. Techniques studied include the simplex, Newton, and Lagrange methods and Kuhn-Tucker theory. Software packages will be used to implement these methods. *Prerequisite: MATH 237; and MATH 238 or MATH 300 or consent of instructor.*

**MATH 341. Non-Linear Dynamics and Chaos. 3.00. *Crosslisted with PHYS 341.***

Introductory study of nonlinear dynamics and chaos intended primarily for upper-level undergraduates in science or mathematics. Topics include stability, bifurcations, phase portraits, strange attractors, fractals, and selected applications of nonlinear dynamics in pure and applied science. Computers may be utilized for simulations and graphics. *Prerequisite: MATH 238 or (MATH 300 and MATH 336); and MATH 248*

**MATH 342. Mathematical Models in Biology. 3.00. *Crosslisted with BIO 342.***

Introduction to dynamical models (discrete and continuous time) applied to biology. Tools of mathematical analysis from linear and nonlinear dynamics will be taught, including stability analysis of equilibrium, as well as appropriate use of software packages. Emphasis will be on model development and interpretation in the context of applications, including effective written and oral presentation. *Prerequisite: MATH 232 or MATH 235 or equivalent.*

**MATH 353. Graph Theory. 3.00.**

Graphs and their applications. Possible topics include trees, Euler paths and Hamiltonian circuits, planar graphs, digraphs, adjacency matrices, connectivity and coloring problems. *Prerequisite: MATH 245 or instructor consent.*

**MATH 354. Introduction to Biometrics. 4.00. *Crosslisted with BIO 454.***

This course discusses the role of statistics in biological research and interpretation of biological phenomena. The course will cover topics of sampling, correlation, regression analysis, tests of hypotheses, commonly observed distributions in natural populations, nonparametric tests, goodness-of-fit tests and ANOVA. In order to fully comprehend the statistical analysis of those publications, students will review approximately half a dozen publications from different fields of biology. *Prerequisite: MATH 220, MATH 229, MATH 318 or equivalent.*

**MATH 360. Complex Variables. 3.00.**

Introduction to algebraic properties of complex numbers, analytic functions, harmonic functions, mappings of elementary functions, contour integration, series, residues, and poles and conformal mappings. Emphasis on computations and applications to fluid and heat flow. *Prerequisite: MATH 237.*

**MATH 364. Introduction to Fluid Mechanics. 4.00. *Crosslisted with PHYS 364.***

Introduces the student to the application of vector calculus to the description of fluids. The Euler equation, viscosity and the Navier-Stokes equation will be covered. *Prerequisite: MATH 237 and PHYS 260, or permission of the instructor.*

**MATH 367. Introduction to Acoustics. 3.00. *Crosslisted with PHYS 367.***

This course represents an introduction to sound, hearing, and vibration. Architectural, biological and environmental acoustics will also be discussed. Students will develop an ability to use mathematical models and experimental techniques to study problems in acoustics and to transfer this knowledge to analogous situations. They will also develop an ability to conduct a semester-long research or expository project and present it in written and oral form to an audience of peers. *Prerequisite: MATH 236*

**MATH 368. Statistical Computing. 3.00.**

This course is an intensive introduction to statistical computing with R. It intends to develop core computing skill to complement traditional course work in statistics and lay the groundwork for further study for data analytics and data mining. The class will cover the basics of programming in R; visualization of multivariate data; generating random variables; bootstrap, jackknife, and permutation methods; Monte Carlo methods in inference; and Monte Carlo integration and variable reduction. *Prerequisite: MATH 229.*

**MATH 395. Mathematical Finance. 3.00. *Crosslisted with FIN 395.***

This course presents an overview of the role of mathematical concepts in financial applications. Topics include continuous time finance, optimization, numerical analysis and applications in asset pricing. *Prerequisite: MATH 237 and FIN 380.*

**MATH 405. Securities Pricing. 3.00. *Crosslisted with FIN 405.***

A quantitative treatment of the theory and method of financial securities pricing to include an examination of closed form pricing models such as the Black-Scholes and its various derivatives as well as numerical solution techniques such as binomial methods. *Prerequisite: FIN 395 or MATH 395.*

**MATH 410. Advanced Calculus I. 3.00.**

Limits, continuity, differentiation, sequences, series, integration and selected topics. *Prerequisite: MATH 238 or MATH 300; and MATH 245 or consent of the instructor.*

**MATH 411. Advanced Calculus II. 3.00.**

Limits, continuity, differentiation, sequences, series, integration and selected topics. *Prerequisite: MATH 410.*

**MATH 415. History of Mathematics. 3.00.**

Topics in the history of mathematics spanning ancient times to the present. *Prerequisite: MATH 245 or instructor consent.*

**MATH 421. Applied Multivariate Statistical Analysis. 3.00.**

Multivariate statistical methods with applications. Topics include canonical correlation, clustering, discriminant analysis, factor analysis, multivariate analysis of variance, multiple

regression, multidimensional scaling and principal component analysis. *Prerequisite: MATH 300 or MATH 238 and MATH 321 or MATH 322.*

**MATH 423. Stochastic Process. 3.00.**

Sequences and classes of random variables. Applications to physical, biological, social and management sciences. Topics include Markov chains, branching processes, the Poisson process, queuing systems and renewal processes. *Prerequisite: MATH 238 or MATH 300; and MATH 318 or MATH 329.*

**MATH 424. Statistical Decision Theory. 3.00.**

Development and use of probability and statistics for strategic decision making with applications. Topics include decision flow diagrams, analysis of risk and risk aversion, utility theory, Bayesian statistical methods, the economics of sampling, sensitivity analysis and collective decision making. *Prerequisite: MATH 318 or MATH 329.*

**MATH 425E. Statistical Genomics. 3.00.**

This course will cover key statistical concepts and methods necessary for extracting biological insights from high throughput genomic experiments. The topics include: discrete probability distributions (binomial, Poisson, negative binomial, and multinomial), joint probability distributions, conditional probabilities, prior and posterior probabilities, and Bayesian inference. Students will learn how to access high throughput genomic data from public websites, relevant preprocessing and analyses methods. This course will also study gene network, groups and patterns using cluster and principal component analysis.

**MATH 426. Probability and Mathematical Statistics I. 3.00.**

Derivations and proofs of probability theorems, discrete and continuous univariate and multivariate random variables, conditional distributions, mathematical expectations, functions of random variables, moment generating functions, properties and derivation of estimators including the method of moments and maximum likelihood estimation. *Prerequisite: MATH 318 or MATH 329.*

**MATH 427. Probability and Mathematical Statistics II. 3.00.**

Limiting distributions, sampling theory and distributions, theory and applications of estimation and hypothesis testing. *Prerequisite: MATH 426.*

**MATH 428. Statistical Consulting. 3.00.**

Training and experience in statistical consulting emphasizing oral and written communication, interview, report writing and presentation skills. Participate in significant interdisciplinary consulting project that will require meeting with the client, creating reports summarizing the client's problem and an analysis performed by the students, and explanation of results using language that can be understood by the client. Students are required to meet with clients outside of class meeting times. *Prerequisite: MATH 318 or MATH 329; MATH 321, at least junior standing and MATH 322. Corequisite: MATH 322.*

**MATH 429. Research Project in Statistics. 1.00 - 3.00.**

Experience in the design, data collection, and analysis for a survey or experiment. *Prerequisite: Consent of the instructor.*

**MATH 430. Abstract Algebra I. 3.00.**

An introduction to groups, rings and fields. *Prerequisite: MATH 238 or MATH 300; and MATH 245 or consent of the instructor*

**MATH 431. Abstract Algebra II. 3.00.**

An introduction to groups, rings and fields. *Prerequisite: MATH 430.*

**MATH 434. Advanced Linear Algebra. 3.00.**

A proof-based linear algebra course covering such topics as vector spaces, linear transformations and matrices, eigenvalues and eigenvectors, inner product spaces, and canonical forms. *Prerequisite: MATH 245 and either MATH 238 or MATH 300.*

**MATH 435. Introduction to Topology. 3.00.**

Metric spaces, limits, continuous maps and homeomorphisms, connectedness, compact topological spaces and applications. *Prerequisite: MATH 238 or MATH 300 and MATH 245.*

**MATH 440. Fourier Analysis and Partial Differential Equation. 3.00.**

Elementary applied partial differential equations, the heat equation, Laplace's equation, the wave equation; Fourier series and boundary value problems. Both theory and problem-solving will be included. *Prerequisite: MATH 238 or MATH 336.*

**MATH 441. Analysis and Dynamics of Differential Equations. 3.00.**

Analysis of qualitative properties and dynamics of linear and non-linear ordinary differential equations, including topics such as existence, uniqueness, phase portraits, stability and chaos, with applications in the sciences. *Prerequisite: MATH 238 OR MATH 300 and MATH 336; AND MATH 245 or MATH 440 OR Instructor Permission.*

**MATH 448. Numerical Analysis. 3.00. Crosslisted with CS 448.**

Study and analysis of algorithms used to solve nonlinear equations and systems of linear and nonlinear equations. Iterative methods for matrices and Newton-type methods. Numerical differential and integral calculus. Programming using a high-level language and/or software packages. *Prerequisite: MATH 237; MATH 238 or MATH 300; and MATH 248.*

**MATH 449. Numerical Analysis for Differential Equations. 3.00.**

Study and analysis of numerical techniques to solve ordinary and partial differential equations, including Euler, Runge-Kutta, Picard, finite-difference and finite-element methods. Programming using a high-level language and/or software packages. *Prerequisite: MATH 237; MATH 238 or MATH 336; and MATH 248.*

**MATH 452. Design and Analysis of Algorithms. 3.00. Crosslisted with CS 452.**

An introduction to the analysis, design and theory of algorithms. Algorithms studied will be selected from searching, sorting and graph theory. Included are elements of counting, recurrence relations, direct and indirect proofs, recursion, complexity classes, language theory, decidability and undecidability. *Prerequisite: MATH 228 /CS 228 and CS 240.*

**MATH 470. Connections in Mathematics. 3.00.**

This course is a mathematics capstone course primarily for math majors with secondary education minors. It covers a variety of topics, each designed to develop the interconnectedness of advanced mathematics to the secondary curriculum. *Prerequisite: MATH 318 or MATH 329; MATH 410, MATH 430 and MATH 475. Corequisite: MATH 318 or MATH 329; MATH 410, MATH 430 and MATH 475.*

**MATH 475. Fund Concepts of Geometry. 3.00.**

Origin and development of Euclidean and other geometries including axiomatic systems, mathematical proof and special topics from incidence geometry. *Prerequisite: MATH 245 or consent of the instructor.*

**MATH 485. Selected Topics. 1.00 - 4.00.**

Topics in advanced mathematics or statistics which are not covered in the regularly offered courses. Offered only with approval of the department head; may be repeated for credit when course content changes. *Prerequisite: Permission of the instructor.*

**MATH 486. Independent Study. 1.00 - 3.00.**

Independent study in mathematics under faculty supervision. Only offered with the consent of the department head.

**MATH 497. Undergraduate Research. 1.00 - 4.00.**

Students pursue advanced research in a selected area of mathematics and/or statistics. Student must make arrangements with a supervising instructor prior to registration. Offered only with consent of the department head. Repeatable up to 6 credits.

**MATH 499A. Honors. 1.00-4.00.**

*Prerequisite: Consent of the SHP supervisor.*

**MATH 499B. Honors Thesis. 3.00.****MATH 499C. Honors Thesis. 2.00.****Mathematics Education****MAED 430. Teaching Mathematics in Grades K-12. 3.00.**

This course provides students with knowledge, skills, and understanding to design and implement effective mathematics instruction (K-12). Focus is on the content, methods, and materials developmentally appropriate for mathematics instruction for a range of students, including diverse and special needs children. The course is based on the Principles and Standards for School Mathematics from NCTM. *Prerequisite: EXED 200*

**Media Arts and Design****SMAD 101. Introduction to Media Arts and Design. 3.00.**

Study of the historical evolution of today's media industries and career paths. Emphasis on contemporary issues affecting those industries and careers. Consideration given to emerging media, their required skills and social impacts. *Prerequisite: Formal declaration for admission to the SMAD major*

**SMAD 150. Mediated Communication: Issues and Skills [C1CT]. 3.00.**

Study of how mediated communication shapes the content, meaning and impact of spoken, written and pictorial messages. Emphasis on the skills required to integrate speech, text and imagery into mediated presentations. Consideration of issues involving the critical evaluation of mass-mediated communication, their effectiveness and influence. May be used for general education credit. May not be used for major credit. *Prerequisite: If you have already completed, or are currently registered for, a Cluster One Critical Thinking class, you must secure permission to receive credit for a second Cluster One Critical Thinking class.*

**SMAD 201. Foundations of Visual Communication Design. 3.00.**

Study of the basic computer operating systems and the principles and practices of graphic production for digital and interactive media. Focus on tools and techniques used to create graphic content for diverse media delivery systems. *Prerequisite: Admission to the SMAD major.*

**SMAD 202. Foundations of Audio-Visual Storytelling. 3.00.**

Audiovisual storytelling is an experiential learning course designed to give students a foundation in creating and producing engaging stories/content utilizing a varied range of audio-visual communication/media tools and formats for distribution on multiple delivery platforms including, but not limited to, television, interactive, film, documentaries, news, commercials, radio, podcasts and web. *Prerequisite: SMAD 201. Corequisite: SMAD 201.*

**SMAD 203. Foundations of User Experience Design. 3.00.**

Study of the aesthetic principles and practices of web and interactive narrative design. Emphasis on visual communication in an interactive media context. *Prerequisite: SMAD 201. Corequisite: SMAD 201.*

**SMAD 210. News Reporting and Writing. 3.00.**

The study and practice of the fundamentals of news writing, including news gathering techniques and news style. Emphasis on coverage of meetings, events and breaking stories. Consideration of writing across platforms including print, broadcast and online. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Admission to the SMAD major or permission of the instructor*

**SMAD 220. Copy Editing. 3.00.**

The study and practice of editing stories and visuals for publication. Focus on style, factuality, writing problems, headlines and page design. Other editing roles considered. *Prerequisite: Journalism concentrators: SMAD 210 Creative Advertising concentrators: SMAD 210 or SMAD 252; or permission of instructor. Corequisite: Journalism concentrators: SMAD 210 Creative Advertising concentrators: SMAD 210 or SMAD 252; or permission of instructor.*

**SMAD 225. Photojournalism. 3.00.**

The study of visual information gathering for print media including photojournalism. Emphasis on photographic techniques and print media layout. Consideration of new visual technologies including the use of computers for electronic photo editing and design. Students must provide their own camera. *Prerequisite: Admission to the SMAD major and SMAD 201 or Permission of the Instructor*

**SMAD 231. Writing for New Media. 3.00.**

Study of the principles and practices of writing for multimedia applications. Emphasis on the nature of interactivity and the relationship between text and image, sound and video. Attention to the development of multimedia presentations designed to inform, persuade and entertain. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Admission to the SMAD major or permission of the instructor*

**SMAD 242. Introduction to Advertising and New Media. 3.00.**

Introduce fundamentals of advertising in the new media environment. Examine how organizations use new media to engage with consumers to achieve advertising objectives. Focus on hands-on practice in the basic skills and processes needed to prepare multi-platform narratives. Students develop a clear understanding of what makes advertising effective across traditional and new media and develop professional research skills. *Prerequisite: Admission to the Media Arts and Design major and Integrated Advertising and Corporate Communication concentration, or permission of instructor.*

**SMAD 243. Sport Communication Techniques: Broadcasting. 3.00. Crosslisted with KIN 243.**

Study and practice of broadcast and A/V techniques applied in a variety of sport settings. *Prerequisite: KIN 242*

**SMAD 244. Sport Communication Techniques: Writing and Reporting. 3.00. Crosslisted with KIN 244.**

Basic skills of sport writing and reporting are studied and applied. Students gain experience in a variety of sports and learn and apply skills in researching, interviewing, reporting, writing columns and features involving the world of sports. *Prerequisite: KIN 242*

**SMAD 250. Scriptwriting. 3.00.**

The study of the principles and practices of writing scripts for commercial, noncommercial and corporate media applications. Emphasis on preparing dramatic and information forms for broadcast or recording. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Admission to the SMAD major; for non-majors, admission to the cross disciplinary minor in Creative Writing; or permission of instructor.*

**SMAD 251. Screenplay Writing. 3.00.**

Introductory study of the principles and practices of screenwriting. Emphasis is placed on the basic narrative structures underlying cinematic story-telling and the development of a short film script. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Admission to the SMAD major; for non-majors, admission to the cross disciplinary minor in creative writing; or permission of the instructor*

**SMAD 252. Copywriting for Advertising. 3.00.**

Study the principles and practices of developing creative copy for advertising. Examine how to solve client problems by writing persuasive stories. Focus on writing scripts for TV and radio commercials, print ads, headlines, taglines, jingles, web copy, out of home ads, new media, and social media. Emphasis on editing, researching, and writing creative briefs and

strategic plans. *Prerequisite: Admission to the SMAD major and creative advertising concentration and SMAD 242. Corequisite: SMAD 242*

**SMAD 295. Practicum in Media Arts and Design. 1.00.**

Freshmen and sophomores participating in cocurricular media activities may receive one hour of credit for field work at The Breeze, WMRA-FM, the Madison Video Productions or other university-related media outlets. Students are limited to one practicum per semester. Application procedures will be available from the school prior to registration. *Prerequisite: Permission of the instructor.*

**SMAD 301. The Media Arts: Culture By Design. 3.00.**

Study of how mediated communication molds perception and influences cultural change. Emphasis on how language and imagery, sound and music are combined in current media to create meaning. Consideration of emerging media and their implications for cultural design. *Prerequisite: SMAD 201; SMAD 202, SMAD 203 or permission of the instructor. Corequisite: SMAD 202, SMAD 203, or permission of the instructor.*

**SMAD 301L. The Media Arts: Culture By Design. 3.00.**

Study of how mediated communication molds perception and influences cultural change. Emphasis on how language and imagery, sound and music are combined in current media to create meaning. Consideration of emerging media and their implications for cultural design. Focus on British media and culture.

**SMAD 302. Video Production. 3.00.**

Principles and practices of video production and editing. Focus on production planning, visual composition, lighting, recording sound and sequencing of shots. Emphasis on single camera videography and editing for broadcast, non broadcast, and multimedia applications. *Prerequisite: SMAD 202 and SMAD 202; SMAD 203 or permission of the instructor. Corequisite: SMAD 203 or permission of the instructor.*

**SMAD 303. Post Production. 3.00.**

Principles and practices of video editing. Focus on the techniques, aesthetics, and strategies of editing video. Emphasis on technical standards of ingest, storage, non-linear editing, multi-layer compositing, and transcoding required for effective program output and multi-format distribution. *Prerequisite: SMAD 302 or Permission of the Instructor*

**SMAD 304. Audio Production. 3.00.**

Study of digital sound production, and digital sound-for-picture production. Emphasis on advanced theories and applications. *Prerequisite: SMAD 302; SMAD 203 or permission of instructor. Corequisite: SMAD 303 or permission of instructor.*

**SMAD 305. Special Topics in Media Production. 3.00.**

The study of current topics and issues in media arts and design. Emphasis on contemporary themes of immediate concern. *Prerequisite: Admission to the SMAD major or permission of the instructor*

**SMAD 306. Studio Production. 3.00.**

The study of principles and practices of multi-camera studio production. Focus on visual composition, audio, lighting and communication in a studio environment. Emphasis on technical and aesthetic demands of multi-camera studio production. *Prerequisite: SMAD 302 or SMAD 309 or permission of the instructor*

**SMAD 307. Interactive Design Web I. 3.00.**

Study of the principles of creating effective communication for the World Wide Web. Emphasis on the techniques used to design and integrate diverse media elements. Focus on the creation and manipulation of text, graphics, audio and video for the web. Consideration of interface design and web delivery issues. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203 or permission of the instructor. Corequisite: SMAD 202.*

**SMAD 308. Interactive Design II. 3.00.**

Study of the principles and practices for creating effective interactive media. Emphasis on usercentered design of the interactive experience. Includes animation and scripting for online and fixed media. *Prerequisite: SMAD 307 or Permission of the Instructor.*

**SMAD 309. Video Journalism. 3.00.**

Study of principles and practices in electronic journalism including information gathering, news writing, camera operations and editing techniques. Emphasis on the use of sound and video to produce hard news, feature news and long-form perspective-based stories for broadcast and online. Examination of the Internet's impact and the differences between traditional and online media outlets in constructing stories with video and sound. *Prerequisite: SMAD 201 and SMAD 202; SMAD 203 and SMAD 210; or permission of the instructor. Corequisite: SMAD 203 and SMAD 210; or permission of the instructor.*

**SMAD 310. Advanced Reporting and Writing. 3.00.**

Study and practice of in-depth or specialized reporting roles and techniques, story genres, advanced writing methods and pursuing publication. Reading exemplary writers. Group and instructor critiques. *Prerequisite: SMAD 210 or permission of the instructor.*

**SMAD 311. Feature Writing. 3.00.**

The study and practice of conceiving, reporting and writing human-interest stories. Use of advanced storytelling methods and pursuing publication. Reading exemplary writers. Group and instructor critiques. *Prerequisite: SMAD 210; For nonmajors: admission to the cross disciplinary minor in creative writing and SMAD 210; or permission of instructor.*

**SMAD 317. User Interaction Design. 3.00.**

Study of web and mobile interaction design principles including goaldriven design, usability, interactive design strategy, wireframing, and web and mobile app prototype development. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203. Corequisite: SMAD 202*

**SMAD 330. New Media Law. 3.00.**

An indepth investigation of business and legal aspects of new media production, publication and distribution, Examination of legal issues affecting the new media industry including: intellectual property laws, torts contracts and licensing. Discussion of current policies and practices affecting new media development and review of pertinent legal reference materials. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L, and junior or senior standing or permission of instructor.*

**SMAD 332. Visual Communication Design. 3.00.**

An introduction to the theories and methods of design for visual communication. Students will learn various techniques needed to produce the design materials that go into print and electronic publications. *Prerequisite: SMAD 201 or permission of the instructor.*

**SMAD 334. Media and Justice. 3.00. *Crosslisted with JUST 334.***

This course will examine media constructions of justice. Students will be required to critically analyze the portrayal of justice issues in various media forms including television, internet, and film. Attention will be given to the accuracy of such portrayals and whether they have any broader social implications in regards to how we view complex justice issues. *Prerequisite: Admission to the SMAD major.*

**SMAD 340. Advanced Screenplay Writing. 3.00.**

Advanced study of the principles of screenplay writing for feature films and television movies. Emphasis is placed on the structure of narrative film. *Prerequisite: SMAD 251; For non-majors: Admission to the cross disciplinary minor in creative writing minor and SMAD 251; or permission of instructor.*

**SMAD 342. Elements of Creative Advertising. 3.00.**

Introduces fundamentals of advertising message design and content production for traditional and new media. Examines common questions associated with producing content (i.e.,

functions and basics of design for print, broadcast and online venues). Focuses on characteristics of effective messages across media and developing professional production skills to produce diverse creative pieces. Emphasizes ethical and legal issues. *Prerequisite: SMAD 201, SMAD 202, SMAD 242 and SMAD 252; SMAD 203 or permission of instructor. Corequisite: SMAD 203 or permission of instructor.*

**SMAD 357. Youth, Communication and Culture. 3.00. Crosslisted with SCOM 357.**

Grounded in the cultural communication perspective, the course examines the relationship among communication, youth and popular culture. Defining youth as children, tweens, teens and college-aged young people, this course focuses on communication issues such as how youth are represented in various forms of popular culture; how they are defined by corporate discourse; how young people make sense of popular culture artifacts; and how they become cultural communicators as well as consumers. *Prerequisite: Admission to the SMAD major.*

**SMAD 359. Digital Communications Consulting. 3.00. Crosslisted with SCOM 359, WRTC 359.**

This class will train students to become effective tutors of digital communication. The class will frame that expertise with the training of the best strategies for college tutors, via theory, research and practice. Tutors for the Learning Centers develop vital professional skills: pedagogical aptitude, professional interpersonal communication, and experience with cross disciplinary perspective on digital texts. *Prerequisite: Admission to the WRTC, SCOM, or SMAD major.*

**SMAD 360L. British Media and Society. 3.00. Crosslisted with HUM 251L, SCOM 360L, WRTC 360L.**

Study the history, nature, and impact of mass media in the United Kingdom. Emphasis on the impact modern media has on society, and society has on media. Consideration of similarities and differences in mass media in the United States and Great Britain. Consideration of the relationship between mass media and the arts. Focus on 20th century mass media in London, one of the world's preeminent and most influential centers.

**SMAD 370. Mass Communication Law. 3.00.**

Principles and case studies in communication law, constitutional guarantees, libel, privacy, contempt, copyright and governmental regulatory agencies. Emphasis on recent cases and their effects on mass communication. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203, and SMAD 301 or SMAD 301L, and junior or senior standing or permission of instructor.*

**SMAD 371. Narrative Media Studies. 3.00.**

Study of narrative theories that focus on the forms and effects of storytelling in cinema and television. Emphasis on how such theories explain the cultural impact and personal utility of narrative contents in everyday life. Consideration of "the hero's journey" in a variety of film genres and TV formats. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L, and junior or senior standing; For nonmajors: Junior or senior standing and admission to the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 372. Media History. 3.00.**

The study of the history of the media in relation to American politics and society. Emphasis on key periods in the development of journalism and the mass media, and the role of the journalist in society. *Prerequisite: Admission to the SMAD major and junior or senior standing; or permission of the instructor.*

**SMAD 373. Media Analysis and Criticism. 3.00.**

The study and practice of journalistic and scholarly criticism of the mass media. Emphasis on interpretive writing about television, film and popular music. Consideration of contemporary analytical methods for researching massmediated culture. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; For nonmajors: junior or senior standing and admission to the cross disciplinary minor in creative writing; or permission of instructor.*

**SMAD 380. Introduction to Film. 3.00. Crosslisted with ENG 380.**

An introduction to the study of film as an aesthetic practice, including formal and industrial aspects of film analysis, theoretical approaches to film, and writing and research methodologies of film and media studies. *Prerequisite: Admission to the SMAD major or permission of the instructor*

**SMAD 390. Directed Projects. 2.00.**

Supervised projects related to the study of any of the communication media. Credit given for original individual or group programs beyond the school's usual cocurricular activities. A suitable completed project or report is required before credit can be awarded. *Prerequisite: Admission to the SMAD major or permission of the instructor*

**SMAD 395. Advanced Practicum in Media Arts and Design. 1.00.**

Juniors and seniors participating in cocurricular media activities may receive one hour of credit for field work at The Breeze, Curio, WMRA-FM, the Madison Video Productions or other university-related media outlets. Students are limited to one practicum per semester. Application procedures will be available from the school prior to registration. *Prerequisite: Permission of the instructor.*

**SMAD 398. Critical Studies in Media Arts and Design. 3.00.**

Special studies of contemporary media and their contents. Emphasis on the analysis of emerging issues in content production, reception and media effects. Focus on the critical methods used to examine such issues. Consideration of how particular methods may be applied in international as well as American media contexts. *Prerequisite: SMAD 201, SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L, and junior or senior standing, and permission of instructor.*

**SMAD 400. Senior Assessment in Media Arts and Design. 0.00.**

Students participate in testing, interviews, project reviews and other assessment activities as approved by the School of Media Arts and Design. Grades will be assigned on a credit/no-credit basis. *Prerequisite: SMAD 301 or SMAD 301L and senior standing or permission of the school director.*

**SMAD 402. Motion Graphic Design and Production. 3.00.**

Study of the principles of motion design. Focuses on integrating media (video, greenscreen, photos, vector art, type) within compositing software to tell a story, convey a complex concept or artistically present an idea. Emphasis on graphic design and motion theory, typography for video, logo animation, and show package design. *Prerequisite: SMAD 303 or Permission of Instructor*

**SMAD 403. Documentary Production. 3.00.**

This course explores the key components of documentary filmmaking and production. The course will introduce students to a professional level of documentary filmmaking, and will focus on enhancing nonfiction storytelling skills. The course will explore funding, festival and outreach strategies. *Prerequisite: SMAD 302 or SMAD 309.*

**SMAD 404. Advanced Interactive Design. 3.00.**

Study of advanced techniques in interactive media for online and fixed media delivery. Emphasis on emerging technologies and professional development strategies. Includes the creation of an interactive portfolio. *Prerequisite: SMAD 308 and SMAD 317 or permission of instructor.*

**SMAD 405. Producing and Directing. 3.00.**

Study of the principles and practices of producing and directing programs for video and cinema. Emphasis on the producer's and director's contribution to creative development and production. Focus on the director's responsibilities, including directing talent, visualization, production, and project management. Additional focus on the producer's responsibilities, including creative development, production management, financial management, promotion, and distribution. *Prerequisite: SMAD 302 and Senior Standing or permission of instructor*

**SMAD 407. Business and Management of Digital Media. 3.00.**

Study of the principles and practices of managing digital media production. Emphasis on financial and personnel management, client relationships, and the structures and practices of digital media industries. Consideration of new trends in production and distribution. Attention to career preparation and development. *Prerequisite: SMAD fully admitted majors, senior standing, SMAD 302 or SMAD 307, or permission of the instructor*



**SMAD 408. Converged Media Lab. 3.00.**

Advanced study in converged media production. A senior production studio class focusing on creative solutions for complex communication problems in print, video, and web media. The client-based projects will require creative brainstorming, teamwork, project management, and analysis and criticism in addition to production and distribution. *Prerequisite: SMAD 307 and SMAD 317, and either SMAD 305 or SMAD 308 or SMAD 332. Requires senior standing or permission of instructor.*

**SMAD 409. Electronic News Producing and Editing. 3.00.**

Study of the processes and responsibilities of producing news for electronic distribution. Students will research, write and produce stories for distribution over-the-air, on cable and over the Internet. Emphasis on legal and ethical issues in news coverage. *Prerequisite: Fully admitted majors who have taken SMAD 309 or permission of the instructor.*

**SMAD 410. The Creative Producer. 3.00.**

Study of the principles and practices of producing for television. Emphasis on programming (entertainment news to late-night talk, sketch comedy, reality TV, drama, and sitcom), and the producing process (moving a project from idea to completion). Focus on budget management, and all phases of production management. Consideration of industry practices to help prepare students to enter the entertainment industry. *Prerequisite: Acceptance into the JMU in LA program.*

**SMAD 421. Feature Magazine Product. 3.00.**

A practical course in which students produce a feature magazine published regularly by the journalism area. Each student is assigned a specific staff position. Students learn to use the latest computer pagination technology in the design and production of the magazine. *Prerequisite: SMAD 309 and either SMAD 310 or SMAD 311, or permission of the instructor.*

**SMAD 422. Multimedia Journalism. 3.00.**

Advanced study and practice of multimedia journalism. Focus on storytelling with platforms including text, video, audio, photo and social media aggregation. This is a hands-on course producing multimedia packages involving idea generation, content production, website design and management. *Prerequisite: Journalism concentrators: SMAD 210 and SMAD 309 ; creative advertising concentrators: SMAD 225 and SMAD 342 ; or permission of the instructor.*

**SMAD 442. Functions of Corporate Communication. 3.00.**

Examines how corporate communication functions (internal communication; investor, government, and media relations; corporate responsibilities; and crisis communication) are integrated in organizational objectives. Emphasizes strategic planning, message design and production, implementation/evaluation of new media technologies, research and current trends. Reviews responsibilities, duties, and legal/ethical standards in corporate communication issues. *Prerequisite: SMAD 341 or SMAD 342*

**SMAD 443. Creative Advertising Campaigns. 3.00.**

Study how to develop a creative advertising campaign across a range of traditional and new media. Examine the creative process including conceptualizing, brainstorming, idea generation, copywriting, and design layout. Emphasis on using creativity as a foundation to develop and sell the big idea. Focus on the stages of creative inspiration, concepts of the creative process and roles/functions of creative professionals in advertising, culminating in a creative advertising campaign. *Prerequisite: SMAD 203 and SMAD 342, or permission of instructor.*

**SMAD 460. Film and Society. 3.00.**

The study of the cultural impact of the film industry as an institution of mass communication. Emphasis on the interrelationship among social, economic and technological factors influencing the creation and consumption of motion pictures. Consideration of particular films as indicators of cultural change. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; for non-majors: junior and senior standing and admission to the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 461. Film as Art. 3.00.**

Advanced study of how movies tell stories in visual terms. Emphasis on the historical evolution and design of the moving image. Consideration of the latest imaging technologies affecting film narrative. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; for non-majors: junior and senior standing and admission to the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 462. Documentary in Film & Television. 3.00.**

The study of content, style, technique and effect of representative samples of the documentary form. Consideration given to informational and persuasive elements. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; for non-majors: junior and senior standing and admission to the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 463. Film Adaptations. 3.00.**

The study of the process of adapting literature into feature films. Consideration is given to the original literary work, as well as to the changes undergone in its adaptation to film. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; for non-majors: junior and senior standing and admission to the cross disciplinary minor in creative writing or the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 463L. Film Adaptations. 3.00.**

The study of the process of adapting British Literature into feature films. Consideration is given to the original literary work, as well as to the changes undergone in its adaptation to film. *Prerequisite: Studies Abroad-London*

**SMAD 464. Contemporary American Film. 3.00.**

Study and analysis of modern American films of the past twenty years. Focus on storytelling technique, cinematic elements and thematic content. Films will be examined against the backdrop of their specific historical, political, and sociocultural context. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L or ENG 380/SMAD 380, and junior or senior standing; for non-majors: junior and senior standing and admission to the cross disciplinary minor in film studies; or permission of instructor.*

**SMAD 465. The Entertainment Industry. 3.00.**

The American entertainment industry is a \$900 billion a year business. This course examines the most prominent modes of entertainment — Television and feature film. Emphasis is on the struggle between art and commerce in programming. Industry professionals will address the critical aspects of the business, from Idea through Exhibition. The method of instruction will be lecture, discussion and guest speakers. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L, plus junior or senior standing, or permission of instructor.*

**SMAD 470. New Media and Society. 3.00.**

Study of the key issues arising from the role of information and information technology in organizations and society. Emphasis on the spheres of social life in which new media technologies play a role: politics, community, economics, culture, personal and global contexts. Focus on a wide range of perspectives and on both theoretical and empirical research to examine new media's role in social capital and community. *Prerequisite: SMAD majors: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L and junior or senior standing; WRTC major: requires junior or senior standing or permission of instructor.*

**SMAD 471. Media Ethics. 3.00.**

Study and discussion of ethical principles and professional codes as applied to mass media production, covering journalism, advertising, public relations and entertainment, in all media forms. Emphasis on case studies. *Prerequisite: SMAD 301 or SMAD 301L and SMAD 201, SMAD 202 and SMAD 203 and Junior or Senior standing or permission of instructor*

**SMAD 472. Media and Politics. 3.00. *Crosslisted with POSC 472, POSC 472L, POSC 472W, SCOM 472, SCOM 472L, SMAD 472L.***

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary.

**SMAD 472L. Media and Politics. 3.00. *Crosslisted with POSC 472, POSC 472L, POSC 472W, SCOM 472, SCOM 472L, SMAD 472.***

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary. *Prerequisite: Studies Abroad-London*

**SMAD 490. Special Studies. 3.00.**

An independent study for students to pursue individual research under the guidance of a faculty adviser. *Prerequisite: Senior SMAD majors in good standing and permission of the school director.*

**SMAD 495. Internship in Media Arts and Design. 1.00 - 2.00.**

An off-campus program prepared and monitored on an individual student basis. Internships are designed to provide practical experience in converged and interactive media, corporate communication, digital video and cinema, and journalism. *Prerequisite: Permission of the school director and the media facility involved. Student must meet criteria and application procedures established in each concentration. May be repeated up to four credits.*

**SMAD 497. Advanced Projects in Media Arts and Design. 3.00.**

This advanced course will enable students to collaborate to create diverse media projects. Projects may be designed to focus on one or many concentrations and are intended to provide a culminating media creation experience. *Prerequisite: Junior or Senior SMAD Fully Admitted Majors or Permission of the Instructor.*

**SMAD 498. Senior Seminar in Media Arts and Design. 3.00.**

The study and research in the history and philosophy of the function of mass communication in society. Consideration of topics relating to problems of communication systems, technological freedoms, and press freedom and responsibilities. *Prerequisite: SMAD 201 and SMAD 202 and SMAD 203, plus SMAD 301 or SMAD 301L SMAD 301L, plus junior or senior standing, or permission of instructor.*

**SMAD 499A. Honors. 1.00.**

**SMAD 499B. Honors. 3.00.**

**SMAD 499C. Honors. 2.00.**

## Middle and Secondary Education

**MSSE 101. Orientation to the Profession. 1.00.**

Provides information about preparation programs and careers for teachers of the middle and high school levels. Student participate in reflective activities for making personal and professional decisions about teaching and also engage in a service learning project. *Prerequisite: Students are responsible for transportation to field placements at local schools.*

**MSSE 201. Introduction to Social Studies Education Seminar. 3.00.**

The course will introduce students to social studies education through exploration of questions including: What is social studies education? Why teach social studies? What is the role of social studies content in the world of a teacher? What makes a social studies educator? Students will learn through class discussions, field based classroom observations and guest speakers. Students should come to class prepared to challenge their preconceived notions surrounding social studies education.

**MSSE 240. Foundations of General Education 6-12. 3.00.**

This course is designed to provide an overview of the structure and curriculum of the secondary (6-12) general education classroom. Students will learn assessment requirements of general secondary classrooms and the parameters under which teachers in general secondary classrooms must function.

**MSSE 303. Classroom Management for Adolescents. 3.00.**

This course is designed to provide students with an understanding of and skill to apply classroom and behavior management techniques and interventions, including techniques that promote emotional well-being and teach and maintain behavioral conduct and skills consistent with norms, standards and rules of the educational environment. Diverse approaches for classroom and behavior management based upon behavioral, cognitive, affective, social and ecological theory and practice will be learned.

**MSSE 370. General Instructional Methods for Grades 6-12. 3.00.**

Provides a solid foundation for planning curriculum and instruction for middle and high school students. Topics include engaging adolescent learners, lesson design, instructional strategies and assessment models. *Prerequisite: Admission to teacher education and PSYC 160 for secondary education students; admission to teacher education, EDUC 310, MIED 311 and LED 312 for middle education students. Corequisite: For secondary education: MSSE 371 and EDUC 310. For middle education: MSSE 371.*

**MSSE 371. Clinical Experience in Adolescent Education. 1.00.**

MSSE 371 includes an opportunity to work with adolescent learners through a 15-hour service-learning component. In addition, we will explore the needs and challenges of adolescent learners, visit a local middle or high school, explore the art of teaching, and have multiple peer teaching opportunities. Throughout the semester, you will be prompted to reflect on your observations and teaching experiences in order to better understand the complexities inherent in teaching as well as your own personal beliefs, strengths and areas for growth. *Prerequisite: PSYC 160 for secondary education students; EDUC 310, MIED 311 and LED 312 for middle education students. Corequisite: For secondary education: MSSE 370 and EDUC 310. For middle education: MSSE 370.*

**MSSE 397. Science Pedagogy. 2.00.**

**MSSE 425. Assessment in Middle and Secondary Education. 3.00.**

Designed to prepare prospective teachers to create and evaluate both formal and informal assessment strategies. Candidates will construct instruments ranging from formative learning checks to summative tests and projects/rubrics. Candidates will also learn to analyze assessment results in order to gauge student progress and adjust instruction appropriately.

**MSSE 450. Internship Seminar. 2.00.**

The internship seminar is designed to promote reflective decision-making by students engaged in their student teaching experience. The seminar setting offers students an opportunity to discuss their internship experiences in detail and reflect on the implications of that experience for their future practice. Teacher candidates will have the opportunity to demonstrate and articulate their growth as professionals as well as the effects of their teaching on student learning. *Corequisite: MSSE 475.*

**MSSE 460. Differentiation for Adolescents. 3.00.**

This course is designed to assist teacher candidates in meeting the diverse needs of adolescent learners. Participants will gain an increased understanding of how adolescents differ in their approaches to learning and how a responsive classroom can address these needs. Specific topics addressed include developing a positive classroom environment, using ongoing assessment to identify student needs, utilizing a variety of grouping strategies, designing instruction and assessment at an appropriate level of challenge, and engaging students in equally respectful tasks.

**MSSE 470E. English/Language Arts Teaching Methods, Grades 6-8. 3.00.**

Specific instructional and assessment techniques and methods targeted for the middle school learner for middle and secondary teachers in their respective discipline areas. Competencies to be developed will include discipline-specific planning strategies, instructional models, assessment of student learning, etc. *Prerequisite: MSSE 240 or MSSE 370.*

Corequisite: MSSE 471E.

**MSSE 470H. Social Studies Teaching Methods, Grades 6-8. 3.00.**

Specific instructional and assessment techniques and methods targeted for the middle school learner for middle and secondary teachers in their respective discipline areas. Competencies to be developed will include discipline-specific planning strategies, instructional models, assessment of student learning, etc. *Prerequisite: MSSE 240 or MSSE 370. Corequisite: MSSE 471H.*

**MSSE 470M. Mathematics Teaching Methods, Grades 6-8. 3.00.**

Specific instructional and assessment techniques and methods targeted for the middle school learner for middle and secondary teachers in their respective discipline areas. Competencies to be developed will include discipline-specific planning strategies, instructional models, assessment of student learning, etc. *Prerequisite: MSSE 240 or MSSE 370. Corequisite: MSSE 471M.*

**MSSE 470S. Natural Sciences Teaching Methods, Grades 6-8. 3.00.**

Specific instructional and assessment techniques and methods targeted for the middle school learner for middle and secondary teachers in their respective discipline areas. Competencies to be developed will include discipline-specific planning strategies, instructional models, assessment of student learning, etc. *Prerequisite: MSSE 240 or MSSE 370. Corequisite: MSSE 471S.*

**MSSE 471E. Field Experience in Middle Grades Education English. 1.00-3.00.**

Provides practical classroom experience for teacher education candidates in the middle and secondary education programs under the supervision of an in-service teacher and a clinical professor. Students engage in classroom activities that provide an opportunity for them to practice the strategies and concepts learned in the methods course. Students are responsible for transportation to field placements at local schools. *Corequisite: MSSE 470E.*

**MSSE 471H. Field Experience in Middle Grades Education Social Studies. 1.00-3.00.**

Provides practical classroom experience for teacher education candidates in the middle and secondary education programs under the supervision of an in-service teacher and a clinical professor. Students engage in classroom activities that provide an opportunity for them to practice the strategies and concepts learned in the methods course. Students are responsible for transportation to field placements at local schools. *Corequisite: MSSE 470H.*

**MSSE 471M. Field Experience in Middle Grades Education Mathematics. 1.00-3.00.**

Provides practical classroom experience for teacher education candidates in the middle and secondary education programs under the supervision of an in-service teacher and a clinical professor. Students engage in classroom activities that provide an opportunity for them to practice the strategies and concepts learned in the methods course. Students are responsible for transportation to field placements at local schools. *Corequisite: MSSE 470M.*

**MSSE 471S. Field Experience in Middle Grades Education Science. 1.00-3.00.**

Provides practical classroom experience for teacher education candidates in the middle and secondary education programs under the supervision of an in-service teacher and a clinical professor. Students engage in classroom activities that provide an opportunity for them to practice the strategies and concepts learned in the methods course. Students are responsible for transportation to field placements at local schools. *Corequisite: MSSE 470S.*

**MSSE 475. Internship in Middle and Secondary Education. 8.00.**

During this internship, JMU teacher candidates will experience the full range of conditions and tasks expected of a teacher for students in grades 6-12 (or 6-8). Candidates will be expected to develop and demonstrate competencies in teaching with the supervision and support of experienced teachers. Furthermore, they will demonstrate mastery of the university's eleven conceptual framework competencies. *Corequisite: MSSE 450.*

**MSSE 480E. English/Language Arts Content Methods, Grades 9-12. 3.00.**

Research findings regarding the multiple dimensions of teaching in English/language arts will be used to identify the most effective writing, creative arts and cognitive teaching methods for teaching students 9th-12<sup>th</sup> grade. The first half of the course will focus on the writing process (i.e., narrative and persuasive) and cognitive models of instruction and the second half of the course will focus on literature, research and writing (multi-genre project) as well as supporting the three-day English/language arts unit planned in methods and taught in MSSE 481E. *Corequisite: MSSE 481E.*

**MSSE 480H. Social Studies Content Methods, Grades 9-12. 3.00.**

The aim of this course is to build, expand and draw from the social studies methods explored in MSSE 470H. This course gives students the opportunity to continue to consider, analyze and critically examine the details of their teaching career and the purpose of social studies education. Examples of some of the questions examined are: What is "good" teaching? What is the purpose of social studies education? What should students learn? What knowledge is most valuable? How will I meet the needs of diverse students? What are diverse methods of delivering instruction? How does one's belief about the purpose of education shape their pedagogy? *Prerequisite: MSSE 470H. Corequisite: MSSE 481H.*

**MSSE 480M. Mathematics Content Methods, Grades 9-12. 3.00.**

This course is designed to address mathematics-specific methods of instruction for prospective high school mathematics teachers (grades 9-12). Students will develop techniques for planning and assessing student-centered mathematics instruction. Through this course, students will become mathematics teachers who can (1) Support their practice and sustain their own learning over time; (2) reflect upon their practice, evaluate it and make changes when necessary; (3) collaborate with their colleagues to improve instruction; and (4) stay informed of current innovations and trends in the field. *Prerequisite: MSSE 470M. Corequisite: MSSE 481M.*

**MSSE 480S. Science Content Methods, Grades 9-12. 2.00.**

This course is designed to help the student evaluate and consume research findings about science teaching that identify the most effective instructional strategies for teaching science to students in grades 6-12. Emphasis will be on developing plans for employing the strategies and making appropriate instructional decisions based on instructional goals, the learner and available resources. *Corequisite: MSSE 481S*

**MSSE 481E. English Field Placement, Grades 9-12 (Lab). 1.00.**

Consistent with the JMU conceptual framework, this practicum is designed to provide the necessary experience in order for students to be successful in their student teaching placement and support major components of their course work. *Corequisite: MSSE 480E.*

**MSSE 481H. Social Studies Field Placement, Grades 9-12 (Lab). 1.00.**

Consistent with the JMU conceptual framework, this practicum is designed to provide the necessary experience in order for students to be successful in their student teaching placement and support major components of their course work. *Corequisite: MSSE 480H.*

**MSSE 481M. Mathematics Field Placement, Grades 9-12 (Lab). 1.00.**

Consistent with the JMU conceptual framework, this practicum is designed to provide the necessary experience in order for students to be successful their student teaching placement and support major components of your their work. *Corequisite: MSSE 480M.*

**MSSE 481S. Science Field Placement, Grades 9-12 (Lab). 1.00.**

Consistent with the JMU conceptual framework, this practicum is designed to provide the necessary experience in order for students to be successful in their student teaching placement and support major components of their course work. *Corequisite: MSSE 480S.*

**MSSE 489E. Special Topics in English Pedagogical Content Knowledge (NEW COURSE). 3.00.**

This course will examine connections between theory and practice, and the relationship between knowing English language arts content and considering to whom that content is

delivered. Pedagogy, the art and science of teaching, is enacted in varied ways and is specific to English. In this course, learners will collaborate in order to learn research-based practices that support student learning and the development of dispositional frameworks.

**MSSE 489H. Special Topics in Social Studies Pedagogical Content Knowledge (NEW COURSE). 3.00.**

This course will examine connections between theory and practice, and the relationship between knowing social studies content and considering to whom that content is delivered. Pedagogy, the art and science of teaching, is enacted in varied ways and is specific to social studies. In this course, learners will collaborate in order to explore research-based practices that support student learning and the development of dispositional frameworks.

**MSSE 489M. Special Topics in Math Pedagogical Content Knowledge. 3.00.**

This course will examine connections between theory and practice, and the tensions that are created when pre-service teachers of mathematics examine the relationship between knowing content and considering to whom that content is delivered. Pedagogy, the art and science of teaching, is enacted in varied ways and is specific to math. In this course, learners will collaborate in order to learn research-based practices that support student learning and the development of dispositional frameworks.

**MSSE 490. Special Studies in Education. 1.00 - 3.00.**

A supervised, individualized study of one or more issues and/or problems in middle and/or secondary education. Prerequisite: The faculty adviser and the program coordinator must approve the plan for the study.

**MSSE 495. Topics in Science Pedagogical Content Knowledge. 2.00.**

## Middle Education

**MIED 311. Field Experience in Middle Education. 1.00.**

Students devote 60 clock hours to classroom activities that emphasize diversity and literacy in middle schools under university and public school supervision. Satisfactory performance in this course is required for continuing in teacher education. *Corequisite: EDUC 310 for middle education students.*

**MIED 489. Effective Practices in Middle Education. 3.00.**

This course is designed to provide students with research, theories and practices regarding teacher leadership and collaboration in school contexts and methods for addressing school-based improvement efforts and processes. Specific attention is given to collaboration and leadership toward community involvement and communication in middle schools.

**MSCI 100. Leadership Laboratory. 2.00.**

A laboratory in the development of leadership, stressing the practical application of leadership principles, techniques, styles and responsibilities. Participation as a member of a team or as a leader of the team given responsibility for accomplishment of given tasks. *Corequisite: MSCI 101 or MSCI 102.*

## Military Science

**MSCI 101. Introduction to Leadership and the Army. 2.00.**

Introduction to various leadership styles and their effect on organizations; an introduction to the organization of the U.S. Army, its roles and missions, customs and traditions; effective writing and oral presentation techniques; orienteering and the use of lensatic compass; principles of physical conditioning. *Corequisite: MSCI 100.*

**MSCI 102. Leadership Development Fundamentals. 2.00.**

Introduction to the basic principles of leadership; developing a personal leadership style; effective writing and speaking skills; introduction to leadership in small tactical units; fundamentals of first aid, land navigation and marksmanship; principles of personal conditioning. *Corequisite: MSCI 100.*

**MSCI 150. American Military History. 3.00.**

An extensive look into the major engagements of the United States military from the Colonial period through the present. Particular attention will be paid to developing an understanding of the factors that have helped shape the unique way America wages war. This course considers the role and use of armed forces in relation to the social, cultural, political, economic, and technological development of the United States. It will not only address such themes as wartime strategy, operational tactics, and combat technology, but also the impact of warfare on society and on the remembrances of ordinary men and women in uniform. Significant attention will be given to the evolution of civil-military relations, the advent of professionalism in the military, the non-military uses of the military, and the military's role as a tool for global power.

**MSCI 200. Intermediate Leadership Laboratory. 2.00.**

An intermediate leadership laboratory in the sequential process of leadership development, this course stresses the practical application of leadership principles and responsibilities and the exploratory development of personal leadership techniques and styles. The intermediate leadership laboratory focuses on leadership planning and execution and performance and evaluation as both a team member and a leader of a 10 to 30 person team. Cadets are given responsibility for accomplishing collective tasks and for the evaluation, counseling, leading and mentoring of 10 to 12 subordinates and team members. *Prerequisite: Contracting into the ROTC Basic Course (MSCI 101, MSCI 102 and MSCI 100). Department head approval required. To enroll in this lab section, students must obtain a sports physical or similar medical clearance. Contact the Military Science office for additional information.*

**MSCI 201. Leadership Styles - Theory and Application. 2.00.**

A study of individual leadership styles and techniques, using historical case studies, to introduce the branches and specialties of the Army. The focus of this course is communication and goal setting in small organizations, effective writing and public speaking, and performance and evaluation as the leader of a five-member team required to accomplish tasks in a practical setting. Students also serve a member of a 10-person team responsible for accomplishing practical military and team-building tasks in a field setting. *Corequisite: MSCI 100, MSCI 200 for contracted Cadets in JMU ROTC.*

**MSCI 202. Developing Leader Skills. 2.00.**

This course focuses on analyzing missions to determine specified and implied tasks; organizing and conducting a briefing, preparing a concise written directive (operations order), and detailing how a team will accomplish its tasks. Performance and evaluation of Cadets as the leader of a five person team during a 44-hour, off-campus leadership practicum and evaluation of physical fitness preparedness for attendance at Cadet Profession Development Training are also components of this course. *Corequisite: MSCI 100, MSCI 200 for contracted Cadets in JMU ROTC.*

**MSCI 280. Internship in Military Leadership. 6.00.**

MSCI students may elect to participate in a 4-week leadership internship. The internship develops leadership skills through exposure to interactive personal and group exercises. Students will learn how and when to lead others and the importance of teamwork in accomplishing a goal.

**MSCI 300. Advanced Leadership Laboratory. 3.00.**

An advanced laboratory in the development of leadership, stressing the practical application of leadership principles, techniques, styles and responsibilities. For juniors, the advanced leadership laboratory focuses on preparation, execution, recovery and reflection. For seniors, the advanced leadership laboratory focuses on planning, resourcing, supervision and evaluation. Performance and evaluation as a leader of a 10 to 30 person team given responsibility for accomplishment of given tasks. Responsible for the evaluation, counseling and mentoring of 10 to 30 subordinates and team members. *Prerequisite: MSCI 100, MSCI 101, MSCI 102, MSCI 201, and MSCI 202. Department head approval required.*

**MSCI 310. Leading Small Organizations. 3.00.**

Ethical dilemmas in leadership – when organizational goals conflict with member welfare; the role of policy and standard procedures in organizations; continued practice in effective writing and oral presentations; performance as a leader of a 10 person team in practical exercises; evaluation as an instructor of a period of instruction for 30 subordinates; evaluation as a leader of a 10 to 30 person team in a 44 hour, off-campus leadership practicum. *Prerequisite: MSCI 101, MSCI 102, MSCI 201 and MSCI 202 or placement credit as determined by the professor of military science. Corequisite: MSCI 300.*

**MSCI 320. Developing Advanced Leader Skills. 3.00.**

Planning for the unexpected in organizations under stress; developing alternate courses of action which are viable with the given constraints; how to delegate tasks and supervise subordinate leaders; avoiding micro-management – the when and how of providing guidance and direction; time management – the "backward planning process"; evaluation of a 10 to 30 person team within tactical and nontactical settings; analysis of assigned tasks, preparation of a written directive to accomplish these tasks and oral presentation to others in a concise briefing. *Corequisite: MSCI 300.*

**MSCI 355. American Women At War. 3.00. Crosslisted with WGSS 355.**

This course invites students to engage a series of issues about the role of women in the US military. This course will examine the contributions & experiences of women who served during the American Revolution, the U.S. Civil War, WW I & II, Korea, Vietnam and the Persian Gulf War(s). Also included in this course is an examination of how women in military service both past and present are an instrument for societal change in America specifically in promoting the cause of women's rights.

**MSCI 360. Gender & Leadership. 3.00.**

Explore gender in leadership by focusing on social scientific research in sociology, psychology, political science, economics, management, organizational behavior, women's studies and leadership that illuminates the difficulties women experience in attaining and being seen as effective in top leadership positions.

**MSCI 390. The Combat Experience. 3.00.**

The course will explore direct participation in military combat. It relies primarily on oral history gained from filmed and in-person interviews conducted by the instructor with combat veterans. Participants range from WWII to the current Middle East conflict.

**MSCI 400. Advanced Leadership Laboratory II. 3.00.**

An advanced laboratory in the development of leadership, stressing the practical application of leadership principles, techniques, styles and responsibilities. For seniors, the advanced leadership laboratory focuses on planning, resourcing, supervision and evaluation. Performance and evaluation as a leader of a 10 to 30 person team given responsibility for accomplishment of given tasks. Responsible for the evaluation, counseling and mentoring of 10 to 30 subordinates and team members.

**MSCI 410. Seminar Command Management. 3.00.**

Studies in advanced leadership and management; how to assess organizational cohesion and develop strategies to improve it; examine and utilize components of the army's training cycle; methods of instruction, planning and conducting of classes to be taught at leadership lab; conduct of oral After-Action Reviews and preparation of written After-Action Reports; the counseling process for improving individual and group performance of subordinates. *Corequisite: MSCI 300.*

**MSCI 420. Seminar on Officership Transition. 3.00.**

Introduction to Army management systems – personnel and logistics; the military's legal system and its application at the company level; the officer-NCO relationship; The Officer Efficiency Report and its support form; establishment of project time lines with milestones, goals and In-Progress Reviews; book review on a required leadership book from chief of staff Army required reading list. *Corequisite: MSCI 300.*

**MSCI 480. Internship in Advanced Military Leadership. 6.00.**

Upper-level MSCI students are required to participate in a 5-week leadership internship. The internship provides practical application of leadership principles, techniques, styles and responsibilities. Each student receives a performance evaluation as a leader of a 10-30 person group for every accomplished task.

**MSCI 490. Special Studies in Military Science. 1.00 - 3.00.**

Designed to give students an opportunity to do upper-division independent study in selected areas under the supervision of a faculty member in the Military Science department. *Prerequisite: Department consent required.*

**Music****MUS 100. Keyboard Skills. 1.00.**

A beginning level keyboard skills class for music majors. Includes basic techniques, sight reading, elementary repertoire and functional theory-related keyboard skills. *Prerequisite: Music Majors*

**MUS 101. Keyboard Skills II. 1.00.**

An elementary, but not beginning, level keyboard skills class for music majors. Includes basic techniques, sight reading, elementary repertoire and functional theory-related keyboard skills. *Prerequisite: Music majors only. MUS 100 or placement by audition/interview.*

**MUS 120. Diction for Singers. 1.00.**

The study of English and Italian pronunciation using the phonetic alphabet with emphasis on the performance of song literature in each language. Open to music majors and minors or by permission of instructor. *Prerequisite: Music Majors*

**MUS 121. Diction for Singers II. 1.00.**

The study of French and German pronunciation using the phonetic alphabet with emphasis on the performance of song literature in each language. *Prerequisite: Music Majors or Minors only.*

**MUS 131. Fundamentals of Music. 3.00.**

Covers basic information in music theory, basic ear-training and sight-singing skills, and basic keyboard skills designed for the non-music major.

**MUS 140. Introduction to Music Theory and Aural Skills. 4.00.**

Designed for non-music majors, music minors, musical theater majors, and students wishing to take songwriting, this course introduces students to the fundamental materials of music, both in written and aural form. Topics covered include: notation, rhythm and meter, key signatures, scales, intervals, triads, seventh chords, lead-sheet symbols, cadence, basic harmonic progressions, and form in popular music. This course may not be taken as a substitute for MUS 141/142 or MUS 143/144.

**MUS 141. Music Theory I. 3.00.**

Study of chord construction, diatonic harmony, species counterpoint, harmonic analysis and part writing.

**MUS 142. Music Theory II. 3.00.**

Continuation of MUS 141. Continued study of diatonic harmony, introduction to chromatic harmony and modulation through chorale-style part writing, composition exercises and musical analysis. *Prerequisite: MUS 141*

**MUS 143. Aural Skills I. 1.00.**

Study of ear training and sight singing involving diatonic materials. Includes melodic, harmonic and rhythmic dictation, and singing with solmization of melodic exercises.

**MUS 144. Aural Skills II. 1.00.**

Continuation of MUS 143. Study of ear training and sight singing involving diatonic materials. Includes melodic, harmonic and rhythmic dictation, and singing with solmization of melodic exercises. *Prerequisite: MUS 143*

**MUS 146. Jazz Theory and Ear Training. 2.00.**

This course introduces students to the basic elements of jazz melodic, rhythmic, and harmonic structure and style. Written analytical techniques and aural skills development will be emphasized. *Prerequisite: MUS 141, MUS 143 or permission from the instructor.*

**MUS 150. Introduction to Technological Applications in Music. 1.00.**

This course is designed to provide students with an overview of multiple applications of technology in music teaching. Topics to be covered include, but are not limited to: notation software, instructional software (including creative, practice, and performance), MIDI, productivity applications, and digital audio/recording.

**MUS 195. Recital Attendance. 0.00.**

Required of all music majors for the first six semesters of their enrollment as a major. Successful completion of the course requires attendance at a specified number of approved recitals/concerts each semester. For complete course guidelines, please refer to the Undergraduate Music Student Handbook.

**MUS 200. Music in General Culture [C2VPA]. 3.00.**

Designed to increase the student's perceptual ability in listening to music and to encourage an interest in both familiar and unfamiliar music. Primary study will be on music from the classic, Western heritage. Folk, jazz, popular and non-Western music may also be considered. May be used for general education credit. May not be used for major credit.

**MUS 200H. Music in General Culture - Honors [C2VPA]. 3.00.**

Designed to increase the student's perceptual ability in listening to music and to encourage an interest in both familiar and unfamiliar music. Primary study will be on music from the classic, Western heritage. Folk, jazz, popular and non-Western music may also be considered. May be used for general education credit. May not be used for major credit.

*Prerequisite: Honors Students*

**MUS 200M. Music in General Culture - Montreal [C2VPA]. 3.00.**

Designed to increase the student's perceptual ability in listening to music and to encourage an interest in both familiar and unfamiliar music. Primary study will be on music from the classic, Western heritage. Folk, jazz, popular and non-Western music may also be considered. May be used for general education credit. May not be used for major credit.

**MUS 202. Keyboard Skills III. 1.00.**

An intermediate level course in functional keyboard skills for music majors. Includes sight reading, transposition, harmonization, improvisation, playing by ear and accompanying techniques. Music majors only. *Prerequisite: MUS 101 or placement by audition/interview.*

**MUS 203. Music in America [C2VPA]. 3.00.**

Knowledge and skills to increase the student's perceptual ability in music listening with a survey of American music; examining relationships between popular and classical music styles. May be used for general education credit. May not be used for major credit.

**MUS 204. History of Rock. 3.00.**

History of rock is a music appreciation course designed to develop an understanding of both musical and cultural roots of rock music and the ability to hear a direct relationship between those roots and current popular music. A major component of the course is a survey of the history of 20th century American popular music.

**MUS 206. Introduction to Global Music [C2VPA]. 3.00.**

A survey of various world music traditions, including those of Asia, the Pacific, Europe, Africa and the Americas. The course will focus on aesthetics, musical forms and styles, and the relationship between music and other arts. Emphasis will be placed on historical, religious, and cultural events and their influence on the creation and development of music. May be used for general education credit.

**MUS 206H. Introduction to Global Music - Honors [C2VPA]. 3.00.**

A survey of various world music traditions, including those of Asia, the Pacific, Europe, Africa and the Americas. The course will focus on aesthetics, musical forms and styles, and the relationship between music and other arts. Emphasis will be placed on historical, religious, and cultural events and their influence on the creation and development of music. May be used for general education credit. *Prerequisite: Honors Students*

**MUS 220. Assessment Tests – School of Music. 0.00.**

Required, non-credit School of Music Assessment Test course which is to be taken before the Bachelor of Music degree is received, normally in the final spring semester of senior year. *Prerequisite: Music majors with Senior standing*

**MUS 240. Jazz Improvisation Laboratory I. 2.00.**

Presents the fundamentals of improvisation in both jazz and popular musical styles. The class emphasis will be on creative work although some theory and chord nomenclature will be taught. Both vocal and instrumental musicians will be permitted to enroll, including both the general student and the music major *Prerequisite: Music major or jazz minor or permission of the instructor.*

**MUS 241. Music Theory III. 3.00.**

Continuation of MUS 142. Continued study of diatonic and chromatic harmony through musical analysis, part writing and composition exercises. *Prerequisite: Prerequisite: MUS 142*

**MUS 242. Theory IV. 3.00.**

Continuation of MUS 241. Continued study of chromatic harmony through analysis and composition exercises. Introduction to post-tonal theory through analysis and composition exercises. *Prerequisite: MUS 241*

**MUS 243. Aural Skills III. 1.00.**

Continuation of MUS 144. Continued study of sight singing and ear training with diatonic and chromatic materials through exercises in melodic, harmonic and rhythmic dictation, and singing of melodic exercises with solmization. *Prerequisite: MUS 144*

**MUS 244. Aural Skills IV. 1.00.**

Continuation of MUS 243. Continued study of sight singing and ear training with diatonic and chromatic materials through melodic, harmonic and rhythmic dictation exercises and singing of melodic exercises with solmization. Introduction to modal and 20th-century materials. *Prerequisite: MUS 243*

**MUS 303. Keyboard Skills IV. 1.00.**

A moderately advanced course in functional keyboard skills for music majors. Includes sight reading, transposition, harmonization, improvisation, playing by ear and accompanying techniques. Designed to prepare music major students for required Keyboard Proficiency Examination. Music majors only. *Prerequisite: MUS 202 or placement by audition/interview.*

**MUS 303A. Keyboard Skills IV. 1.00.**

A moderately advanced course in functional keyboard skills for music majors. Includes sight reading, transposition, harmonization, improvisation, playing by ear and accompanying techniques. Designed to prepare music major students for required Keyboard Proficiency Examination. *Prerequisite: Music majors only. MUS 202 or placement by audition/interview.*

**MUS 304. Advanced Keyboard Skills. 1.00.**

Designed for music majors who are required to minor in piano and/or organ. The emphasis is on sight reading and other keyboard skills beyond those covered in the class piano MUS 303 course. This is a group class which can be repeated. *Prerequisite: MUS 303.*

**MUS 305. Jazz Keyboard Skills. 1.00.**

This course introduces and develops the keyboard skills necessary to construct piano accompaniments in the jazz idiom using a progression of chord symbols or a lead sheet. Successful completion of this course is required in order to enroll in upper level courses in the Jazz Studies major. *Prerequisite: MUS 101 or instructor permission*

**MUS 317. Basic Conducting. 2.00.**

Designed to acquaint the student with the fundamental elements of conducting technique, such as beat patterns, cueing, expression, transposition and score reading, with an

emphasis on applying these techniques in practical conducting experiences involving vocal and instrumental forces. *Prerequisite: MUS 142 and MUS 144 or Junior standing.*

**MUS 318. Intermediate Choral Conducting. 2.00.**

Consists of the further application of basic conducting skills learned in MUS 317 to the choral situation with emphasis on baton techniques, score reading, and preparation and introduction to choral literature. *Prerequisite: MUS 317.*

**MUS 319. Intermediate Instrumental Conducting. 2.00.**

A continuation of basic conducting to develop skills in baton technique with emphasis on advanced literature for public school use. Included are score sight-reading skills and literature selection. *Prerequisite: MUS 317.*

**MUS 341. Advanced Analysis. 2.00.**

An exploration of further elements of chromatic harmony and tonal relationships found in late- and post-Romantic music and in other styles, as appropriate, primarily through analysis of relevant literature, composition exercises, reading and discussion. *Prerequisite: MUS 241.*

**MUS 343. Basic Movement and Acting Skills for the Opera Stage. 2.00.**

A studio environment dedicated to the study of gesture, basic dance, movement, and acting skills for classical singers. Emphasis will be given to score interpretation, movement phrasing, and physical expression of musical ideas. Final assessment will be based on duet or small scene performance. May be repeated for credit with the approval of the instructor.

**MUS 345. Small Ensemble Jazz Arranging. 3.00.**

This course introduces students to the techniques of arranging for two-horn, three-horn, and four-horn jazz ensembles. Students will study the classic repertoire of small jazz groups between 1930 and the present day, and create and record small ensemble arrangements in various styles. *Prerequisite: MUS 146, MUS 305 or permission of the instructor.*

**MUS 346. Large Ensemble Jazz Arranging. 3.00.**

This course introduces students to the techniques of arranging for large jazz ensemble ("big band"). Students will study representative works of seminal big band composers active between 1930 and the present day, and create and record a full big band arrangement. *Prerequisite: MUS 146, MUS 305, MUS 345, or permission of the instructor.*

**MUS 352. Music Composition. 2.00 - 3.00.**

Individual/seminar instruction in composition using 20th-century styles and techniques. Compositions are performed publicly. May be repeated. *Prerequisite: MUS 141 and MUS 142.*

**MUS 356. History of Jazz in America. 3.00.**

A study of American jazz with particular emphasis on its practices with reference to principal performers and composers of jazz-style periods.

**MUS 356M. History of Jazz – Montreal. 3.00.**

**MUS 371. Private Piano Pedagogy. 3.00.**  
Procedures and materials for the teaching of private piano students, especially elementary and intermediate. Piano solo and ensemble literature for children are emphasized. The problems of the adult beginner are studied.

**MUS 372. Supervised Private Piano Teaching. 1.00.**

Supervised practice teaching in private lesson settings involving beginning and intermediate piano students of various ages and abilities. *Prerequisite: MUS 371.*

**MUS 373. Music History. 3.00.**

An introduction to the discipline of music history, incorporating the study of western music from antiquity through the early Baroque Era.

**MUS 374. Music History. 2.00.**

A history of Western music from 1600 through 1827.

**MUS 375. Music History. 3.00.**

A history of western music from the late Romantic era through the 20th century.

**MUS 395. Junior or Senior Half Recital. 0.00.**

Presentation of a half recital, representative in quality of passing performance level 6 or 7 as set by the pertinent performance area faculty. Memorization is required in those areas that traditionally expect it. Course to be graded on credit/no credit basis. *Prerequisite: Prerequisites: Junior standing and approval of the performance faculty of the performer's area.*

**MUS 420. Piano Technology. 1.00 - 2.00.**

The acoustical and mechanical design and history of the piano. This course includes the theory of tuning and temperaments; procedures and techniques of regulating and voicing pianos; and an additional hour for tuning lab.

**MUS 429. Introduction to Intentional Music. 1.00.**

This course explores intentional uses of music to achieve outcomes with atypical populations. Students will observe intentional music activities in varied settings, study research-based applications of intentional music, and develop intentional music activities for case study populations. They will also reflect on their own musical identities, and those of potential clients, to develop skills in communication and planning.

**MUS 430. Music and Human Services: Experiences and Practicum. 2.00.**

This course integrates psychological and cultural functions of music with activities and goals of human service organizations. Representatives of human services organizations are invited to explain their interventions with diverse populations. Students will be offered practicum experiences in these agencies. Through relating these experiences to the class, in seminar fashion, interdisciplinary practices will be illustrated.

**MUS 435. Instrumentation. 3.00. *Crosslisted with MUS 535.***

In-depth practicum on idiomatic writing for orchestral instruments both individually and in an ensemble setting. Students are introduced to the characteristics and limitations of each instrument with written exercises, listening and score study examples from significant orchestral works, demonstrations by representative instrumentalists, and small-scale scoring projects. *Prerequisite: MUS 242 and MUS 352 (at least one semester) or permission of the instructor.*

**MUS 440. Jazz Improvisation Laboratory II. 2.00.**

Presents intermediate to advanced improvisation skills in the jazz idiom alone. There is an emphasis on the theoretical analysis of chord progressions as well as on creative musical application. The course concludes by introducing some advanced musical improvisation concepts. May be repeated. *Prerequisite: MUS 240 or permission of the instructor.*

**MUS 440M. Jazz Improv Lab II - Montreal. 2.00.**

*Prerequisite: MUS 240 is the prerequisite.*

**MUS 441. Vocal Arranging. 3.00.**

Arranging for vocal ensembles. Included will be fundamental concepts of orchestration. *Prerequisite: MUS 242 and MUS 244 are the prerequisites.*

**MUS 442. Instrumental Arranging. 3.00.**

Arranging for various instrumental ensembles, including fundamental concepts for orchestration. *Prerequisite: MUS 242 and MUS 244.*

**MUS 444. Counterpoint. 2.00.**

Compositional and analytical study of 18th century Bach-style polyphony with detailed study of invention, fugue and chorale prelude. *Prerequisite: MUS 242 and MUS 244 are the*

*prerequisites.*

**MUS 445. Orchestration. 3.00.**

Survey of modern orchestration techniques building on the foundations established in MUS 435. Students will gain familiarity with current practice and nuances of scoring for large instrumental ensembles through examples from traditional and contemporary literature and small-scale scoring assignments. Students will focus on the preparation and production of a professional-quality score and orchestral parts leading to a reading session with the JMU Symphony Orchestra at the end of the term. *Prerequisite: MUS 435 or permission of the instructor.*

**MUS 446. Jazz Composition. 2.00.**

An introduction to techniques of jazz composition. Students will study classic jazz compositions and create original compositions utilizing various harmonic techniques. *Prerequisite: MUS 146, MUS 244, MUS 305*

**MUS 450. Topics in Music Analysis. 3.00.**

Analytical investigation of musical examples in a variety of styles with emphasis on structure and harmony. Topics vary, but may include music of the Renaissance, the common practice period, and/or the 20th century, including Debussy, Bartok, Stravinsky, and composers of the second Viennese school. Course may be repeated for different topics. *Prerequisite: MUS 242 and MUS 244.*

**MUS 460. Piano Literature I. 2.00.**

A survey of baroque and classical literature for the piano encompassing solo and concerto repertoire. An examination of literature for the clavichord, harpsichord and pianoforte.

**MUS 465. Opera History and Literature I. 2.00.**

A survey study of the history of opera. Consideration will be given to the chronological development of all forms of music theatre with an emphasis on style characteristics through aural identification. *Prerequisite: MUS 242 and MUS 244 or permission of the instructor*

**MUS 466. Opera History and Literature II. 2.00.**

A study of the history of Opera from 1840 through the present. Consideration will be given to the chronological development of all forms of Opera Theater with an emphasis on identifying characteristics of style through aural identification and score study. *Prerequisite: MUS 242 and MUS 244 are the prerequisites.*

**MUS 467. Song Literature I. 2.00.**

A survey of vocal art-song literature in Western culture emphasizing the German composers, repertoire and concepts. *Prerequisite: MUS 242, MUS 244 or permission of the instructor*

**MUS 468. Song Literature II. 2.00. *Crosslisted with MUS 568.***

A survey of vocal art-song literature in Western culture emphasizing the Italian, French, English and American composers, repertoire and concepts. If time permits, other international repertoire will also be surveyed. *Prerequisite: MUS 242 and MUS 244 are the prerequisites.*

**MUS 470. Piano Literature II. 2.00.**

A survey of romantic, impressionistic and 20th-century literature for the piano, including solo and concerto repertoire, with an emphasis on stylistic trends of the 20th century.

**MUS 472. Instrumental Pedagogy. 1.00.**

Presentations of instrumental methods, solo and ensemble literature related to the instrumental performer's own major area. Private instruction approaches and techniques are also considered with particular reference to the beginning player.

**MUS 477. Vocal Pedagogy. 2.00.**

Designed to acquaint the prospective teacher with techniques of vocal pedagogy, both scientific and empirical. The course involves study, practice and observation.

**MUS 480. Advanced Seminar in Musicological Topics. 3.00.**

An intensive study of a single topic in musicology or ethnomusicology. Topics change each semester, and may include studies of a specific musical issue (performance practice, etc.), a single composer's music, a single musical genre (the string quartet, etc.), or music at a specific time and/or place (music in fin de siècle Paris, music in modern South Africa, the second Viennese school, etc.). Fulfills the college of Visual Performing Arts writing-intensive requirement for the major. May be repeated for credit. *Prerequisite: MUS 480, MUS 373, MUS 374, and MUS 375 or permission of the instructor.*

**MUS 485. Advanced Jazz Topics Seminar. 3.00.**

An intensive study of a single topic in jazz studies. Topics change each semester, and may include studies of a specific musical issue (performance practice, etc.), a single composer's or performer's music (Duke Ellington, Miles Davis, etc.), a single musical genre (the development of big band style, etc), or a sociological study (jazz in Europe, jazz and American culture, etc.). May be repeated for credit. *Prerequisite: MUS 374 and MUS 356 or permission of the instructor.*

**MUS 490. Special Studies in Music. 1.00 - 3.00.**

Designed to give superior music students an opportunity to complete independent study under faculty supervision. *Prerequisite: Permission of the instructor and school director.*

**MUS 495. Senior Graduation Recital. 1.00.**

Presentation of a full recital, with the quality of performance to meet standards for admission to graduate school master's of music programs. Memorized recital presentations will be required in those areas which traditionally demand them. *Prerequisite: Senior Standing*

**MUS 497. Senior Project in Theory. 1.00.**

Analytical paper or other topic approved by the theory-composition area. Enrollment is for students who want to do graduate work in music theory.

**MUS 498. Selected Topics in Music. 1.00 - 3.00.**

Courses in music or music education which are of a topical nature. This may be repeated.

**MUS 498P. Percussion Lit. 2.00.**

**MUS 499. Honors. 6.00.**

This is a year long course.

**MUS 499A. Honors. 3.00.**

## Music Education

**MUED 200. Small Ensemble for Instrumental Music Education Majors. 0.00.**

This course will fulfill the NASM requirement for instrumental music education majors to gain experiences in small ensembles. Students enrolled in this course may complete the requirement through a variety of experiences approved by their academic advisor, including participation in String Ensembles, Camerata Strings, Collegium Musicum, Woodwind Ensembles, Guitar Ensemble, Percussion Ensembles, Jazz Chamber Ensembles, Collaborative Piano, Brass Chamber Ensembles.

**MUED 201. Small Ensemble for Vocal Music Education Majors. 0.00.**

This course will fulfill the NASM program requirement for vocal music education majors to gain experiences in small ensembles. Students enrolled in this course may complete the requirement through a variety of experiences approved by their academic advisor, including participation in Treble Chamber Choir, Men's and Women's Chamber Choirs, Bach Aria Group, Madison Singers, Collegium Musicum, or Opera Theatre.



**MUED 206. Instrumental Music Methods for Vocal MUED Majors. 1.00.**

Provides vocal track music education majors with experiences, methods, and techniques for instrumental music instruction and a fundamental knowledge of and proficiency on woodwind, brass, percussion, and string instruments.

**MUED 271. Music Education: A Professional Choice. 1.00.**

Students engage with ethical, philosophical and pragmatic issues surrounding their choice to pursue professional licensure in PK-12 music education. This course includes observation of learning and teaching in elementary, middle, and high school music classrooms, as well as an introduction to the application of National Core Music Standards, Virginia Standards of Music for Learning, JMU's Conceptual Framework and JMU's Eight Key Questions. Course assignments and projects contribute to continued development of a digital portfolio.

**MUED 273. Music Education: Professional Practice. 1.00.**

Second course in the sophomore music education sequence. Builds on the foundation of philosophy, history and psychology of music teaching established in the first semester of the sequence (MUED 271) with an emphasis on the application of foundational knowledge to planning and leading instruction. Continued observation in PreK-12 and other settings with opportunities to teach. *Prerequisite: MUED 271.*

**MUED 301. Woodwind Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard woodwind instruments in a heterogeneous class situation. Various methods for woodwind teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 301 each fall; MUED 302 each spring. *Prerequisite: Sophomore Standing; MUED 301 is prerequisite to MUED 302.*

**MUED 302. Woodwind Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard woodwind instruments in a heterogeneous class situation. Various methods for woodwind teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 301 each fall; MUED 302 each spring. *Prerequisite: MUED 301 and Sophomore Standing.*

**MUED 303. Brass Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard brass instruments in a heterogeneous class situation. Various methods for brass teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 303 each fall; MUED 304 each spring. *Prerequisite: Sophomore Standing; MUED 303 is a prerequisite to MUED 304.*

**MUED 304. Brass Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard brass instruments in a heterogeneous class situation. Various methods for brass teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 303 each fall; MUED 304 each spring. *Prerequisite: MUED 303 and Sophomore Standing.*

**MUED 305. Percussion Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard percussion instruments in a heterogeneous class situation. Various methods of percussion teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 305 each fall; MUED 306 each spring. *Prerequisite: Sophomore Standing; MUED 305 is a prerequisite to MUED 306.*

**MUED 306. Percussion Techniques. 1.00.**

Instruction in the basic skills of playing and teaching standard percussion instruments in a heterogeneous class situation. Various methods of percussion teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 305 each fall; MUED 306 each spring. *Prerequisite: MUED 305 and sophomore standing.*

**MUED 307. String Techniques. 1.00.**

Instruction in the basic skills of playing and teaching string instruments. Instruction will be on violin, viola, cello, and bass in a heterogeneous class situation. Various methods for string teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 307, each fall; MUED 308, each spring. *Prerequisite: Sophomore Standing; MUED 307 is a prerequisite to MUED 308.*

**MUED 308. String Techniques. 1.00.**

Instruction in the basic skills of playing and teaching string instruments. Instruction will be on violin, viola, cello, and bass in a heterogeneous class situation. Various methods for string teaching will be studied, and materials used in public school teaching will be examined and performed. MUED 307, each fall; MUED 308, each spring. *Prerequisite: MUED 307 and sophomore standing.*

**MUED 310. Vocal Techniques. 1.00.**

Class instruction designed to acquaint the instrumental (nonvoice) major with fundamentals of vocal and choral techniques including posture, breath support, basic vocal production, physiological functions of the vocal mechanism, singer's diction, vocal exercises, and individual as well as ensemble performances. *Prerequisite: Music Majors*

**MUED 371. Beginning Methods and Materials for Instrumental Music. 2.00.**

Methods and materials for beginning through intermediate instrumental music students. Administrative concerns are included. *Prerequisite: MUED 273, full admission to teacher education and level 3 in major applied area.*

**MUED 372. General Music Practices. 2.00.**

Focuses on broad preparation for teaching the general music courses now found at both middle and high school levels. *Prerequisite: MUED 273, full admission to teacher education and level 3 in major applied area.*

**MUED 373. Advanced Methods and Materials for Instrumental Music. 2.00.**

Learning experiences related to the career needs of school instrumental music teachers are analyzed, discussed and practiced. Planning and teaching skills are presented for beginning, intermediate and advanced level students. *Prerequisite: MUS 317 and MUED 271 are the prerequisites.*

**MUED 376. Choral Music Mat & Tech. 2.00.**

This course is an in-depth summary of the pedagogy, principles, methodology and resources in choral music education, with special emphases on high school choral teaching and community outreach. This course is designed to aid students in synthesizing their cumulative music education learning into a defined and refined skill set in advance of student teaching and in preparation for a music teaching career. An embedded practicum experience at an area retirement center is an integral component of this course. The level of this intergenerational choir parallels that of a 9th-grade choral ensemble; as such it provides an ideal, hands-on opportunity to teach choral music, leading to a culminating concert. *Prerequisite: MUS 317 and MUED 273, full admission to teacher education and Level 4 in major applied area.*

**MUED 380. Music in the Elem School. 2.00.**

The general music program in the elementary school presented for future music specialists, K-6. Focus is on the synthesis of current philosophy, learning theories and educational practices for teaching elementary school music. Preparation for organizing music curricula and daily lesson plans is included. *Prerequisite: MUED 273, full admission to teacher education and Level 3 in major applied area.*

**MUED 431. Psychology of Music. 3.00.**

This course examines the topic of music psychology, and explores current findings and related subtopics, including those from brain sciences. Students will observe the practical application of research findings via practicum placements. Students will reflect on, and synthesize their content knowledge of the topic with their personal field experience knowledge

for the purpose of making connections to their own career goals for future employment (e.g. music classroom and music therapy settings).

**MUED 470. Marching Band Procedures. 2.00.**

Skills and knowledge needed to organize, administer, plan and teach marching band shows including shows for various competitions, parades, football, basketball and festival events; and techniques for developing both marching and playing style through a functional method of fundamental drills. *Prerequisite: MUED 273 or permission of the instructor.*

**MUED 471. School Musical, Jazz and Show Choir Procedures. 2.00.**

Covers skills and concepts needed to organize, administer, plan, teach and perform in musicals, jazz choirs and show choirs. Highlights techniques of commercial and theatrical vocal style, fundamentals of producing a musical and choreography for the show choir. *Prerequisite: MUS 317 and MUED 271 are the prerequisites.*

**MUED 472. Survey String Orch Rep. 2.00.**

An examination of concert repertoire for string and full orchestra appropriate for performance by students in grades seven through 12. The course will include a study of evaluation and selection of music appropriate for a specific ensemble. *Prerequisite: MUED 271 is the prerequisite.*

**MUED 473. Jazz Ensemble Procedures and Techniques. 2.00.**

This course addresses all aspects of instrumental jazz instruction (big band and small group) in the public schools. Teaching philosophies, rehearsal techniques, and resource materials will be examined; the syllabus includes opportunities to observe and rehearse jazz groups. Enrollment is not limited to traditional jazz instrumentation. *Prerequisite: MUED 271 is the prerequisite.*

**MUED 474. Guitar Pedagogy and Classroom Methods. 2.00.**

Preparation to teach guitar in beginning, intermediate and advanced school music settings. Content includes information specific to guitar pedagogy (e.g. fretboard knowledge, chord shapes), and traditional guitar method approaches to various skills (e.g. reading standard notation, positions, fingerboard harmony). Guitar repertoire, relevant literature, available resources, and the role of the guitar ensemble in public schools will be examined from teaching and administrative perspectives.

**MUED 480. Student Teaching. 6.00-12.00.**

Enables students to apply, in the public school classrooms and the comprehensive child development programs, those skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors, students are provided activities designed to familiarize them with the classroom teacher's role. *Prerequisite: PSYC 160 and EDUC 300/EDUC 360, appropriate methods courses, and permission of the coordinator of field experiences.*

**MUED 482. Orff & Kodaly: Literature, Principles & Practices. 1.00.**

Students will study the repertoire employed in the Orff and Kodaly approaches to music education. They will develop skills and understanding of the principles related to these approaches. Work with peers and school children will provide the opportunity to develop teaching skill. May be repeated for credit.

**MUED 485. Teaching Music to Students with Special Needs. 3.00. *Crosslisted with MUED 585.***

Students will become familiar with trends affecting students with special needs, and introduced to diverse variations in language ability, assessment, inclusion, and music education. Students will collaborate online through discussion forums regarding case study and video presentations. Students will become knowledgeable in language, motor, visual, and social development, connecting current research and theory to classroom practice. Students will also critically assess inclusive school settings.

## Music Industry

**MUI 221. Survey of Music Industry. 3.00.**

An overview of the recording, entertainment and performing arts industries including an examination of the historical, aesthetic and commercial developments of the music industry in the United States.

**MUI 231. Legal Aspects of Music Industry. 3.00.**

An examination of the legal issues affecting the performing arts, recording and music publishing fields. Topics include music rights and licensing, Performing arts unions and guilds, artist representation and contractual relationships. *Prerequisite: MUI 221 and Music major or Instructor Permission.*

**MUI 250. Portfolio Review. 0.00.**

Portfolio review required to enroll in 300- and 400-level Music Industry courses. May be repeated once.

**MUI 315. Songwriting. 3.00.**

An introduction to form, lyric development and melodic structure of contemporary songwriting for commercial entertainment applications. The course will include examination of leadsheet writing, demo production, copyright protection and publishing of commercial songs. *Prerequisite: MUI 250 and MUS 142 or permission of the instructor.*

**MUI 324. Introduction to Audio Devices. 3.00.**

Introduction to electronic devices utilized in the sound recording industry. *Prerequisite: PHYS 121 and MUI 250 or permission of the instructor.*

**MUI 330. Music Publishing. 3.00.**

This course will offer a comprehensive overview of the music publication industry. The focus will be upon, but not limited to, mainstream popular music. It will also consider songwriter/publisher relations, self-publication, as well as an examination of art, religious, and educational music publishing. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 400. Multitrack Rec Tech I. 3.00.**

An introduction to contemporary multi-track recording studio techniques. Students will be introduced to recording studio design, psycho-acoustics, miking techniques, Musical Instrument Digital Interface and the mixing console. *Prerequisite: MUI 250 and MUI 324 or permission of the instructor.*

**MUI 405. Logic Pro. 3.00.**

An introduction to analog synthesis, digital synthesis, an overview of conditions and events that led to the development of MIDI, a study of the MIDI protocol itself, as well as Apple Certified instruction in music production utilizing Logic Pro. *Prerequisite: MUI 324 or permission of the instructor.*

**MUI 411. Audio Postproduction. 3.00.**

An examination of music and sound used in the broadcast and entertainment media from an intensive, hands-on engineering perspective. The course will feature multiple post-production assignments to be completed in our on-campus Studio B, as well as field trips to off-campus post-production studios. *Prerequisite: MUI 250, MUI 324, and MUI 400 or instructor permission.*

**MUI 415. Songwriting II. 3.00.**

This course is a continuation in the study of form, lyric development and melodic structure of contemporary songwriting for commercial entertainment applications. This course will also take into account some basic music business aspects important in the music industry directly related to song writers. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 422. Concert Production & Promotion. 3.00.**

Study of the presentation of cultural and commercial entertainment in the form of concert events from artistic, technical and business viewpoints. The roles of the cultural impresario and concert promoter in contemporary society are examined. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 423. Sound Reinforcement. 3.00.**

An introduction to the history, equipment, skills, and business of sound reinforcement. The technique of contemporary sound engineers are examined and experienced by the use of audio amplification systems to design and use for public address and musical performance. *Prerequisite: MUI 324*

**MUI 430. Artist Management. 3.00.**

This course will evaluate the function of musician/recording artist representatives in the music industry. Focus of discussions will include artist development from early career stages, to concert tours, unions, recording companies, personal appearances, contractual agreements, etc. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 435. Marketing of Recorded Music. 3.00.**

Examination of the process of studio production, manufacturing, promotion and distribution of contemporary recordings. Record release programs for independent and major label-controlled products are analyzed. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 440. Entrepreneurship in Music Industry. 3.00.**

The study of business aspects of the music industry managing, marketing, finance and sales. Students develop a comprehensive Music Business plan. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: MUI 250 or Instructor Permission.*

**MUI 492. Internship in Mus Ind. 3.00 - 6.00.**

A supervised off-campus cocurricular learning activity designed to provide practical experience in the music industry. *Prerequisite: MUI 221 and MUI 250 and MUI 231 or permission of the instructor.*

**Music, Applied****MUAP 113. Small Group Lessons. 1.00.**

Two hours per week. May be repeated. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 114. Group Voice for Musical Theatre Concentrators. 1.00.**

First level voice class for Musical Theatre concentrations in the School of Theatre and Dance. Permission to register must be obtained from the coordinator of the respective applied area. *Prerequisite: Audition and admission to the Musical Theatre concentration in the School of Theatre and Dance.*

**MUAP 115. Group Voice for Theatre/Dance Majors. 1.00.**

May be repeated for up to four credits. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 200. Applied Music Lesson (Undergraduate). 1.00 - 3.00.**

Applied weekly lessons for non-majors and secondary instruments. See MyMadison for details. May be repeated for credit. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 205. Small Group Voice for Keyboard Majors. 2.00.**

A practical introduction to singing technique and musicianship designed for future choral music teachers and accompanists. Concludes with Vocal Proficiency Examination. Limited to maximum of eight students. May be repeated for credit. Permission to register must be obtained from the coordinator of the respective applied area. *Prerequisite: Sophomore standing in music or permission of the instructor.*

**MUAP 210. Applied Piano Accompanying. 1.00.****MUAP 211. Voice Applied. 1.00. Prerequisite: Music Majors****MUAP 212. Piano Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 214. Private Voice for Musical Theatre Concentrators. 1.00.**

Private voice lessons for musical theatre concentrators in the School of Theatre and Dance. Permission to register must be obtained from the coordinator of the respective applied area. *Prerequisite: Permission of the instructor.*

**MUAP 215. Violin Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 216. Viola Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 217. Violoncello Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 218. String Bass. 1.00.**

*Prerequisite: Music Majors*

**MUAP 219. Guitar Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 220. Flute Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 221. Oboe Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 222. Clarinet Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 223. Bassoon Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 234. Men's Chorus. 1.00.**

Performs music of various styles, but with primary focus on the lighter genres. It is open to the entire male student body without audition. The director reserves the right to limit membership because of balance or space considerations. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 235. Treble Chamber Choir. 1.00.**

This is an advanced level chamber chorus for women and male countertenors interested in a small choral ensemble experience. Open to all majors, and auditioned at the beginning of every semester, this choir frequently performs off campus as well. Contact the director of choral activities for more information. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 236. Women's Chorus. 1.00.**

Performs music of various styles, but with primary focus on the lighter genres. It is open to the entire female student body without audition. The director reserves the right to limit membership because of balance or space considerations. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 237. Marching Band (Fall Semester). 2.00.**

The Marching Band will perform music and drill which is artistically structured. The repertoire will be representative of all styles of music. The Marching Band is required for two years

**MUAP 224. Saxophone Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 225. Trumpet Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 226. Horn Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 227. Trombone Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 228. Euphonium Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 229. Tuba Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 230. Percussion Applied. 1.00.**

*Prerequisite: Music Majors*

**MUAP 231. Applied Harp Lessons. 1.00.**

Applied harp lessons for music majors.

of wind and percussion majors in the music education degree program. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 238. Concert Band. 1.00.**

Open to all interested participants. A wide variety of music is utilized to acquaint the student with different types of band literature. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 239. Symphonic Band. 1.00.**

The JMU Symphonic Band is a select group of brass, woodwind and percussion students who are dedicated to the performance of both traditional and contemporary band literature. The ensemble performs music of all periods and is open to any university student by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 300. Applied Music Lesson (Undergraduate). 1.00 - 3.00.**

Applied weekly lessons for music majors. See MyMadison for details. May be repeated. Permission to register must be obtained from the coordinator of the respective applied area.  
*Prerequisite: Music Majors*

**MUAP 310. Appl Piano Accompanying. 1.00 - 2.00.**

One-hour lesson a week; 10 hours minimum practice per week for two credits, 14 hours for three credits and 18 hours for four credits. This course may be repeated. *Prerequisite: Music Majors*

**MUAP 311. Voice Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 312. Piano Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 315. Violin Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 316. Viola Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 317. Violoncello Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 318. String Bass Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 319. Guitar Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 320. Flute Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 321. Oboe Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 322. Clarinet Applied. 2.00 - 3.00.**

*Prerequisite: Music Majors*

**MUAP 332. Applied Jazz Study. 2.00 - 3.00.**

Applied study of jazz performance techniques on a student's major instrument. The student may be assigned to a professor whose major instrument differs from the student's major instrument. One hour lesson per week. Students who have not yet been accepted into the Jazz Studies major may elect to take Applied Jazz Study for 2 credit hours per semester in order to prepare for the audition. Students accepted into the Jazz Studies Track will register for 3 credit hours of Applied Jazz Study each semester. *Corequisite: MUS 440.*

**MUAP 340. Chorale. 1.00.**

A highly selected, 60-voice mixed choir that performs repertoire from the Renaissance to the contemporary era, both sacred and secular. There are opportunities to perform on and off campus. Membership is by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 341. Madison Singers. 2.00.**

Madison singers is a highly select choral chamber ensemble that performs the best of representative choral music from the Renaissance to the present. The ensemble is open to any university student by audition in the fall of each academic year. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 343. Opera Theatre. 1.00 - 2.00.**

The preparation and public performance of grand opera, light opera and musicals. Work will include coaching of both music and acting. Credit may vary with permission of instructor depending on the amount of time commitment. Admission is by audition only. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 344. Chamber Orchestra. 1.00.**

Open to all university students. Membership is determined by audition. Music written for chamber orchestra from all periods is studied and performed.

**MUAP 345. Symphony Orchestra. 2.00.**

The JMU Symphony Orchestra is a participating member of the American Symphony Orchestra League. Membership is determined by audition and is open to all university students. Literature performed is from the standard symphonic repertoire.

**MUAP 346. Wind Symphony. 2.00.**

The JMU Wind Symphony is a highly select group of brass, woodwind and percussion students who are dedicated to the performance of wind orchestra music and chamber music for winds. The ensemble performs music from all periods and is open to any university student by audition in the fall of each academic year. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 347. Jazz Ensemble. 2.00.**

Instrumental music performance ensemble of the standard "big band" instrumentation whose repertoire reflects jazz styles from the swing era to contemporary jazz. Admission is by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 348. Jazz Band. 1.00.**

Instrumental ensemble, performing the standard and contemporary repertoire of American music with emphasis on the jazz idiom. Jazz band is open to all JMU students by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 349. Monticello Strings Faculty and Students Ensemble. 1.00.**

A joint string ensemble of string faculty and students, with a mission to provide mentoring, hands-on and shared experiences in learning, rehearsing, and performing string chamber

orchestra repertoire from the Baroque to Contemporary periods. In addition, the ensemble focuses on creative and scholarly endeavors, collaboration between faculty and students, and university outreach with performances on and off campus. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 350. String Ensemble. 1.00.**

A rehearsal and performance ensemble where students of similar technical and musical ability are grouped in traditional string or piano trios, quartets and quintets, and present public performances of important compositions from the chamber music literature of all historical periods. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 351. Woodwind Ensemble. 1.00.**

Woodwind ensembles consisting of quintets or other smaller and larger combinations, limited to specially selected personnel through auditions. Concerts and other performances are prepared from a variety of literature from the classical period to the present. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 352. Brass Band. 1.00.**

Open to all university students by audition. A select brass and percussion ensemble limited to the standard instrumentation of the "British-style" brass band. The ensemble performs literature of all styles from the extensive brass band tradition. The band typically participates in the annual NABBA championships. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 353. Guitar Ensemble. 1.00.**

The performance of guitar music from Renaissance to 20th century for duos, trios and quartets. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 354. Percussion Ensemble. 1.00.**

The study and preparation for public performance of percussion ensemble literature. The ensemble is open to all university students by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 355. Jazz Chamber Ensemble. 1.00.**

Open by audition to students demonstrating a high degree of skill in jazz improvisation. Concerts and other performances are prepared from a variety of literature from early jazz to the present day. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 357. Piano Accompanying and Piano Ensemble. 1.00.**

A course in basic accompanying skills and style characteristics required for two semesters (one fall, one spring) of all piano majors. Students will be assigned to vocal or instrumental studios and have the opportunity to perform in master class and private coaching sessions. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 360. Opera/Music Theatre Orchestra. 1.00.**

This ensemble will serve as the accompanying ensemble for staged productions within the School of Music and the School of Theatre and Dance. Enrollment in this course will be open to all students at the university by audition. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 362. Brass Chambers Ensembles. 1.00.**

Brass chamber ensembles consisting of quartets, quintets or larger combinations, limited to specially selected personnel through auditions. Concerts and other performances are prepared and presented from literature spanning the Renaissance to the present day. Permission to register must be obtained from the coordinator of the respective applied area.

*Prerequisite: Permission of the instructor.*

**MUAP 364. Camerata Strings. 1.00.**

Camerata Strings is a select instrumental string ensemble that performs a broad range of string ensemble literature from the 1600s to the present. The ensemble is open to any student of the university through competitive auditions held at the start of each spring semester. Permission to register must be obtained from the coordinator of the respective applied area. *Prerequisite: Participants must complete competitive auditions at the start of the spring semester and, based on audition outcomes, be offered membership by the Music Director of the ensemble.*

**MUAP 380. Collegium Musicum. 1.00.**

The Collegium Musicum is a select vocal/instrumental ensemble dedicated to the historically-informed performance of early music (music composed before ca. 1700) Repertoire includes major works primarily of the Renaissance and early Baroque era. Membership is by audition or invitation. May be repeated for credit. Permission to register must be obtained from the coordinator of the respective applied area.

**MUAP 381. Bach Aria Group. 1.00.**

The Bach Aria Group is a select vocal/instrumental ensemble dedicated to the historically-informed performance of arias and small ensembles from the Cantatas, Oratorios and Passions of J.S.Bach. Repertoire is specifically limited to this material. Membership is voluntary, and by audition or invitation. May be repeated for credit. This ensemble will not fulfill the music major requirement for a minimum of one ensemble per semester. Permission to register must be obtained from the coordinator of the respective applied area.

## Nonprofit Studies

**NPS 300. Introduction to Nonprofits. 3.00.**

An introduction to the development of the nonprofit sector in the American context exploring history, theories, legal issues, governance and ethical considerations. Global nonprofits are also explored. Provides a foundation for subsequent work in the nonprofit studies minor. *Prerequisite: Sophomore standing with a declared major.*

**NPS 320. Nonprofit Management. 3.00.**

A study of organizational and management functions in the nonprofit sector. Examination of the unique role of volunteers, boards and public relations in the nonprofit environment. *Prerequisite: NPS 300 and junior standing.*

**NPS 375. Grant Writing for Agencies. 3.00. *Crosslisted with FAM 375, GERN 375, SOWK 375.***

Emphasizing active learning, this course teaches the basics of grant and proposal writing. Efficient research, persuasive prose and the importance of relationships are stressed. Private and corporate philanthropy and government grants are examined.

**NPS 400. Internship/Practicum in Nonprofit Studies. 4.00 - 6.00.**

Supervised internship/practicum in experience in a nonprofit organization setting that allows experiential learning and practice experiences. A research or applied paper, learning journal and presentation based on the experience are required. 4 credits (160 hours in agency), 6 credits (240 hours in agency). *Prerequisite: NPS 300 and the discipline specific elective.*

**NPS 450. Nonprofit Studies Capstone Seminar. 3.00.**

The capstone seminar is designed to integrate and apply knowledge from the student's major and the Nonprofit Studies minor. A substantial, individualized project will strengthen the student's capabilities in research and/or applied knowledge, information access, and self-directed learning. *Prerequisite: NPS 300, NPS 320, NPS 400, and discipline elective. Related elective may be taken concurrently.*

**NPS 490. Special Studies in Nonprofit Studies. 1.00 - 3.00.**

This course is designed to provide capable nonprofit studies minors an opportunity to complete independent study under faculty supervision. Course may be repeated for credit.  
*Prerequisite: NPS 300, NPS 320 and one additional course in the minor or permission of the instructor.*

**Nursing****NSG 300. Strategies for Success in Nursing. 1.00.**

This course introduces freshman and transfer nursing majors to the nursing curriculum and electives in other disciplines that relate to the goals and objectives of the program. This course will include instruction on campus student resources, time management and study skills, development of a clear academic plan, and nursing career options.

**NSG 301. History Taking/History Telling: Narratives of Chronic Illness and Disability. 2.00.**

This course introduces students to first-person narratives of patients, family care providers, and health care workers as a way to more fully understand the complexities of living with and managing chronic illness. Students will explore the narrative as an increasingly relevant component of understanding and responding to experiences of chronic illness and disability.

**NSG 302. Behavioral and Mental Health in Children and Adolescents. 2.00.**

This course will explore the state of mental and behavioral health of children and adolescents. It will examine the neuropathophysiological nature of mental and behavioral illnesses, health promotion, and care of children and adolescents.

**NSG 303. The Art of School Nursing. 1.00.**

This particular course provides a comprehensive focus on the multiple facets within the specialty practice of school nursing. The course will discuss the history of school nursing, the roles of the school nurse, laws and standards of practice. We will discuss collaborative teaming, cultural diversity, and marketing/educational strategies for promoting school nursing.

**NSG 305. Healthy Environment/Healthy Pregnancy. 1.00.**

This course introduces students to the relationship between environmental factors and reproductive health outcomes. Students will explore the effects of environmental exposures, commonly found in a woman's home or at work, on a woman's reproductive health and that of a developing fetus.

**NSG 306. Combating Childhood Obesity. 1.00.**

This course will examine the current evidence and issues related to obesity in children and adolescents in the United States. Emphasis is placed on the health-related outcomes of childhood obesity for individuals, families and communities. Analysis of individual and public health approaches to reduce the prevalence of childhood obesity will be discussed.

**NSG 307. Transcultural Concepts in Nursing. 2.00.**

This course examines concepts of cultural awareness and culturally competent care with individuals, families and communities. The influence of cultural beliefs and practices on health care that are specific to identified cultures is emphasized.

**NSG 308. Empowerment and Resilience. 1.00.**

This elective course explores traumatic events and the ongoing psychological and social stress responses that result. Empowerment and resilience conceptual premises will be examined as elements to overcoming trauma and/or traumatic events. Historical traumatic community events will be used to highlight strategies of recognition and resilience and provide a micro to macro level perspective.

**NSG 309. Trauma and the Continuum of Care. 1.00.**

This course explores adult health alterations that develop as a result of a trauma. Students will apply the nursing process to analyze psychological, physical, social and secondary stress as a result of trauma care situations. Students will analyze a plan of care that engages an interdisciplinary team approach to the care process. Students will develop an understanding of the rehabilitation process and long term outcomes of the traumatically injured.

**NSG 310. Helping Persons in Pain. 2.00.**

This course open to all students from all majors, is an examination of pain, its impact on people, causes, treatments and the role of health professionals. Emphasis is placed on understanding how people experience pain and its effect on quality of life.

**NSG 311. Preventing Chronic Illness in the Community. 1.00.**

This course explores the development of health promotion programs for preventing chronic illness in select communities. Students will build upon previous knowledge to develop a prevention proposal and design a program for use with multicultural and diverse members and segments of a population. Students will work in interdisciplinary teams with resources in the local community to implement a pilot of the program and to collect and articulate outcome data.

**NSG 313. Issues and Applications of Family Caregiving. 1.00 - 2.00.**

Students from any major engage in service learning with clients and staff of Caregivers' Community Network, a program of information, companion care, and support for family caregivers. Hours are flexible and activities are tailored to student interests.

**NSG 314. Rural Health: an Interprofessional Approach. 3.00. *Crosslisted with HTH 314, IPE 314, SOWK 314.***

Students study, observe and participate in interprofessional assessment, planning and delivery of community-based primary health care in partnership with residents and agencies of a host rural county. Learning activities will emphasize rural culture, rural health care and interprofessional practice.

**NSG 317. History of Nursing. 1.00.**

An elective nursing course that explores fundamental aspects of nursing history including pertinent nursing founders and leaders as well as examination of the many influences that have shaped the nursing profession. Review of nursing within its historical context provides an opportunity to consider changes for the future.

**NSG 318. Nursing, Chronic Illness and Health in a Global Context. 2.00.**

Non-communicable diseases (NCDs/ a.k.a. chronic illnesses) are universal. The course provides students with an introduction to global health care systems models, and concepts and their influence on health disparities and delivery of healthcare, focusing on NCDs. Additionally, students will examine ways that nurses and nursing can meet the challenges of addressing NCDs at a global level.

**NSG 319. Understanding Sexuality across the Health-Illness Continuum. 2.00.**

This course examines how illness affects sexuality (physiologically, psychologically and culturally) across the lifespan. Sources of interventions and support for issues of sexuality and chronic illness will be addressed.

**NSG 320. Innovative Diabetes Health Education. 1.00.**

Based on the chronic illness model component of patient self-management, this course focuses on the use of an innovative teaching strategy for diabetic education. Working in teams students will utilize conversation maps to learn about Diabetes Mellitus Type II, gestational diabetes and patient education.

**NSG 321. Faith Community Nursing. 1.00.**

This course is based on the accepted philosophy and practice of Faith Community Nursing and examines the roots of health and healing found in many religious traditions. Critical thinking strategies, such as Socratic questioning, are used to analyze the spiritual dimension of health and healing for the practitioner as well as clients they serve. Students explore the practice of nursing in faith communities.

**NSG 322. Integrative Health Care. 2.00.**

This course examines the principles, practices, and outcomes of complementary therapies and alternative healing that are widely used in the general population. The integration of alternative and conventional health practices will be examined. Ethical, legal and professional issues will be explored.

**NSG 324. R.N./B.S.N. Strategies for Success. 1.00.**

This course is designed to provide strategies for academic success in an online learning environment for students in the R.N. to B.S.N. program. Students apply concepts of scholarly writing and identify research. An emphasis is placed on competence with technology and working collaboratively within an online environment.

**NSG 325. Concepts in Aging. 3.00.**

This online course examines evidence-based knowledge needed to provide holistic care for an aging population. Issues related to legal and ethical aspects of care, health promotion, chronic health conditions and special issues related to gerontological nursing care are examined. *Prerequisite: R.N.-B.S.N. students only.*

**NSG 326. Care and Consideration for Children with Special Needs. 1.00.**

Open to students from any major. Students will gain insight into the lives of children with special needs and discuss how having children with special needs affects the entire family. A variety of topics such as autism, brain injury, and other disabilities will be investigated. Learning activities include guest speakers, discussion, and hands-on service learning. Students must provide their own transportation to service learning sites off campus.

**NSG 328. Life, Death, and the In-Between. 1.00.**

This course focuses on preparing the student to give patient-centered end-of-life care. Using a variety of learning methods, the student will examine theories and care models, and will discuss current topics surrounding death and dying, including social, cultural, ethical, spiritual and legal issues.

**NSG 329. Best Practices in Diabetes Care. 2.00.**

The student will develop a basic understanding of the current practices related to diabetes care and the impact of a diabetes diagnosis on the individual, family and community. The content is centered around the American Association of Diabetes Educators (AADE) 7 Self-Care Behaviors: healthy eating, being active, monitoring, taking medications, problem solving, healthy coping and reducing risks.

**NSG 330. Medical Innovations. 3.00. *Crosslisted with BIO 426, ENGR 498, LTLE 490.***

In this course, pre-professional health, pre-nursing and engineering students will work in interprofessional teams to develop and communicate solutions to a community health challenge. Students will use innovative MakerSpace technologies to produce a tangible product aimed at improving the challenge while also exploring technology's potential to cause harm. In addition to instruction of the technologies, students will be taught problem solving, collaboration, and leadership skills.

**NSG 331. Nursing Leadership. 1.00.**

This elective nursing course focuses on leadership and professional development in nursing students. Students will develop individual learning contracts with an aim to increase communication, leadership skills and critical thinking ability. The course will provide students the opportunity to participate in the local, state and national levels of the National Student Nurses Association, Sigma Theta Tau and other organizations.

**NSG 333. Health Assessment. 3.00.**

This course examines the principles and techniques of nursing assessments focusing on health history taking, review of systems and physical examination techniques for individuals across the lifespan. Clinical decision making is emphasized using a holistic approach that takes into account physical, genetic, cultural, psychological, social, spiritual and environmental variables that impact health. *Prerequisite: Admission to the R.N.-B.S.N. program*

**NSG 350. Foundations of Nursing. 2.00.**

This course provides an overview of foundational principles of professional nursing practice. Students will be introduced to the evolution of nursing, basic nursing theory and knowledge, and beginning concepts. This course promotes self-analysis and socialization into the role of the professional nurse.

**NSG 350H. Foundations of Nursing. 2.00.**

This course provides an overview of foundational principles of professional nursing practice. Students will be introduced to the evolution of nursing, basic nursing theory and knowledge, and beginning concepts. This course promotes self-analysis and socialization into the role of the professional nurse. Students will explore the healthcare literature to identify and develop an honors thesis focus. *Prerequisite: Admission to the honors program.*

**NSG 351. Health Assessment. 3.00.**

This course develops knowledge and skills necessary to gather, organize, and present relevant health data that includes wellness and illness considerations across the life cycle. Emphasis is placed on systematic strategies, frameworks, and skills used to conduct both comprehensive and need-specific health assessments for individuals in the context of their family and community. *Prerequisite: for mal acceptance into the Nursing Program.*

**NSG 352. Clinical Applications & Reasoning in Nursing Care I. 4.00.**

Through didactic learning, students learn theories, rationale, and principles underlying the application of acute care skills in nursing practice. In the laboratory, students will practice and demonstrate mastery of selected skills. In the clinical setting, students will apply knowledge through clinical reasoning in planning and facilitating nursing care for patients and their families. *Prerequisite: Formal acceptance to the nursing program is the prerequisite. Corequisite: NSG 352L.*

**NSG 352L. Clinical Applications & Reasoning in Nursing Care I Clinical. 2.00.**

Through didactic learning, students learn theories, rationale, and principles underlying the application of acute care skills in nursing practice. In the laboratory, students will practice and demonstrate mastery of selected skills. In the clinical setting, students will apply knowledge through clinical reasoning in planning and facilitating nursing care for patients and their families. *Prerequisite: Formal acceptance to the nursing program is the prerequisite. Corequisite: NSG 352.*

**NSG 353. Pathophysiology & Pharmacology. 4.00.**

This course is a comprehensive examination of the principles of pathophysiology and pharmacology for nurses. Emphasis will be placed on concepts and rationales necessary for clinical decision making and nursing care of patients with select disease processes.

**NSG 354. The Art and Science of Nursing. 2.00.**

This course is designed to provide an overview of current issues relevant to the art and science of the practicing nurse. This course will provide the student with a concentrated focus on the role of the professional nurse and the nursing profession. The course explores nursing theory, health care models of practice, diversity issues, as well as legal and ethical realities within the healthcare delivery system.

**NSG 354H. The Art and Science of Nursing. 2.00.**

This course is designed to provide an overview of current issues relevant to the art and science of the practicing nurse. This course will provide the student with a concentrated focus on the role of the professional nurse and the nursing profession. The course explores nursing theory, health care models of practice and diversity issues, as well as legal and ethical realities within the healthcare delivery system. Students will also demonstrate an understanding of the ethical component of developing and conducting research. *Prerequisite: Admission to the honors program.*

**NSG 355. Women's Health. 3.00.**

This course promotes synthesis of concepts and principles utilized in health promotion, risk reduction and critical reasoning in the management of women's health care. Areas of focus include women's health issues, perinatal care of mothers and infants, and gynecological health. Clinical experiences provide students with opportunities to apply evidence based

practice for women/newborn/family units of diverse cultural backgrounds. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L, NSG 353. Corequisite: NSG 355L.*

**NSG 355L. Women's Health Clinical. 1.00.**

This course promotes synthesis of concepts and principles utilized in health promotion, risk reduction and critical reasoning in the management of women's health care. Areas of focus include women's health issues, perinatal care of mothers and infants, and gynecological health. Clinical experiences provide students with opportunities to apply evidence based practice for women/newborn/family units of diverse cultural backgrounds. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L, NSG 353. Corequisite: NSG 355.*

**NSG 356. Clinical Applications & Reasoning in Nursing Care II. 4.00.**

This course focuses on pathophysiologic and pharmacologic concepts and principles of nursing process, health promotion, risk reduction, clinical decision making, and collaborative management of care for adults experiencing moderate to severe health alterations. Students will apply concepts, theories and skills in the nursing care of adults. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L, NSG 353. Corequisite: NSG 356L.*

**NSG 356L. Clinical Applications & Reasoning in Nursing Care II Clinical. 2.00.**

This course focuses on pathophysiologic and pharmacologic concepts and principles of nursing process, health promotion, risk reduction, clinical decision making, and collaborative management of care for adults experiencing moderate to severe health alterations. Students will apply concepts, theories and skills in the nursing care of adults. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L, NSG 353. Corequisite: NSG 356.*

**NSG 357. Psychiatric Mental Health Nursing. 3.00.**

This course examines the pathophysiology, psychosocial manifestations, psychopharmacological and psychiatric mental health nursing treatment of selected mental illnesses. Analysis of the role and practice of psychiatric mental health nursing both as a nursing specialty and as an integral facet of general nursing are emphasized. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L, NSG 353. Corequisite: NSG 357L.*

**NSG 357L. Psychiatric Mental Health Nursing Clinical. 1.00.**

This course examines the pathophysiology, psychosocial manifestations, psychopharmacological and psychiatric mental health nursing treatment of selected mental illnesses. Analysis of the role and practice of psychiatric mental health nursing both as a nursing specialty and as an integral facet of general nursing are emphasized. *Prerequisite: NSG 350, NSG 351, NSG 352, NSG 352L and NSG 353. Corequisite: NSG 356*

**NSG 360. HHS in Costa Rica: Interprofessional Perspective. 4.00.**

In this course students from nursing and other health-related majors will explore the health needs and the health and human services delivery system in Costa Rica, as well as the history and culture of this Central American country. Students will examine issues that impact health in the United States and Costa Rica and the roles of health care professionals in the delivery of healthcare. This immersion experience includes home stay with a host family and Spanish language study. *Prerequisite: Nursing and other health-related majors*

**NSG 363. Health Care in Spain: A Cross Cultural Exploration of Illness and Wellness. 4.00.**

In this course students will explore the health care system of Tarragona, Spain, through a partnership with the faculty of nursing at Universitat Rovira I Virgili. Through an international lens, students will learn about the Spanish nursing profession and related health fields, as well as the unique history, language and culture of this Catalonian region of Spain. Students will explore the ways that Spanish health professionals address health needs in both acute and community care settings in the context of the national health system, and they will compare and contrast this with their knowledge of the U.S. health system approach. This immersion experience includes home stay with a Spanish nursing student and Spanish language study. Minimal competence in Spanish preferred. *Prerequisite: Nursing or health-related major.*

**NSG 368. Chronic Illness: Treatment Strategies for Substance Use Disorders. 2.00.**

Nurses interact with individuals dealing with an array of chronic health issues including the use and abuse of psychoactive substances. Nurses are often first to recognize problems related to substance use disorders in hospitals and their communities. Nationally, there is a current healthcare crisis related to substance abuse, and deaths attributed to opioids continue to increase. This course examines the urgent need for all nurses to have a better understanding of substance use disorders and available treatment strategies to help address this problem. *Prerequisite: NSG 357 and NSG 357L.*

**NSG 390. Impact of Chronic Illness. 3.00.**

This course will explore core concepts of chronic illness across the lifespan from an interdisciplinary perspective. Epidemiology, economics, ethics, culture, family and policy will be emphasized. These topics and concepts will be related to model(s) of chronic care.

**NSG 391. Living Successfully with Chronic Illness. 3.00.**

This course will examine models and strategies that aid individuals to live successfully with chronic illness. An interdisciplinary evidence-based approach will be used to investigate how outcomes may be improved through the individual's integration of lifestyle changes within the context of culture and family.

**NSG 392. Hello Nurse: Images of the Nurse in American Culture. 2.00.**

The image of the nurse in American culture has been varied, complex, and provocative. This course will introduce students to textual images of nurses in fiction, film, television, and visual arts within the context of American and nursing history.

**NSG 393. Family Violence. 1.00.**

This course introduces students to the roots of family violence, including the political, cultural, social, and economic structures that perpetuate violence, and explores approaches to changing those structures in order to reduce or end violence. Students will think critically about the local and global impact of family violence, how it intersects with other forms of oppression, and achieve an understanding of these issues that will be useful intellectually and personally.

**NSG 415. Ethical Decision-Making in Healthcare: an Interprofessional Approach. 1.00. *Crosslisted with IPE 415.***

Health care ethics is a shared, relevant concern among health and human service disciplines and is an ideal vehicle for students from different fields to learn about one another's disciplines and to participate in inter-professional team analysis, discussion, and problem-solving. We have designed an integrated cross-disciplinary learning experience for students interested in the complex, real-world dilemmas encountered in practice. The readings and activities will emphasize ethical, legal, moral and spiritual issues and principles for practice within the context of communicating in inter-professional teams.

**NSG 417. Women's Global Health and Human Rights. 3.00. *Crosslisted with HTH 417, WGSS 417.***

An international and human rights approach providing an overview of health issues within the context of a woman's life cycle. Attention will be given to critical issues of women's health such as access to health care and gender based violence. Such issues as sexuality, nutrition, diseases affecting women, violence, harmful traditional practices, and sex trafficking will be discussed.

**NSG 450. Nursing Inquiry and Research Methods. 3.00.**

This course will enhance students' ability to locate and critically appraise evidence-based guidelines and nursing research to determine their applicability to nursing practice. Students critically examine the links among nursing research, theory and practice. Students will develop an understanding of the underlying paradigms and activities within quantitative and qualitative research. *Prerequisite: Formal acceptance into the nursing major.*

**NSG 450H. Nursing Inquiry and Research Methods. 3.00.**

This course will enhance the students' ability to locate and critically appraise evidence-based guidelines and nursing research to determine their applicability to nursing practice. Students critically examine the links among nursing research theory, and practice. Students will develop an understanding of the underlying paradigms and activities within quantitative and qualitative research. Students will synthesize literature from individual review of research and prepare for public presentation. *Prerequisite: Formal acceptance into the nursing*



major and the honors program.

**NSG 451. Child Health. 3.00.**

This course promotes the development of knowledge, skills and the ability to care for children including those with acute and chronic illnesses/conditions. Learning will focus on the unique healthcare needs of children with emphasis on family centered care. Students will apply knowledge through clinical reasoning in planning and facilitating nursing care for children and families. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357 and NSG 357L. Corequisite: NSG 451L.*

**NSG 451L. Child Health Clinical. 1.00.**

This course promotes the development of knowledge, skills and the ability to care for children including those with acute and chronic illnesses/conditions. Learning will focus on the unique healthcare needs of children with emphasis on family centered care. Students will apply knowledge through clinical reasoning in planning and facilitating nursing care for children and families. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357, NSG 357L. Corequisite: NSG 451.*

**NSG 452. Clinical Applications and Reasoning in Nursing Care III. 4.00.**

This course focuses on the integration of complex pathophysiologic and pharmacologic concepts and principles for adults experiencing moderate to severe health alterations. Students will apply the nursing process to promote health and safety, to augment clinical reasoning and clinical decision making, and to integrate interprofessional collaboration in the care of patients. *Prerequisite: NSG 352, NSG 352L, NSG 356 and NSG 356L.*

**NSG 452L. Clinical Applications & Reasoning III Clinical. 2.00.**

This course focuses on the integration of complex pathophysiologic and pharmacologic concepts and principles for adults experiencing moderate to severe health alterations. Students will apply the nursing process to promote health and safety, to augment clinical reasoning and clinical decision making, and to integrate interprofessional collaboration in the care of patients. *Prerequisite: NSG 352, NSG 352L, NSG 356 and NSG 356L. Corequisite: NSG 452*

**NSG 453. Population-Centered Care in the Community. 3.00.**

In this course, students develop the knowledge, skills, and ability to conduct and interpret systematic assessments of families and vulnerable groups in community settings. The impact of increasing societal and cultural changes across the life span will be emphasized. Theoretical concepts of community-based health promotion and disease prevention of vulnerable populations will be presented emphasizing Healthy People 2020 objectives. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357 and NSG 357L. Corequisite: NSG 453L.*

**NSG 453L. Population-Centered Care in the Community Clinical. 2.00.**

Students develop the knowledge, skills, and ability to conduct and interpret systematic assessments of families and vulnerable groups in community settings. The impact of increasing societal and cultural changes across the life span will be emphasized. Theoretical concepts of community-based health promotion and disease prevention of vulnerable populations will be presented emphasizing Healthy People 2020 objectives. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357 and NSG 357L. Corequisite: NSG 453.*

**NSG 454. Transition to Practice. 3.00.**

This course explores current factors that impact the transition from student to the licensed professional nurse. The student will have the opportunity to examine and apply leadership and management principles in acute and chronic healthcare settings with a focus on safe, ethical, and quality patient care. Students will use an interprofessional approach to coordinate care for a group of patients. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357, NSG 357L, NSG 450, NSG 451, NSG 451L, NSG 452, NSG 453 and NSG 453L. Corequisite: NSG 454L.*

**NSG 454L. Transition to Practice Clinical. 2.00.**

This course explores current factors that impact the transition from student to the licensed professional nurse. The student will have the opportunity to examine and apply leadership and management principles in acute and chronic healthcare settings with a focus on safe, ethical, and quality patient care. Students will use an interprofessional approach to coordinate care for a group of patients. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357, NSG 357L, NSG 450, NSG 451, NSG 451L, NSG 452, NSG 453 and NSG 453L. Corequisite: NSG 454.*

**NSG 455. Nursing Informatics. 2.00.**

This course explores nursing informatics and technology applications in health care. Emphasis is on preparing entry level nurses with core nursing informatics competencies. A major theme is the use of information systems and technologies to improve the quality and safety of patient care in a changing health care environment. Students will develop their nursing informatics knowledge and skills through reading, discussions, exploration, and utilization of electronic modalities. *Prerequisite: formal acceptance into the Nursing Program.*

**NSG 455H. Nursing Informatics. 2.00.**

This course explores nursing informatics and technology applications in health care. Emphasis is on preparing entry level nurses with core nursing informatics competencies. A major theme is the use of information systems and technologies to improve the quality and safety of patient care in a changing health care environment. Students will develop their nursing informatics knowledge and skills through reading, discussions, exploration and utilization of electronic modalities. Students will analyze, assess and present individually an IHI Quality Assessment of a healthcare site. *Prerequisite: Admission to the nursing major and honors program.*

**NSG 456. Capstone. 5.00.**

This course is a focused nursing practicum under the direct supervision of clinical nurse preceptors. The purpose of the capstone experience is to facilitate student development in time management, critical thinking, assessment, clinical reasoning, documentation and psychomotor skills. *Prerequisite: NSG 355, NSG 355L, NSG 356, NSG 356L, NSG 357, NSG 357L, NSG 450, NSG 451, NSG 451L, NSG 452, NSG 453 and NSG 453L.*

**NSG 460. Healthcare Informatics. 3.00.**

This course focuses on the nature and functions of present and future applications of health care informatics. Emphasis is on preparing current and future health care professionals to plan, design, collaborate with other health care disciplines, and utilize healthcare informatics for effective health care delivery, health organizational management, and improved client outcomes. *Prerequisite: Admitted R.N.-B.S.N. majors only.*

**NSG 461. Pathophysiology and Pharmacology. 3.00.**

This course, offered to RN-BSN program students, provides an examination of complex physiologic responses and clinical sequel in major body systems in relation to pathologic processes. Emphasis is on physiologic compensation and defense responses. Pharmacologic management of pathology is investigated. *Prerequisite: Admission to RN-BSN program.*

**NSG 462. Issues in Contemporary Nursing Practice. 3.00.**

This course examines contemporary issues related to the profession of nursing. Historical and modern day influences that impact the profession of nursing are explored. Students are introduced to resources that support the individual nurse and the profession of nursing to navigate current issues and create resolutions. Multiple asynchronous course activities are utilized to engage the adult learner. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 463. Professional Role Transition. 3.00.**

This online course expands the students' current knowledge of concepts related to nursing theory, nursing image and professional role development at the B.S.N. level. Emphasis will be placed upon leadership and management skill development at the personal level. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 464. Introduction to Nursing Research. 3.00.**

This online course will focus on the study of research methods that generate quantitative and qualitative data. Students will examine the research process with an emphasis on critique of research methodologies and application of research findings to nursing practice. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 466. Community Health Practicum. 1.00.**

This practicum, for RN-BSN students, transitions practice into the BSN role through mentored clinical experiences at selected community sites. Emphasis is on collaborative nursing care with individuals, families and groups within the community. Experiences include concepts of health promotion and disease prevention and management of acute or chronic illness. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 469. Caring for the Public's Health: Community Health Nursing. 4.00.**

This course provides RN-BSN students a perspective of professional nursing at the community level of practice. Course content will provide an overview of specific issues and societal concerns that affect community health nursing practice including historical impact of public health, epidemiology, health promotion and disease prevention, vulnerable populations; communicable disease risk and prevention; and the diversity of the role of the community health nurse. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 471. Leadership and Management in Health Care. 3.00.**

This online course explores the role of the nurse as a leader in professional health care delivery through an examination of healthcare organizations, leadership theories and management styles, organizational change, conflict resolution, fiscal and economic issues, and professional political responsibility. *Prerequisite: Admission to R.N.-B.S.N. program.*

**NSG 480. Nsg Practicum: Capstone. 6.00.**

An in-depth focused practicum experience for JMU senior nursing students. The purpose of the Capstone Experience is to help students gain confidence in time-management, critical thinking, assessment, diagnostic reasoning, documentation and psychomotor skills under the direct supervision of clinical preceptors.

**NSG 481. Nsg Practicum: the Nurse Leader. 1.00.**

This course provides the student with the opportunity to apply leadership and management principles in acute and chronic healthcare settings with a focus on safe and efficient, quality patient care. A team-based approach will be used by students to oversee the care coordination of a group of patients and provide direct patient care as a member of an interdisciplinary healthcare team.

**NSG 482. Practicum: Home Health Case Management. 1.00.**

During this practicum experience students provide nursing care in the home and gain knowledge for persons and their families experiencing acute and chronic illness and/or hospice care. Students are precepted by agency nurse case managers in the delivery and coordination of care in the home

**NSG 490. Special Studies. 1.00 - 6.00.**

Study of selected topics in nursing. No prerequisites.

**NSG 497. Independent Study. 1.00 - 3.00.**

Independent study in nursing under faculty supervision. *Prerequisite: Permission of the department head.*

**NSG 499A. Honors Thesis I. 1.00.****NSG 499B. Honors Thesis II. 2.00 - 3.00.****NSG 499C. Honors Thesis III. 2.00.****Nutrition****NUTR 240. Basic Food Preparation Skills. 2.00.**

Students will become proficient in a conventional kitchen setting by learning and practicing basic culinary skills, cooking techniques and food safety. This course serves as a foundation for highly technical foods-related courses in the dietetics major. *Prerequisite: Dietetics major.*

**NUTR 280. Nutrition for Wellness. 3.00.**

Students will study the impact of nutrition on wellness by learning nutrients, their functions in the human body, food sources and appropriate intake levels. Controversies surrounding use of various nutrients for improvement of health and well-being will be discussed.

**NUTR 295. Foundations of Nutrition Practice. 2.00.**

An introduction to the profession of dietetics, credentialing processes in nutrition/dietetics, careers available in the field, and some basic skills needed for the profession.

**NUTR 340. Science of Food Preparation. 3.00.**

This course explores the chemical composition of food, physical and chemical changes in food associated with household and industrial preparation techniques, definition of standard products, and appropriate assessment techniques for judging food quality. Laboratory component provides opportunity to judge foods prepared by different techniques. *Prerequisite: CHEM 131 or equivalent, admission to the dietetics program.*

**NUTR 360. Management in Dietetics. 3.00.**

Application of management concepts, theories and principles to dietetics with a focus on the work environments (clinical and foodservice) in which registered dietitians must effectively practice. *Prerequisite: Admission to the Dietetics major*

**NUTR 362. Food Services Systems. 3.00.**

An integration of menu planning, food procurement, equipment selection and layout to provide quality food service in a variety of food systems. *Prerequisite: Admission to the Dietetics major*

**NUTR 363. Quantity Food Production**

The principles of quantity food production and service are studied. *Prerequisite: Admission to the Dietetics major.*

**NUTR 380. Global Nutrition. 3.00.**

A study of food habits from around the world and their contributions to nutritional adequacy. Factors affecting global food-consumption behaviors including sociocultural practices, religion, health beliefs, agricultural practices, economics, politics and education will be explored.

**NUTR 382. Sports Nutrition. 3.00.**

A study of the relationship of nutrition and athletic performance. Identification of the effects of age, sex, body build, environment, and state of health on energy needs and energy sources during physical activity. *Prerequisite: NUTR 280.*

**NUTR 384. Clinical Nutrition I**

This course introduces nutrition as a disease therapy and the role of the clinical dietitian as a member of the health care team. Topics covered include nutrition screening and assessment, medical records documentation, basic dietary modifications, and patient/family counseling. *Prerequisite: Admission to the Dietetics Major and NUTR 340*

**NUTR 385. Nutrition Throughout the Life Cycle. 3.00.**

A study of the nutritional needs throughout the life cycle and the development of food habits. Nutrition assessment and nutrition education from prenatal health through infancy, childhood, adolescence, adulthood and old age are emphasized. *Prerequisite: Admission to the Dietetics major*

**NUTR 395. Introduction to Patient Care in Dietetics. 2.00.**

A study of the concepts of patient care in dietetics, skills needed for Medical Nutrition Therapy, and the dietitian's role on the health care team. *Prerequisite: Dietetics Majors and NUTR 280.*

**NUTR 446. Experimental Foods. 3.00.**

An introduction to research in foods. Different techniques of food preparation are studied and evaluated for most acceptable methods to obtain standard food products. *Prerequisite: Admission to the dietetics major, NUTR 340, organic chemistry and statistics.*

**NUTR 455. Exercise and Nutrition in Chronic Disease. 3.00. Crosslisted with KIN 424.**

This interdisciplinary course examines the evidence-based relationship between exercise and diet patterns and behaviors, and major chronic diseases. Students will understand the epidemiology and pathogenesis of prevailing chronic diseases. Emphasis will be placed on developing exercise and dietary strategies to reduce the burden of chronic disease. *Prerequisite: BIO 270, BIO 290, NUTR 280 or permission of the instructor.*

**NUTR 482. Nutrition and Metabolism. 3.00.**

A study of the nutrients, their roles in intermediary metabolism, the effects of genetic errors in metabolism, nutritional deficiencies and means of assessing nutritional status. Agencies and programs concerned with nutrition and health and current trends in nutrition research are emphasized. *Prerequisite: Admission to the dietetics major, BIO 290 CHEM 260, MATH 220. Corequisite: BIO 290.*

**NUTR 484. Clinical Nutrition II. 3.00.**

A study of the use of diet in preventing illness and as a means of treating disease. Emphasis is given to patient education. *Prerequisite: Admission to the dietetics major, NUTR 384 and NUTR 482*

**NUTR 485. Community Nutrition. 3.00.**

A study of human nutrition and health problems from a community perspective, programs and policies related to nutrition at local, state, and federal levels including preventive nutrition or wellness, and approaches and techniques for effective application and dissemination of nutrition knowledge in the community. *Prerequisite: Admission to dietetics major.*

**NUTR 486. Counseling Skills for Dietetics. 3.00.**

This course will cover principles, theories and techniques of nutrition counseling for dietetics practice. *Prerequisite: Full admission to the Dietetics major, NUTR 384 and NUTR 385.*

**NUTR 490. Field Experience in Dietetics. 3.00.**

Students participate in field experience relating to their major area of dietetics and their career goals under the coordination of a dietetics faculty member. On-the-job supervision will be provided by the participating hospital dietitians. *Prerequisite: Admission to the dietetics major, NUTR 384 and NUTR 395. Application for enrollment must be completed through the course instructor in the fall semester prior to the summer in which it will be taken.*

**NUTR 495. Senior Seminar in Dietetics. 3.00.**

Dietetics students will conduct a senior research project. In addition, the Code of Ethics and Standards of Practice of the American Dietetics Association will be investigated, and students will prepare for their postgraduate dietetics internship. *Prerequisite: Admission to the Dietetics major*

**NUTR 496. Special Studies in Nutrition/Dietetics. 1.00 - 3.00.**

This course is designed to give the student in dietetics an opportunity to complete independent study, professional conference participation, and/or research under faculty supervision. *Prerequisite: Permission of the coordinator of the dietetics program.*

**NUTR 499A. Honors. 1.00.**

In this course students will propose their honors thesis research project.

**NUTR 499B. Honors. 3.00.**

In this course students will complete a comprehensive review of literature and a formal plan for their honors thesis research project. They may also collect data if appropriate during this semester.

**NUTR 499C. Honors. 2.00.**

In this course students will complete research for their honors thesis project, write results, discussion and conclusions sections of the paper, and submit the final paper to the research committee and the Honors Program.

**Persian****PERS 101. Elementary Persian I. 3.00 - 4.00.**

The fundamentals of Persian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. Students will receive no credit for the course if he/she has had two or more years of the language in high school.

**PERS 102. Elementary Persian II. 3.00 - 4.00.**

The fundamentals of Persian through a higher level of listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. *Prerequisite: PERS 101.*

**PERS 111. Intensive Persian I. 6.00.**

The fundamentals of Persian through listening, speaking, reading and writing. The 14-week course is the equivalent of PERS 101-102.

**PERS 231. Intermediate Persian I. 3.00.**

A thorough review of first year grammar and vocabulary building. Conversation, composition and reading will be chosen to reach competency at the lower intermediate level. *Prerequisite: PERS 102*

**PERS 232. Intermediate Persian II. 3.00.**

A thorough review of PERS 231 grammar and vocabulary building. Conversation, composition and reading will be chosen to reach competency at the advanced intermediate level. *Prerequisite: PERS 231 or permission of instructor.*

**PERS 490. Special Studies in Persian. 1.00 - 4.00.**

Special topics or independent studies in Persian.

**Philosophy****PHIL 101. Introduction to Philosophy [C2HQC]. 3.00.**

An introduction to the basic problems and concepts of philosophy – the nature of man and the self, ethics, theories of knowledge, philosophy of religion, etc., as revealed in the writings of the major philosophers. May be used for general education credit.

**PHIL 101H. Introduction to Philosophy - Honors [C2HQC]. 3.00.**

An introduction to the basic problems and concepts of philosophy: the nature of man and the self, ethics, theories of knowledge, philosophy of religion, etc., as revealed in the writings of the major philosophers. May be used for general education credit. *Prerequisite: Honors Students*

**PHIL 120. Critical Thinking [C1CT]. 3.00.**

An introduction to the techniques for analyzing and evaluating information in everyday experience. The functions of language will be discussed. Techniques for judging the strengths of arguments and the probable truth of the arguments' premises will be examined. This course does not meet the philosophy requirement for the B.A. degree. May be used for general education credit. May not be used for major credit.

**PHIL 120H. Critical Thinking - Honors [C1CT]. 3.00.**

An introduction to the techniques for analyzing and evaluating information in everyday experience. The functions of language will be discussed. Techniques for judging the strengths of arguments and the probable truth of the arguments' premises will be examined. This course does not meet the philosophy requirement for the B.A. degree. May be used for general education credit. May not be used for major credit. *Prerequisite: Honors Only & A:C1CT*

**PHIL 150. Ethical Reasoning [C1CT]. 3.00. *Crosslisted with PHIL 150H.***

An introduction to the principles and techniques of rational decision making in ethics, including analysis of arguments and fallacies, ethical theories, and applications of moral principles to moral issues. This course cannot be used to fulfill the B.A. Philosophy requirement. May be used for general education credit. May not be used for major credit.

**PHIL 150H. Ethical Reasoning. 3.00. *Crosslisted with PHIL 150.***

An introduction to the principles and techniques of critical thinking in ethics, including analysis of arguments and fallacies, ethical theories, and applications of moral principles to moral issues. This course does not meet the philosophy requirement for the B.A. degree. May be used for general education credit. May not be used for major credit.

**PHIL 200. Character and Virtue. 3.00.**

An examination of philosophical perspectives on the nature and importance of character and virtue.

**PHIL 210. Philosophy Through Film. 3.00.**

This course combines feature length films and classic philosophical writings as points of departure for considering perennial philosophical questions such as: What is real? (Metaphysics) How can I know? (Epistemology) What is of value? (Morality).

**PHIL 218. Philosophy of Religion. 3.00. *Crosslisted with REL 218.***

An intensive examination of religion from the standpoint of philosophical thinking with particular emphasis on the way philosophers view such problems as the existence of God, evil, immortality, religious language, etc.

**PHIL 240. Greek Philosophy in Context. 3.00.**

This course will involve exploration of the intellectual world of the Ancient Greeks, with particular emphasis on the philosophical, historical, and literary works produced during the period. The course will include lectures and site visits throughout Greece.

**PHIL 250. Introduction to Symbolic Logic. 3.00.**

An introduction to the languages and techniques of propositional logic and first-order quantification theory.

**PHIL 262. Problems in Applied Ethics. 3.00.**

Ethical theories are used to analyze contemporary moral issues in areas such as business and health care. Course content varies.

**PHIL 285. Philosophy, Art, and Literature. 3.00.**

This course will study artistic works (literary or otherwise) for their philosophical content. Related issues in the philosophy of art for example, the nature of tragedy, theories of interpretation may also be considered.

**PHIL 300. Knowledge & Belief. 3.00.**

An extensive examination of theories of knowledge and philosophical problems concerning knowledge and belief. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 305. Seminar in Aesthetics. 3.00. *Crosslisted with ART 305.***

Readings and discussions in the persistent philosophical problems of the arts, centering on consideration of the work of art, the artist and the audience. *Prerequisite: ART 200, ARTH 205, ARTH 206 or PHIL 101.*

**PHIL 310. Symbolic Logic. 3.00.**

The study and application of the principles and techniques of modern deductive logic to natural language. Also, examination of the properties of formal systems and of the logical implications and paradoxes of language. *Prerequisite: PHIL 250 or instructor consent.*

**PHIL 311. Metaphysics. 3.00.**

Examination of central questions regarding the fundamental nature of reality. Possible topics: universals and particulars, possibility and necessity, identity of objects over time and puzzles of material constitution, the problem of free will and determinism, and the nature of time. *Prerequisite: At least one other philosophy course or approval of the instructor*

**PHIL 315. Logic and Legal Reasoning. 3.00.**

Application of symbolic logic (first-order logic with identity) to legal language and deductive legal argument. Will include close logical analysis of at least one of the following: Supreme Court brief, Supreme Court decision, Supreme Court oral argument. *Prerequisite: PHIL 250 or instructor consent.*

**PHIL 326. Introduction to Non-Standard Logics. 3.00.**

This course will examine some nonstandard logics and some of the philosophical issues they raise. Topics may include modal logic, intuitionistic logic, temporal logic or many valued logics.

**PHIL 330. Moral Theory. 3.00.**

An examination, at the intermediate level, of both classical and contemporary moral theories. Critical analysis of the normative and meta-ethical issues these theories raise.

*Prerequisite: PHIL 101 or PHIL 270, or permission of instructor.*

**PHIL 335. The Individual, the State, and Justice. 3.00.**

Mid-level class in political philosophy. Will read classic and/or contemporary texts in philosophy influential on political thought. Focus may be on views of the justification for, and role of, the state. Consideration may also be given to the proper relationship of individuals and the state, political freedom, and autonomy. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 340. Ancient Greek Philosophy. 3.00.**

This course traces philosophical problems raised by the pre-Socratics, Parmenides, Heraclitus, Pythagoras and the Sophists, through their treatment by Plato and Aristotle. Emphasis is placed on selected writings of Plato and Aristotle. *Prerequisite: PHIL 101 and Junior Standing or permission of the instructor.*

**PHIL 341. Modern Philosophy. 3.00.**

A selective survey of major issues and thinkers in Western philosophy from Descartes to Kant.

**PHIL 342. Medieval Philosophy. 3.00.**

A survey of the major issues and thinkers of the medieval philosophical world with emphasis on the philosophical writings of those within the Western tradition, such as (e.g.) Augustine, Anselm, Aquinas, and Scotus. *Prerequisite: One other philosophy course, or approval of the instructor.*

**PHIL 343. Stoics, Sceptics and Epicureans. 3.00.**

This course will focus on philosophy from the Hellenistic and Roman periods (4th C. BCE through 5th C. CE), with a special emphasis on Epicureanism, Stoicism and Skepticism. *Prerequisite: One other PHIL course or permission of the instructor.*

**PHIL 344. Existentialism. 3.00.**

An examination of existentialism and its major spokesmen including such authors as Kierkegaard, Nietzsche, Sartre, Camus, Marcel and Heidegger. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 350. The Philosophy of Feminism. 3.00. *Crosslisted with WGSS 350.***

An intermediate-level examination of philosophical problems in feminist theory and feminist contributions to philosophy.

**PHIL 367. Topics of Philosophy of Law. 3.00.**

Examination of the philosophical issues raised by the law, including the nature, foundation, and limits of the law, theories of its interpretation, and the fundamental interests it aims to protect. *Prerequisite: PHIL 262 or PHIL 330 or PHIL 335.*

**PHIL 370. American Philosophy. 3.00.**

A study of the main philosophical ideas in America, especially pragmatism, with particular emphasis being given to Pierce, James, Royce, Dewey and Whitehead. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 375. Nineteenth Century Philosophy and Theology. 3.00. *Crosslisted with REL 375.***

A selected study of 19th-century thought, with emphasis on controversies concerning the nature and limits of reason, the ultimate meaning of history, and the inner meaning and social significance of religion. Pertinent thinkers include Hegel, Marx, Schleiermacher, Kierkegaard, Nietzsche and others.

**PHIL 376. Nietzsche. 3.00.**

An examination of Nietzsche's philosophy based on close study of one or more of his major works. The course may also more briefly examine one or more thinkers who especially influenced Nietzsche (for example Schopenhauer) or who were strongly influenced by him (for example Foucault). *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 377. Hermeneutics. 3.00. *Crosslisted with REL 377.***

This course will examine the main features of hermeneutics with particular emphasis on its contemporary perspectives. Discussion will focus on such themes as human understanding and human finitude, the nature of history and tradition, linguisticity and textuality of experience. Readings may address Gadamer, Ricoeur, Schleiermacher, and Dilthey. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 380. Philosophy of Language. 3.00.**

An examination of the central issues in contemporary (mainly 20th century) philosophy of language. Potential topics to be covered include meaning, reference, the nature of language and the nature of truth. Potential philosophers to be examined include Mill, Frege, Russell, Kripke, Lewis and Grice. *Prerequisite: One other course in philosophy or permission of the instructor.*

**PHIL 390. Special Topics in Philosophy. 3.00.**

Topics for this intermediate-level course may be drawn from any area or period of philosophy chosen by the instructor. The course is designed primarily for philosophy majors and minors, but any suitably prepared student may take the course with permission of the instructor. *Prerequisite: One other PHIL course or permission of the instructor.*

**PHIL 391. Advanced Special Topics in Philosophy. 3.00.**

Topics for this advanced course may be drawn from any area or period of philosophy chosen by the instructor. The course is designed primarily for philosophy majors and minors, but any suitably prepared student may take the course with the permission of the instructor. May be repeated for credit. *Prerequisite: Six hours of philosophy or consent of the instructor.*

**PHIL 392. Philosophy of Mind. 3.00.**

An examination of competing theories of the intrinsic nature of mental states and mental processes, including careful consideration of questions concerning the relation between the mind and the physical world. *Prerequisite: PHIL 101 or approval of the instructor*

**PHIL 394. Self and Identity. 3.00.**

This course will explore the philosophical aspects of personal identity, with particular emphasis on the metaphysics of the self. Other issues considered may include the nature of the soul, the status of self-knowledge and the ethical aspects of personhood. *Prerequisite: One other PHIL course or permission of the instructor.*

**PHIL 396. Philosophy of Physics. 3.00.**

This course examines the philosophical foundations of physics. Some of the philosophical issues explored in the course may include how various theories in physics impact metaphysics, ontology and/or epistemology. Topics may include the nature of space and time, special relativity, general relativity, quantum theory, classical mechanics, thermodynamics, and/or cosmology.

**PHIL 397. Philosophy of Space and Time. 3.00.**

This course will survey debates about the nature of space and time. Topics may include Zeno's paradoxes, time travel, relationism vs. substantivalism, classical accounts of space and time, and relativistic space time.

**PHIL 398. Philosophy of Quantum Theory. 3.00.**

Quantum theory describes atoms and particles and is one of the most empirically successful physical theories. However, quantum theory seems to have revolutionary conceptual implications for metaphysics and epistemology. This course offers an introduction to philosophical problems raised by quantum theory. Topics may include the measurement problem, quantum entanglement, different interpretations of quantum mechanics, the Einstein-Podolsky-Rosen (EPR) paradox, and Bell's theorem.

**PHIL 410. Philosophy of Science. 3.00.**

This course surveys a number of topics about the nature of science. The topics may include the problem of distinguishing science from pseudoscience, the nature of scientific explanation, the notion of progress in science, and the realism and anti-realism debate.

**PHIL 420. Philosophy of Language. 3.00.**

An examination of the central issues in contemporary (mainly 20th Century) philosophy of language. Potential topics to be covered include meaning, reference, the nature of language, and the nature of truth. Potential philosophers to be examined include Mill, Frege, Russell, Kripke, Lewis and Grice. *Prerequisite: PHIL 250 and one other course in philosophy course or permission of the instructor.*

**PHIL 430. Analytic Philosophy. 3.00.**

An examination of the origins and development of contemporary philosophical analysis, with special attention given to the nature and uses of language as well as logical structures of confirmation and explanation. *Prerequisite: PHIL 101, PHIL 250 or permission of the instructor.*

**PHIL 440. Advanced Moral Philosophy. 3.00.**

A critical examination, at the advanced level, of recent or historical work on normative and/or metaethical issues in moral philosophy. *Prerequisite: PHIL 101, PHIL 330 or permission of the instructor.*

**PHIL 460. Topics in Classical Philosophy. 3.00.**

An advanced study of major issues in or the writings of one, or more thinkers in ancient Greece through the western medieval period. *Prerequisite: PHIL 340 and Junior Standing or permission of instructor. May be repeated for credit with change of topics.*

**PHIL 466. Kant. 3.00.**

An examination of the theory of knowledge and the critique of traditional metaphysics set forth in Kant's Critique of Pure Reason, and of the ethical theory and the moral metaphysics defended in his Groundwork to the Metaphysics of Morals and Critique of Practical Reason. The course may also more briefly explore some related topics, such as Kant's views on aesthetics and teleology, or the key ideas of important post-Kantian philosophers like Fichte, Schelling or Hegel. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 468. Phenomenology. 3.00.**

A study of phenomenological investigation into the fundamental structures and conditions of conscious experience -- meaning-laden, first person experience of objects, of events, of one's self, of other persons, of one's world, and so forth. The course will devote special attention to the work of Husserl and of Heidegger. Additional authors may be studied, such as Sartre, Merleau-Ponty or Levinas. *Prerequisite: PHIL 101 or permission of the instructor.*

**PHIL 490. Special Topics in Philosophy. 3.00.**

Designed to give capable students an opportunity to complete independent study in philosophy under faculty supervision. May be repeated for credit.

**PHIL 495. Philosophy Course Assistantship. 1.00 - 6.00.**

Students participate as course assistants in philosophy. Assistantships provide students with a sense of what it is like to teach a philosophy course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships may also provide opportunities for student assistants to lead discussion and to help their peers review the material outside of the classroom. *Prerequisite: May be repeated once if assisting a different course, with six maximum total credit hours for both courses combined. Only three credit hours can apply to major or minor.*

**PHIL 499A. Honors Thesis. 1.00.****PHIL 499B. Honors Thesis. 3.00.****PHIL 499C. Honors Thesis Prep. 2.00.****Physics****PHYS 105. Foundations of Physics. 1.00.**

An introduction to the study of physics and the Physics Department. Presentations are given by faculty and students to acquaint the students with current research opportunities in the Department and the application of physics to a broad spectrum of topics.

**PHYS 121. The Physical Nature of Light and Sound (3, 1) [C3PP]. 4.00.**

A study of the physical properties of light and sound waves. Topics include production, propagation and spectral analysis of waves. Applications to be covered include musical instruments, sound reproduction, room acoustics, optical instruments (cameras, projectors, lasers), and color in art and nature. The course will include outside-of-class experiential activities. May be used for general education credit.

**PHYS 140. College Physics I [C3PP]. 3.00.**

The first semester of a non-calculus sequence in general physics. Topics include principles of mechanics, thermal properties of matter, wave motion and sound. A working knowledge of algebra and trigonometry is required. May be used for general education credit.

**PHYS 140L. General Physics Laboratory [C3PP]. 1.00.**

These laboratory courses are designed to complement and supplement the PHYS 140-150 and PHYS 240-250 lecture courses. PHYS 140L may be used for general education credit. *Prerequisite: PHYS 140 or PHYS 240. Corequisite: For PHYS 140L: PHYS 140 or PHYS 240.*

**PHYS 150. College Physics II. 3.00.**

The second semester of a non-calculus sequence in general physics. Topics include electric charges, circuits, magnetism, optics, atomic and nuclear physics. *Prerequisite: PHYS 140 (Must attain a grade of C- or higher).*

**PHYS 150H. College Physics II - Honors. 3.00.**

The second semester of a non-calculus sequence in general physics. Topics include electric charges, circuits, magnetism, optics, atomic and nuclear physics. *Prerequisite: PHYS 140 (Must attain a grade of C- or higher).*

**PHYS 150L. General Physics Laboratory. 1.00.**

These laboratory courses are designed to complement and supplement the PHYS 140-150 lecture courses. *Prerequisite: PHYS 140L and either PHYS 140 or PHYS 150. Corequisite: PHYS 150.*

**PHYS 215. Energy and the Environment [C3PP]. 3.00. Crosslisted with PHYS 215H.**

Energy use, sources and trends; fossil fuels, heat-work conversions, thermodynamic restrictions and electric power production; nuclear fission reactors and fusion energy; solar energy and technologies; alternative energy sources; energy storage; energy conservation; issues of waste and safety. Environmental, social and economic aspects will be discussed. Not open to ISAT majors scheduled to take ISAT 211 as part of their degree requirements. May be used for general education credit. *Prerequisite: One college course in science and one in mathematics.*

**PHYS 215H. Energy and the Environment [C3PP]. 3.00. Crosslisted with PHYS 215.**

Energy use, sources and trends; fossil fuels, heat-work conversions, thermodynamic restrictions and electric power production; nuclear fission reactors and fusion energy; solar energy and technologies; alternative energy sources; energy storage; energy conservation; issues of waste and safety. Environmental, social and economic aspects will be discussed. Not open to ISAT majors scheduled to take ISAT 212 as part of their degree requirements. May be used for general education credit.

**PHYS 240. University Physics I [C3PP]. 3.00.**

Kinematics, dynamics, energy and momentum conservation, oscillatory motion, fluid mechanics and waves. May be used for general education credit. *Corequisite: MATH 232 or MATH 235.*

**PHYS 240L. University Physics Laboratory I [C3PP]. 1.00.**

This laboratory course is designed to complement and supplement the PHYS 240 lecture courses. PHYS 240L may be used for general education credit. *Prerequisite: PHYS 240. Corequisite: PHYS 240.*

**PHYS 247. Data Acquisition and Analysis Techniques II. 1.00.**

This laboratory completes the Introductory Physics Lab sequence and is designed to supplement the PHYS 240/250 lecture courses. Topics include conception, design and performance of sophisticated experiments in physics; computer simulation of physical processes; analysis of experimental data; including uncertainty estimation; and error propagation. *Prerequisite: PHYS 250 and PHYS 240L.*

**PHYS 250. University Physics II. 3.00.**

Electric forces, fields and potentials; capacitance, dielectrics, resistance and DC circuits; magnetic fields, induced electric fields, inductance and AC circuits; geometrical optics, interference, diffraction and polarization. *Prerequisite: PHYS 240 with a grade of "C-" or higher is the prerequisite. Corequisite: MATH 236.*

**PHYS 250L. University Physics Laboratory II. 1.00.**

This laboratory course is designed to complement and supplement the PHYS 250 University Physics II lecture courses. *Prerequisite: PHYS 240L, PHYS 240, PHYS 250. Corequisite:*

PHYS 250.

**PHYS 260. University Physics III. 3.00.**

The course will cover oscillations and wave dynamics, special relativity, and rotational kinematics and dynamics. *Prerequisite: "C" or better in PHYS 150 or PHYS 250. Corequisite: MATH 237.*

**PHYS 270. Modern Physics I. 4.00.**

A course in modern physics, consisting of a discussion of the experimental basis for and fundamental principles of quantum physics, with applications to atomic structure and nuclear physics. *Prerequisite: "C" or better in PHYS 150 or PHYS 250, or consent of the instructor. Corequisite: MATH 237.*

**PHYS 295. Laboratory Apparatus Design and Construction. 1.00.**

An introduction to the design and fabrication of laboratory apparatus using machine tools. *Prerequisite: PHYS 250 or permission of the instructor*

**PHYS 297. Topics in Physics. 1.00 - 4.00.**

Topics in physics at the second-year level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

**PHYS 302. Science Pedagogy. 2.00.**

**PHYS 326. Biophysics. 3.00.**

Physical models are used to explain biological systems. Topics from biology include cell division, replication, transcription, and translation of DNA, protein folding, and molecular motors. Physics topics include entropy and free energy, diffusion, statistical mechanics of two state systems. Experimental tools for biophysics are also discussed. *Prerequisite: PHYS 150 or PHYS 250.*

**PHYS 330. Relativity. 4.00. Crosslisted with ASTR 330.**

The basic mathematical descriptions of both Einstein's special and general theories of relativity are introduced through specific physical cases and calculus-based lectures. Special relativity is explored through its physical consequences on a variety of phenomena. General relativity is studied by considering the effects of gravity on space-time curvature on astrophysical objects. Simple numerical experiments in both special and general relativity will be conducted as class projects. *Prerequisite: PHYS 260 and MATH 237, or permission of instructor.*

**PHYS 333. Introduction to Particle Physics. 3.00.**

This is an introduction to current themes and ideas which confront the fundamental nature of matter and interactions. The most widely accepted theory, the Standard Model, will be explored. Possible extension, beyond the Standard Model physics, will be discussed. Basic properties such as charge, mass, and lepton number will be examined within these frameworks. Experiments that illuminate the basic nature of matter and ideas such as symmetry and quantum physics will be reviewed and assessed. *Prerequisite: PHYS 270.*

**PHYS 337. Solid State Physics. 3.00.**

A study of the forces between atoms, crystal structure, lattice vibrations and thermal properties of solids, free electron theory of metals, band theory of solids, semiconductors and dielectrics. *Prerequisite: PHYS 270*

**PHYS 338. Nuclear Physics. 3.00.**

An introduction to the study of the atomic nucleus. Topics covered include static nuclear properties and movements, the force between nucleons, the deuteron, nucleon scattering, isospin, nuclear structure, radioactivity, decay kinematics and selection rules, fission, and fusion. *Prerequisite: PHYS 270.*

**PHYS 339. Introductory Nuclear Science. 4.00.**

An introduction to nuclear science that will provide a solid foundation for experimental work in applied nuclear physics. Detection of ionizing radiation, as it applies to nuclear physics, will be additionally covered in the laboratory-component of the course. Topics include concepts of radioactive decays, radiation transport and interaction with matter, basics of radiation detection devices, dosimetry, radiation therapy, X-ray production, and fission nuclear reactors. *Prerequisite: PHYS 270 or consent of instructor.*

**PHYS 340. Mechanics. 3.00.**

Application of the fundamental laws of mechanics to particles and rigid bodies. Topics include statics, dynamics, central forces, oscillatory motion and generalized coordinates. *Prerequisite: PHYS 260 and MATH 238.*

**PHYS 341. Non-Linear Dynamics and Chaos. 3.00. Crosslisted with MATH 341.**

Introductory study of nonlinear dynamics and chaos intended primarily for upper-level undergraduates in science or mathematics. Topics include stability, bifurcations, phase portraits, strange attractors, fractals, and selected applications of nonlinear dynamics in pure and applied science. Computers may be utilized for simulations and graphics. *Prerequisite: MATH 238 or (MATH 300 and MATH 336); and MATH 248*

**PHYS 342. Mechanics II. 3.00.**

A continuation of PHYS 340 including Lagrangian dynamics, rigid body motion and the theory of small oscillations. *Prerequisite: PHYS 340*

**PHYS 344. Advanced Physics Laboratory I. 1.00.**

The first course in a three-course laboratory sequence. A set of advanced laboratory experiences in which students are introduced to experimentation in several areas of physics while gaining experience in experiment design, data analysis, formal report writing and presentations *Prerequisite: PHYS 247*

**PHYS 345. Advanced Physics Laboratory II. 1.00.**

This is the second course in a three-course laboratory sequence. A set of advanced laboratory experiences in which students are introduced to experimentation in several areas of physics while gaining experience in experiment design, data analysis, formal report writing and presentations. *Prerequisite: PHYS 344*

**PHYS 346. Advanced Physics Laboratory III. 1.00.**

This is the third course in a three-course laboratory sequence. A set of advanced laboratory experiences in which students are introduced to experimentation in several areas of physics while gaining experience in experiment design, data analysis, formal report writing and presentations. *Prerequisite: PHYS 345*

**PHYS 350. Electricity & Magnetism. 3.00.**

A study of the electrostatic field, the magnetic field, direct and alternating currents, and electromagnetic waves. *Prerequisite: PHYS 260 and MATH 238.*

**PHYS 360. Analog Electronics. 4.00.**

DC and AC circuits, spectral and pulse circuit response, semiconductor physics, and simple amplifier and oscillator circuits. *Prerequisite: PHYS 250 or permission of the instructor.*

**PHYS 364. Introduction to Fluid Mechanics. 4.00. Crosslisted with MATH 364.**

Introduces the student to the application of vector calculus to the description of fluids. The Euler equation, viscosity and the Navier-Stokes equation will be covered. *Prerequisite: MATH 237 and PHYS 260. Corequisite: PHYS 260 and MATH 237, or permission of the instructor.*

**PHYS 367. Introduction to Acoustics. 3.00. Crosslisted with MATH 367.**

This course represents an introduction to sound, hearing, and vibration. Architectural, biological and environmental acoustics will also be discussed. Students will develop an ability to use mathematical models and experimental techniques to study problems in acoustics and to transfer this knowledge to analogous situations. They will also develop an ability to conduct a semester-long research or expository project and present it in written and oral form to an audience of peers. *Prerequisite: MATH 236.*

**PHYS 371. Digital Electronics. 2.00.**

Transistors, integrated circuits, logic families, gates, latches, decoders, multiplexers, multivibrators, counters and displays. *Prerequisite: PHYS 150 or PHYS 250 with a grade of "C" or better or permission of the instructor.*

**PHYS 372. Microcontrollers and Their Applications (2, 4). 2.00.**

Microcontrollers, their instructions, architecture and applications. *Prerequisite: PHYS 371 or permission of the instructor*

**PHYS 375. An Introduction to Materials Science. 3.00. Crosslisted with CHEM 375, MATS 375.**

An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials. *Prerequisite: CHEM 131, PHYS 150 or PHYS 250, ISAT 212 or permission of the instructor.*

**PHYS 380. Thermodynamics and Statistical Mechanics. 3.00.**

A treatment of the thermal properties of matter from both macroscopic and microscopic viewpoints. Topics include the laws of thermodynamics, heat, work, internal energy, entropy, elementary statistical concepts, ensembles, classical and quantum statistics and kinetic theory. Approximately equal attention will be given to thermodynamics and statistical mechanics. *Prerequisite: PHYS 270*

**PHYS 381. Materials Characterization (Lecture/Lab). 3.00. Crosslisted with MATS 381.**

A review of the common analytical techniques used in materials science related industries today, including the evaluation of electrical, optical, structural and mechanical properties. Typical techniques may include Hall Effect, scanning probe microscopy, scanning electron microscopy, ellipsometry and x-ray diffraction. *Prerequisite: PHYS 375 /MATS 375, ISAT 431/MATS 431 or GEOL 395 /MATS 395.*

**PHYS 386. Robots: Structure and Theory. 3.00.**

An introduction to the study of autonomous robotic platforms. Topics include robot structure, propulsion systems, robot kinematics, sensors used in robotics, and sensor integration. The course combines lectures with laboratory activities in which students will get hands-on experience in designing, building, programming, and testing autonomous robotic platforms. *Prerequisite: Completion of the basic preparation courses required for the robotics minor or permission of the instructor.*

**PHYS 387. Theory and Basic Principles of Mobile Robot Construction and Control. 3.00.**

The course is designed to familiarize the student with the basic elements of mobile robots. The course will provide students the opportunity to work with engineers and experts in the field of robotics to build a mobile robot while addressing the issues of control and principles of operation. The course will take advantage of the 4VA telepresence system to bring together experts and students from outside locations to supplement local instruction. *Prerequisite: Completion of the basic preparation courses required for the robotics minor or permission of the instructor.*

**PHYS 388. Robots for Humanity. 3.00.**

Interdisciplinary team based course in which real world problems will be analyzed and tackled using robotics. May be repeated for credit when course content changes. *Prerequisite: PHYS 387 or completion of the basic preparation courses required for the robotics minor or permission of the instructor.*

**PHYS 390. Computer Applications in Physics. 3.00.**

Applications of automatic computation in the study of various physical systems. Problems are taken from mechanics of particles and continua, electromagnetism, optics, quantum physics, thermodynamics and transport physics. *Prerequisite: MATH 248/CS 248, PHYS 240, PHYS 250 and six additional credit hours in major courses in physics, excluding PHYS 360, PHYS 371 and PHYS 372.*

**PHYS 391. Seminar. 0.00.**

Participation in the department seminar program. *Prerequisite: Junior or Senior Standing and permission of the instructor.*

**PHYS 392. Seminar. 1.00.**

Participation in the department seminar program. *Prerequisite: Junior or Senior Standing and permission of the instructor.*

**PHYS 397. Topics in Physics. 1.00 - 4.00.**

Topics in physics at intermediate level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

**PHYS 398. Independent Study in Physics or Astronomy. 1.00 - 3.00. Crosslisted with ASTR 398.**

An individual project related to some aspect of physics or astronomy. Must be under the guidance of a faculty adviser. A student may not earn more than a total of 4 credits for PHYS/ASTR 398

**PHYS 398A. Problems in Physics. 1.00.**

An individual project related to some aspect of physics. Must be under the guidance of a faculty adviser.

**PHYS 398B. Problems in Physics. 2.00.**

An individual project related to some aspect of physics. Must be under the guidance of a faculty adviser.

**PHYS 420. Modern Optics. 3.00.**

A study of the kinematic properties and physical nature of light including reflection, refraction, interference, diffraction, polarization, coherence and holography. *Prerequisite: PHYS 260, PHYS 270, and MATH 237.*

**PHYS 455. Lasers and Their Applications to Physical Sciences. 3.00. Crosslisted with CHEM 455.**

An introduction to both the theoretical and practical aspects of lasers and their applications in the physical sciences. *Prerequisite: PHYS 270, CHEM 331, or permission of the instructor.*

**PHYS 460. Quantum Mechanics. 3.00.**

Principles and applications of quantum mechanics. Topics include wave packets and the uncertainty principle, the Schrodinger equation, one-dimensional potentials, operators and eigenvectors, three-dimensional motion and angular momentum, and the hydrogen atom. *Prerequisite: PHYS 340.*

**PHYS 482. Advanced Theoretical Physics. 3.00.**

This course is a continuation of topics from mechanics, thermodynamics and statistical Mechanics, electricity and magnetism, and quantum mechanics. The course may include topics from mechanics (Lagrangian dynamics, rigid body motion), electricity and magnetism (solution of Maxwell's equations in the presence of matter), thermodynamics and statistical mechanics (dynamical statistical mechanics) and quantum mechanics (beyond the hydrogen atom).

**PHYS 485. Science of the Small. 4.00. Crosslisted with CHEM 485.**

The chemistry and physics of materials of the nanometer scale will be explored. Lectures and laboratories will cover contemporary issues in surfaces, self-assembly and low dimensional materials. The intersection of biology, chemistry, engineering and physics will be explored through nanoscience. *Prerequisite: CHEM 132 and MATH 236. Prerequisite or corequisite: PHYS 150 or PHYS 250.*



**PHYS 491-492. Physics Assessment and Seminar. 0.00 - 1.00.**

Principal course activities are participation in the departmental assessment program and attendance at departmental seminars. *Prerequisite: PHYS 392*

**PHYS 497. Topics in Physics. 1.00 - 4.00.**

Topics in physics at the advanced level. May be repeated for credit when course content changes. Topics selected may determine prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

**PHYS 498. Undergrad Phys Research. 1.00 - 4.00.**

Research in a selected area of physics as arranged with a faculty research adviser. A student may not earn more than a total of six credits for PHYS/ATSR 498R. Repeatable up to six credits. *Prerequisite: Proposal for study must be approved prior to registration.*

**PHYS 498A. Undergrad Phys Research. 2.00.**

Research in a selected area of physics as arranged with a faculty research adviser. *Prerequisite: Proposal for study must be approved prior to registration.*

**PHYS 498R. Undergraduate Research in Physics or Astronomy. 1.00 - 4.00.** Crosslisted with ASTR 498R.

Research in a selected area of physics or astronomy as arranged with a faculty research adviser. As student may not earn more than 6 credits for PHYS 498R and ASTR 498R. *Prerequisite: Proposal for study must be approved prior to registration.*

**PHYS 499. Honors. 1.00 - 3.00, repeatable.**

Participation in this course must be approved during the second semester of the junior year. For details, see catalog section entitled "Graduation with Distinction."

## Political Science

**POSC 200. Global Politics [C4GE]. 3.00.**

An exploration of political, social and economic issues and structures existing within and between states in the contemporary global community. Students are introduced to alternative approaches to analyzing these issues in diverse cultures and political settings. May be used for general education credit.

**POSC 201. Introduction to Western Political Theory. 3.00.**

A general survey of Western political theory from Plato to Marx, including the foundations of political inquiry and the search for order and freedom.

**POSC 225. U.S. Government [C4AE]. 4.00.**

An examination of institutions, processes and intellectual concepts which structure American political activity. The interaction of the political system with the changing American society and America's changing role in world affairs are also treated. The course provides an introduction to quantitative methodology. May be used for general education credit.

**POSC 230. International Relations. 3.00.**

A survey of the field of international relations including consideration of the elements of national power, foreign policy, diplomacy, propaganda, foreign aid, war, international law and international organization.

**POSC 240. Comparative Politics. 3.00.**

A comparative study of selected political systems. Emphasis is on the structure of government, the political process and the conditions which either promote or constrain political change and stability.

**POSC 295. Research Methods. 4.00.**

Students learn how to conduct original research from theory formulation through data collection and hypothesis testing. Special emphasis on research and computer literacy. *Prerequisite: MATH 220, POSC 225, and one of the following: POSC 230, POSC 240, PPA 200 or PPA 265.*

**POSC 300. Politics and Film. 3.00.**

This course examines the relationship between politics and film, broadly construed. The ability of film to inform and promote agendas on key political issues, and the way in which films reflect the world of ideas and political culture in which they are created will be explored in substantive areas that may include: social and political change, human rights and justice, the portrayal of political processes and institutions, and foreign policy.

**POSC 301W. The Washington Semester Experience. 3.00.**

A study of the manner in which the policy making process is conducted on the federal level. The function of political and governmental institutions in establishing public policy is examined through readings and observation. *Prerequisite: Enrollment in Washington Semester program. Prerequisite: Enrollment in the Washington Semester program.*

**POSC 302. State & Local Gov. 3.00.**

A study of state and local government in the United States with particular focus on Virginia. Emphasis is placed on an understanding of the framework, functions, and problems of state and local governments.

**POSC 310. Political Theory: Ancient to Early Modern. 3.00.**

A study of political theory from Plato and Aristotle through Machiavelli with analysis of such political concepts as the nature of the state, political obligation, natural law and Utopian societies.

**POSC 315. Political Theory: Early Modern to the 19th Century. 3.00.**

A study of political theory from Hobbes and Locke to Hegel, Green and other 19th century thinkers. The course will examine such ideas as freedom, political obligation, justice, progress, ethics and politics, and the relationship between the individual and the human polity.

**POSC 316. Contemporary Political Theory. 3.00.**

An examination of political thinkers and their ideas from the end of the 19th century to the present. Special emphasis will be placed on the writings of Hannah Arendt, Jurgen Habermas, John Rawls and other contemporary thinkers who continue to engage in the pursuit of political inquiry.

**POSC 321. Political Theory and Ideology. 3.00.**

A study of the relationship between normative political theory and ideology, emphasizing the philosophic foundations of modern political thought and its relationship to the emergence of various ideological positions in the 19th and 20th centuries. Includes a study of liberalism, conservatism, socialism, anarchism, nationalism, fascism, feminism, environmentalism and others.

**POSC 325. Constitutional Law. 3.00.**

A study of the legal aspects of the American democratic system. The development of the Constitution will be explored and case studies used to portray important events and changes.

**POSC 326. Civil Rights. 3.00.**

An examination of the judicial interpretation of civil rights in America with emphasis on freedom of speech, due process of law and equal protection under the 14th Amendment.

**POSC 330. American Political Thought. 3.00.**

A study of the development and significance of political ideas that have influenced American society and government. *Prerequisite: POSC 201*

**POSC 331. Human Rights in Theory and Practice. 3.00. Crosslisted with JUST 331.**

This course will explore the nature and value of human rights by investigating some major debates over their status and meaning, and by examining some of the ways people have

tried to secure human rights in practice. *Prerequisite: JUST, POSC and INTA majors only. For JUST majors: JUST 200.*

**POSC 333. American Political Thought II: Civil War to the Present. 3.00.**

This course explores American political thought from Reconstruction (ca. 1866) to the present day, drawing largely on primary sources, including writings by political leaders and activists, political theorists, philosophers, public intellectuals and religious thinkers. *Prerequisite: POSC 201.*

**POSC 334. Political Thought of James Madison. 3.00.**

This course examines the political thought of James Madison (1751-1836). Madison was a profound political thinker who read voraciously, thought deeply, and wrote eloquently and carefully about many of the leading political questions of his day—and ours. In this class, we will read, understand and critically assess what Madison contributed to these political dialogues and more generally to the American political tradition. *Prerequisite: POSC 201.*

**POSC 335. Comparative Politics for Teachers. 3.00.**

This course examines the core themes, concepts and debates in the subfield of Comparative Politics and how they apply to politics in selected countries around the world. The course emphasizes those themes and cases of greatest use to students pursuing careers in education and explores approaches to teaching this content in a variety of classroom settings.

**POSC 340. Politics of Development. 3.00.**

A comparative study of the processes of political development in the developing nations of the Middle East, Africa, Asia and Latin America. Attention is given to the special problems confronting these nations and their implications for the global systems.

**POSC 341. Social Movements in the U.S. and Abroad. 3.00.**

In recent decades, social movements have mobilized people concerned about issues ranging from the rights of ethno-racial minorities, women, sexual minorities and immigrants to the environment, human rights and world peace. This course will examine the origins, modes of action and impact of such movements. We will apply the comparative method to analyze social movements in the United States and abroad, investigating how different socioeconomic and political contexts shape social movements based on common issues. The course will emphasize how social movements emerge and function within and alongside existing structures of formal politics.

**POSC 344. Politics of the European Union. 3.00.**

The course offers and in-depth consideration of the political development of the European Union, the EU policy-making process, and contemporary issues that confront European leaders and citizens.

**POSC 345. Politics of Western Europe. 3.00.**

This course involves comparative analysis of the development and dynamics of political regimes in western Europe. Attention is given to political institutions, political participation, public policy, and political and economic trends since 1945.

**POSC 346. Politics of Central and Eastern Europe. 3.00.**

This course involves comparative analysis of the development and dynamics of political regimes in central and eastern Europe. Attention is given to pre-communist, communist, and post-communist politics and to explaining political and economic trends since 1989.

**POSC 347. Comparative Public Policy. 3.00.**

A study of public policy formation and implementation in selected advanced industrial and Third World nations.

**POSC 348. The Politics of Cultural Pluralism. 3.00.**

This course examines the various manifestations of cultural pluralism, a situation that occurs when multiple ethnic, religious, and/or linguistic groups coexist within a single state. This course considers different institutional and policy approaches to coping with cultural pluralism.

**POSC 350. Latin American Politics. 3.00.**

A comparative study of the political institutions, processes and current issues in the Latin American states, and an analysis of their importance in regional and global relations.

**POSC 351. Topics in American Politics. 3.00.**

In-depth exploration of specialized topics in the area of American politics. The topic for each semester will be announced on MyMadison.

**POSC 353. African Politics. 3.00.**

A comparative study of the institutions and social, economic, and global processes that affect contemporary African states. Political developments explored include the construction and transformation of postcolonial states, ethnic conflict, economic crisis and reform, and regime change.

**POSC 354. Politics of the Middle East. 3.00.**

This course involves comparative analysis of political institutions, social dynamics and economic processes in the contemporary Middle East. The course also focuses on the ways that global developments affect and are affected by Middle Eastern states and peoples.

**POSC 355. East Asian Politics. 3.00.**

A study of the political systems of the major countries of East Asia, including Japan, China and Korea. Issues discussed include political development and democratization movements in the People's Republic of China, the Republic of China and the Republic of Korea.

**POSC 356. Politics of China. 3.00.**

This undergraduate course provides an introduction to key institutions, transformations, and issues in contemporary Chinese politics.

**POSC 361. Topics in International Relations. 3.00.**

In-depth exploration of specialized topics in the field of international affairs. The topic for each semester will be announced on MyMadison.

**POSC 362. Political Behavior. 3.00.**

A study of how citizens acquire politically relevant attitudes and how these attitudes influence their political behavior. The effects of the mass media on voting behavior are also considered. Emphasis is placed on U.S. voting behavior but behavior in other nations is also covered. *Prerequisite: POSC 225.*

**POSC 363. Hacking for Diplomacy. 3.00.**

Hacking for Diplomacy is a project-orientated course that takes real problems from the Department of State, the intelligence community and other federal departments and agencies and has students use the Lean Launch Pad Methodology to test problem understanding and potential solutions. The course provides students the opportunity to serve as resource to help address critical problems facing the U.S. government today. Participation in this course promotes engagement between students and stakeholders from a range of government agencies and provides hands-on opportunity to solve real national security and foreign policy problems. A network of such courses across the U.S. is providing a system that can develop solutions that match government end users' in weeks. *Prerequisite: POSC 230 and POSC 240.*

**POSC 364. Political Parties in America. 3.00.**

This course will focus solely on the central role of political parties in the United States. Even though parties are not mentioned in the U.S. Constitution and the framers despised them, they quickly formed and have come to dominate our political environment. Fully understanding political parties is essential for the political science student. *Prerequisite: POSC 225 or permission of the instructor.*

**POSC 365. American Political Campaigning. 3.00.**

Study of modern day political campaigning with emphasis on campaign structure, strategy, and the relationship between candidates and political consultants. The course assesses the

consequences of the changing nature of political campaigns for democracy in the United States. *Prerequisite: POSC 225.*

**POSC 367. U.S. Immigration Politics and Policy. 3.00.**

An examination of how conceptions of national identity, nativism and assimilation influence public opinion toward immigrants and shape immigration policy in the United States. The perspectives of native-born residents, immigrants and policymakers are considered. The course discusses immigration as a social and political issue; reviews the historical evolution of U.S. immigration policy and public opinion trends; and explores how contemporary immigrants adapt to life in the United States.

**POSC 368. Interest Groups, Lobbying and Public Policy. 3.00.**

An analysis of the mobilization and lobbying activities of interest groups in the American public policy system, with an emphasis on the origin and maintenance of interest organizations; diversity and bias in the interest group system; lobbying influence and policy advocacy strategies, tactics, and targets; and the regulation of lobbying and related campaign finance activities. *Prerequisite: POSC 225 or permission of the instructor.*

**POSC 369. Elections and Voting Behavior. 3.00.**

The electoral process is one of the primary means by which Americans can hope to influence public officials, and thus public policy, in the United States. Elections provide voters an opportunity to hold political officials and political parties responsible for their actions in office; ideally, elections as a means of accountability should serve to keep office holders responsive to the public's needs. In reality, there are many impediments that may preclude the democratic system from functioning as effectively as it should, such as low levels of voter knowledge and voter turnout, changes in primary election scheduling, and even mathematical complications posed by the Electoral College system. Only by studying elections can we understand the complexity of our political environment, and how factors beyond voter preferences and candidate agendas can shape election outcomes in the United States. *Prerequisite: POSC 225.*

**POSC 370. U.S. Foreign Policy. 3.00.**

An investigation of the processes for making foreign policy, underlying premises influencing specific policies and substance of American foreign policy. *Prerequisite: POSC 230*

**POSC 371. Topics in Comparative Politics. 3.00.**

In-depth exploration of specialized topics in the area of comparative politics. The topic for each semester will be announced on MyMadison.

**POSC 371S. Special Studies Salamanca. 3.00.**

A comparative study of political systems in Spain and the United States. Emphasis on historical and contemporary issues. *Prerequisite: Studies Abroad-Salamanca*

**POSC 372. Ethics and International Politics. 3.00. Crosslisted with JUST 372.**

This course investigates the significance of ethical questions in the theory and practice of contemporary international politics, introducing a variety of normative approaches that shape the issues of peace and conflict, morality and justice in global affairs. Practical case studies will also be used to address issues of policy relevance, with particular attention paid to the American experience. *Prerequisite: JUST, POSC, and INTA majors only. For JUST majors: JUST 235.*

**POSC 380. The U.S. Presidency. 3.00.**

A study of the institution of the American presidency focusing on the sources, bases and character of the power required by the president for effective executive action. Relationships of the presidency to foreign affairs, Congress, the public, party structure and the administrative establishment will also be considered. *Prerequisite: Prerequisite: POSC 225.*

**POSC 381. Topics in Political Theory. 3.00.**

In-depth exploration of specialized topics in the area of political theory. The topic for each semester will be announced on MyMadison.

**POSC 382. The Role of Religion in American Politics. 3.00.**

An examination of the role religion has played and continues to play in American politics. Besides providing an overview of how religion has influenced electoral, legislative, and judicial outcomes, the course will provide an in-depth examination of particular aspects of religion's role in political life. *Prerequisite: POSC 225 or Permission of the Instructor.*

**POSC 383. Women and Politics in Comparative Perspective. 3.00. Crosslisted with WGSS 383.**

A study of the causes and consequences of women's political marginalization in the United States and abroad. The course examines socioeconomic and political dimensions of gender inequality, exploring how women have worked through social movements, electoral politics, and public policy initiatives to overcome obstacles to their political empowerment.

**POSC 384. Minority Group Politics. 3.00.**

This course examines the role of minority groups in American Politics. Attention is given to five groups (African Americans, Asian Americans, Native Americans, Latinos and women) that for reason of race or gender have faced institutional discrimination and political domination in the United States.

**POSC 385. The U.S. Congress. 3.00.**

Study of the legislative process will concentrate on the operation of Congress with regard to such matters as its rules and procedure; relationships to the presidency, the bureaucracy, pressure groups and the courts; and a discussion of its current problems. *Prerequisite: POSC 225.*

**POSC 386. The U.S. Judiciary. 3.00.**

An investigation of the American court system. The course focuses on the role of the judiciary in American politics, the difference between judicial and other political and bureaucratic decision-making processes, the selection of judges, the decisions made by judges and other actors interacting with the courts, and the impact of court decisions on American society.

**POSC 387. The Appellate Process and Practice. 3.00.**

An examination of the Supreme Court appellate process in the United States from its beginnings with the lower court opinion through oral argument. Class is conducted as a seminar in which students are expected to engage actively. Students study substantive areas of constitutional law and the common law system of precedent.

**POSC 391. Topics in Public Policy. 3.00.**

In-depth exploration of specialized topics in the area of public policy. The topic for each semester will be announced on MyMadison.

**POSC 392. Peace Studies. 3.00. Crosslisted with JUST 392.**

A study of the evolution, theory and practice of peace studies. The course focuses on how we wage and resolve conflict, how we effect social change, and how we provide for security through nonviolent means.

**POSC 393. Human Security. 3.00.**

This course examines the concept of security in a globalized world, paying particular attention to threats to individuals and groups in the post-Cold War international system. Topics include the transition from state security to individual security, human development, human rights, military intervention, responsibility to protect, and global governance. *Prerequisite: POSC 230*

**POSC 394. International Conflict. 3.00.**

A study of the causes and consequences of violent political conflict between and within states. The course emphasizes the theoretical explanations of conflict initiation, escalation, and termination, with applications to both individual cases and broader patterns of conflictual behavior. *Prerequisite: POSC 230*

**POSC 395. International Law. 3.00.**

Examination of the role of international law in world politics. Particular attention will be given to the effects of international law on patterns of international exchange and interaction. Case study and other forms of political analysis will be used.

**POSC 396. International Organizations. 3.00.**

Study of the evolution and role of contemporary international organizations in the larger context of world politics. Emphasis on the ways in which the changing patterns of political power influence the processes and effectiveness of such organizations.

**POSC 397. The Politics of International Economic Relations. 3.00.**

A study of the political dynamics and implications of international economic relations.

**POSC 398. Simulations. 3.00.**

Application of concepts and insights learned in the classroom to contemporary policy problems and practical activities. The topic of this course will vary from offering to offering. The exact courses required will vary with the subject matter of the simulation.

**POSC 430. International Security and Conflict Management. 3.00.**

This course examines major threats to international security in the post-Cold War world. Topics include the changing global security environment, proliferation of weapons of mass destruction, terrorism and ethnic conflict. The effectiveness of economic sanctions, deterrence, international organizations, preventative war and other tools in dealing with these threats in critically examined.

**POSC 435. International Terrorism. 3.00.**

Systematic study of political terrorism with emphasis upon the destabilizing effect that it has upon the international community.

**POSC 440. Post-Conflict Societies. 3.00.**

An examination of the political dynamics of social, economic, security and governance problems faced in rebuilding societies that are emerging from a period of intense conflict. Emphasis on institutional and behavioral challenges brought about by conflict; strategies employed by domestic and international actors to promote democratic, just and secure societies after conflict; and standards that can be used to assess the success, failure and durability of a newly emerging political system.

**POSC 457. Comparative Empires. 3.00. *Crosslisted with HIST 457.***

Comparative empires is an examination of imperialism from 1450 to the present. Focusing on no less than four empires, the course will apply a variety of theoretical approaches in a series of case studies with at least one empire from the period of exploration and one from 1919 to the present. Students will employ approaches from history, political science, economics and geography as they search for a deeper understanding of each case study and the broader concept of empire. *Corequisite: MSSE 470H.*

**POSC 458. International Political Analysis. 3.00.**

An examination of techniques and principles for the analysis of future political conditions and future government decisions.

**POSC 472. Media and Politics. 3.00. *Crosslisted with POSC 472, SCOM 472, SMAD 472.***

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary.

**POSC 472L. Media and Politics. 3.00. *Crosslisted with POSC 472, POSC 472W, SCOM 472, SCOM 472L, SMAD 472, SMAD 472L.***

A study of the media's role in political campaigns, concentrating on past/present election, the media's role in covering political parties and coverage of the governing process. Discussion of electronic and print will occur. Topics to be examined include campaign videos, CSPAN, political ads, editorial cartoons, TV debates, convention coverage and radio talk show commentary. *Prerequisite: Studies Abroad-London*

**POSC 492. Senior Seminar in Political Science. 4.00.**

This research-oriented senior seminar provides an overview of the discipline of political science and the different approaches to research in the field. A major research project will strengthen the research, information access and lifelong learning capacities of the student. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Senior standing and POSC 295.*

**POSC 493. Political Communication Internship. 4.00.**

This course will provide students with experiential learning opportunities in policymaking, campaigning, media, legislative politics, and lobbying. A research paper relating the internship to the student's academic work will enhance the learning experience. *Prerequisite: Junior or senior standing; POSC 225, SCOM 240, SCOM 241, and one other core PCOM required course.*

**POSC 493W. Political Communication Internship in Washington. 6.00.**

This course will provide students with experiential learning opportunities in policymaking, campaigning, media, legislative politics, and lobbying. A research paper relating the internship to the student's academic work will enhance the learning experience. *Prerequisite: Junior or senior standing; POSC 225, SCOM 240, SCOM 241 and one other core PCOM required course.*

**POSC 495. Internship in Political Science. 4.00.**

Provides students with opportunities for experiential learning in a legislative, policy making, campaign, constituency, interest group or criminal justice organization. A research paper related to the internship and a presentation based on the experience are required. *Prerequisite: Junior or senior standing, 15 credits of political science, public administration or political communication and permission of the instructor.*

**POSC 495W. Washington Semester Internship in Political Science. 6.00.**

Provide Washington Semester participant with opportunities for experiential learning in a Washington, D.C.-based legislative, policy making, campaign, constituency, interest group or criminal justice organization. Requirements include 360 work hours, a research paper related to the internship, a career report, a daily log, and regular meetings with faculty-in-residence. *Prerequisite: Junior or senior standing, 15 credits of political science, public administration or political communication, and successful application to Washington Semester program.*

\*No more than four credit hours can be counted toward the political science major.

**POSC 498. Research in Political Science. 1.00.**

Research in a selected area of political science as arranged with a faculty sponsor. Research outline must be approved by faculty sponsor and department head the semester before registration. Course may be repeated. *Prerequisite: A Political Science, International Affairs, or Public Policy and Administration GPA of 2.5 or greater.*

**Portuguese****PORT 101. Elementary Portuguese I. 3.00 - 4.00.**

The fundamentals of Portuguese through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. Students will receive no credit for the course if he/she has had two or more years of the language in high school.

**PORT 102. Elementary Portuguese II. 3.00 - 4.00.**

The fundamentals of Portuguese through a higher level of listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. Students will receive no credit for the course if he/she has had two or more years of the language in high school. *Prerequisite: PORT 101*

**PORT 231. Intermediate Portuguese I. 3.00.**

A thorough review of first year grammar and vocabulary building. Conversation, composition and readings will be chosen to reach competency at the lower intermediate level

Portuguese. *Prerequisite: PORT 102 or permission of the instructor.*

**PORT 232. Intermediate Portuguese II. 3.00.**

A thorough review of PORT 231 grammar and vocabulary building. Conversation, composition and readings will be chosen to reach competency at the advance intermediate level. *Prerequisite: PORT 231 or permission of instructor.*

**PORT 300. Portuguese Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Portuguese. Fulfills the College of Arts and Letters writing-intensive requirement for possible International Affairs majors and/or IBUS majors. *Prerequisite: PORT 232 or permission of the instructor*

**PORT 320. Portuguese Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Portuguese with emphasis on conversation and composition. Readings in Portuguese will provide a context for discussion and writing. *Prerequisite: PORT 300.*

**PORT 490. Special Topics in Portuguese. 1.00 - 4.00**

Special topics or independent studies in Portuguese.

## Psychology

**PSYC 100. Interpersonal Skills for Resident Advisers. 1.00.**

Designed to give resident adviser trainees understanding of interpersonal relations. Cannot be used as a psychology major elective. May be used for general education credit. *Prerequisite: Limited to students selected as resident advisers.*

**PSYC 101. General Psychology [C5SD]. 3.00.**

A study of the nervous system, sensation, perception, consciousness, learning, memory, language, intelligence, motivation, emotion, life span development, personality, psychopathology, psychotherapy, social psychology and the scientific method. May be used for general education credit.

**PSYC 101H. General Psychology - Honors [C5SD]. 3.00.**

A study of the nervous system, sensation, perception, consciousness, learning, memory, language, intelligence, motivation, emotion, life span development, personality, psychopathology, psychotherapy, social psychology and the scientific method. May be used for general education credit. *Prerequisite: Honors Students*

**PSYC 122. The Science of Vision and Audition [C3NS]. 3.00.**

A study of human interaction with light and sound waves. Topics include physiological and perceptual mechanisms for processing light and sound, along with connections to real-world applications (e.g., human factors and careers within vision science and audition). Includes activities designed to provide students with in-depth, hands-on experience with course topics. May be used for general education credit.

**PSYC 160. Life Span Human Development [C5SD]. 3.00.**

An introduction to human development. Emphasis is on life span processes within physical, emotional, cognitive, psychosexual, social, personality and moral development. May be used for general education credit.

**PSYC 180. Introduction to Behavior Analysis. 3.00.**

Students will learn the fundamental principles, procedures, and concepts of behavior analysis, how they can be used to explain behavior, and how interventions based on these principles can be used to improve their own lives and the lives of others.

**PSYC 200. Topics in Psychology. 1.00 - 3.00.**

Exploration of an important psychological topic. The topics for each semester will be announced on MyMadison and the departmental website. *Prerequisite: PSYC 101.*

**PSYC 202. Directed Studies in Psychology. 1.00 - 3.00.**

Designed to give capable students an opportunity to complete directed study in an area of psychology under faculty guidance. Experiences may include practica, serving as a teaching assistant, directed readings or similar experience. *Prerequisite: PSYC 101 and a written plan for the directed study must be submitted to the department head for approval one week prior to registration.*

**PSYC 203. Directed Research in Psychology. 1.00 - 3.00.**

An introductory opportunity to assist a faculty member with a research project. Students may participate in any or all phases of research, including completion of background research, study design, collection of data, data analysis, and interpretation. Specific requirements of project are determined by the instructor. *Prerequisite: PSYC 101 and a written plan for the directed study must be submitted to the department head for approval one week prior to registration.*

**PSYC 210. Psychological Measurement and Statistics. 4.00.**

This course provides an introduction to statistical techniques used by psychologists in measuring behavior. Fundamental measures and theory of descriptive and inferential statistics will be discussed. The use of computers for data analysis will be introduced. *Prerequisite: PSYC 101 and MATH 205, MATH 220, MATH 231, or MATH 235 with a grade of C- or better*

**PSYC 211. Psychological Research Methods. 4.00.**

This course provides an introduction to the application of scientific methodology to investigate psychological phenomenon. Through lecture and laboratory, attention is given to choosing research questions, developing hypotheses, designing and conducting research, describing, analyzing and evaluating data, and effectively communicating research findings. *Prerequisite: PSYC 101 and PSYC 210 with a "C-" or better.*

**PSYC 212. Psychological Research Design and Data Analysis I. 4.00.**

The PSYC 212-213 course sequence introduces the logic of pursuing a scientific approach in psychology and covers descriptive, correlational, experimental, and quasi-experimental approaches. It also covers the statistical tools associated with these methods (namely, descriptive statistics, correlation, regression, t-tests, and ANOVA), and it introduces the basics of inferential statistics and hypothesis testing. *Prerequisite: PSYC 101 and MATH 205, MATH 220, MATH 231, or MATH 235 with a grade of C- or better*

**PSYC 213. Psychological Research Design and Data Analysis II. 4.00.**

The PSYC 212-213 course sequence introduces the logic of pursuing a scientific approach in psychology and covers descriptive, correlational, experimental, and quasi-experimental approaches. It also covers the statistical tools associated with these methods (namely, descriptive statistics, correlation, regression, t-tests, and ANOVA), and it introduces the basics of inferential statistics and hypothesis testing. *Prerequisite: PSYC 212 with a grade of C- or better*

**PSYC 220. Psychology and Culture. 3.00.**

The study of human psychology is incomplete without taking into account the cultural, historical, and social factors involved in human functioning. This course considers the ethnic and cultural variations that exist in human behavior, thought, and action. Course meets sociocultural course requirement for the Psychology major. *Prerequisite: PSYC 101.*

**PSYC 235. Psychology of Adjustment. 3.00.**

A study of the process and dynamics of the well-integrated personality and the practical application of adjustment theories and behavior change techniques to enhance personal awareness and self-development.

**PSYC 250. Introduction to Abnormal Psychology. 3.00.**

An introduction to the field of Abnormal Psychology, for the non-psychology major. This course will examine methods of defining psychological normality and abnormality and the classification, causes and treatment of abnormal behavior. This course cannot be used for Psychology major or minor credit. *Prerequisite: A student cannot earn credit for PSYC 250 after completing PSYC 335. PSYC 101 or PSYC 160.*

**PSYC 270. Foundations of Learning and Cognition for Education. 3.00.**

This course introduces fundamental principles of cognition and learning as applied to educational practice. It provides a foundation for understanding multiple perspectives and levels of analysis applied to individual learning in educational settings. *Prerequisite: PSYC 101 or PSYC 160.*

**PSYC 275. Psyc of Human Intimacy. 3.00.**

Theoretical and applied study of human relationships through case analysis and role play.

**PSYC 285. Drugs and Behavior. 3.00.**

An introduction to the pharmacological effects of psychoactive drugs. This course will examine the neural mechanisms and behavioral effects of common substances such as caffeine and nicotine, drugs of abuse and pharmaceuticals that are used to treat mental disorders. *Prerequisite: PSYC 101.*

**PSYC 301. Psychology Peer Advising Training I. 2.00.**

Introductory training in academic advising, career development, and basic counseling techniques. Not to be used for psychology major credit. Application guidelines available on the psychology website and in the Psychology Peer Advising office. *Prerequisite: PSYC 101, junior standing and permission of the instructor.*

**PSYC 302. Psychology Peer Advising Training II. 2.00.**

Continued training and supervised experiences in academic advising, career development, and basic counseling techniques. Not to be used for psychology major credit. *Prerequisite: PSYC 301, PSYC 211 or PSYC 213 and permission of the course coordinator.*

**PSYC 304. Death & Dying: Thanatology. 3.00.**

Psychological theories about death including ways in which individuals and society deal with death. *Prerequisite: PSYC 101.*

**PSYC 308. Health Psychology. 3.00.**

This course deals with personality and its relation to health and illness behaviors. Topics include psychological factors involved in control and helplessness, conflict management, cardiovascular disorders, cancer, pain, substance abuse and other psychophysiological related factors. Course meets sociocultural requirement for the psychology major. *Prerequisite: PSYC 101.*

**PSYC 310. The Psychology of Women and Gender. 3.00.**

An examination of research and theory regarding the abilities and behaviors of women and the changing roles of women. Consideration is given to biological, developmental and societal determinants of sex and gender. Course meets sociocultural requirement for the psychology major. *Prerequisite: PSYC 101.*

**PSYC 316. Human Development and Crime. 3.00. *Crosslisted with JUST 316.***

This course examines how psychological research and theory shed light on the development of criminal careers, the factors that protect children and adolescents from becoming criminals, how being a victim of crime influences well-being, and the efficacy of rehabilitation. Special attention will be paid to the knowledge base on delinquency and childhood/adolescent victimization. *Prerequisite: PSYC 101; and for Justice Studies Majors, JUST 200 & one additional 200 level JUST course.*

**PSYC 320. Diversity Issues in Psychology. 3.00.**

This course addresses issues of diversity and neglected populations in psychology with attention to gender, sexual orientation, race, ethnicity, disability, chronic illness, SES, age, and level of indigenous influence. Particular cultural stressors associated with each group or demographic are discussed and attention is given to the issue of privilege. Course meets sociocultural requirement for the psychology major. *Prerequisite: PSYC 101.*

**PSYC 325. Counseling Psychology. 3.00.**

A basic counseling theories and skills course designed for students interested in human service and mental health fields. Course meets sociocultural requirement for the psychology major. *Prerequisite: PSYC 101.*

**PSYC 326. Leadership and Personal Growth. 3.00.**

The purpose of this course is to foster the understanding and practical application of leadership, through the use of affective and cognitive approaches. There is a strong emphasis on personal growth as it relates to leadership concepts. Aspects of developmental, cognitive, humanistic, and personality psychological theories are included. The course also builds on concepts and issues from Industrial/Organizational psychology. *Prerequisite: PSYC 101 or PSYC 160 and permission of the instructor is the prerequisite.*

**PSYC 328. The Psychology of Leadership. 3.00.**

This course focuses on psychological components of leadership behavior and its importance to various situations in culture and society. Students will explore the potential impact of leaders and their influence on individuals and society. Various existential, behavior and motivational topics related to leadership studies will be explored. Service learning will also be a core component of the course. *Prerequisite: PSYC 101.*

**PSYC 330. Psychology of Personality. 3.00.**

Essential elements of leading theories of personality with an emphasis on implications of these theories for human behavior. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 335. Abnormal Psychology. 3.00.**

This course for the psychology major or minor critically examines psychological normality and abnormality and the classification, causes and treatment of abnormal behavior. Students learn classification and diagnosis, explore social and multicultural issues relating to diagnosis and discuss research in the field. *Prerequisite: A student cannot earn credit for PSYC 335 after completing PSYC 250 and PSYC 211.*

**PSYC 345. Social Psychology. 3.00.**

The study of how an individual's behavior, feelings and thoughts are influenced by other people. Topics include attitude formation and change, social perception, attraction, altruistic and antisocial behavior, conformity, leadership and group dynamics, and applications of social psychology to other fields. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 365. Developmental Psychology. 3.00.**

Psychological aspects of growth, development and behavior from birth through adolescence. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 375. Sensation & Perception. 3.00. *Crosslisted with BIO 375.***

Explores the nature and development of human sensory capabilities and processing, and how these affect perception of the environment. A potential list of the variety of systems reviewed includes hearing, vision, smell, taste, touch/pain as well as phenomena such as the perception of balance. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 380. Cognitive Psychology. 3.00.**

This course explores the nature and development of human attention, memory, language and thinking processes. An information processing approach to the study of human cognition is emphasized. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 385. Biopsychology. 3.00. *Crosslisted with BIO 385.***

A survey of the neurological and chemical mechanisms which control behavior. This course examines the brain and how it processes sensation, perception, cognition, movement,

motivation, learning, memory and other behavioral processes of interest to psychologists. Credit may not be earned in both BIO/PSYC 385 and BIO 301. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 390. Psychology of Learning. 3.00.**

Basic principles of learning and conditioning with a consideration of extinction, reinforcement, generalization, discrimination, transfer, concept formation and verbal learning. *Prerequisite: PSYC 211 or PSYC 213.*

**PSYC 395. Comparative Animal Behavior. 3.00. *Crosslisted with BIO 395.***

This course covers aspects of the development, function, and evolution of the behavior of nonhuman animals. Topics covered include intraspecies communication, feeding, aggression, territoriality, reproductive behavior, and social behavior. *Prerequisite: Psychology Majors: PSYC 211 or PSYC 213; Biology & Biotechnology Majors: BIO 124 or BIO 250, and one of the following ("C-" or better): MATH 205, MATH 220, MATH 231, MATH 235, MATH 285, MATH 318.*

**PSYC 400. Advanced Topics in Psychology. 1.00 - 3.00.**

Exploration of a significant psychological topic in depth. The topics for each semester will be announced in the Schedule of Classes. *Prerequisite: One SS content course and one NS content course.*

**PSYC 401. Peer Advising. 2.00.**

Supervised practicum in academic and career development and peer advising. May be taken twice for up to four credit hours toward the psychology major (400-level elective). *Prerequisite: PSYC 302 and one course each from Area A and Area B*

**PSYC 402. Independent Study in Psychology. 1.00 - 4.00.**

An opportunity to apply classroom learning to practical problems and to expand the scope of knowledge in psychology to areas not emphasized in the coursework we offer. May include service learning, internship, directed readings, serving as a teaching assistant, or a combination of these activities. *Prerequisite: PSYC 211 or PSYC 213 and a written plan for the directed study must be submitted to the department head for approval one week prior to registration.*

**PSYC 403. Independent Research in Psychology. 1.00 - 4.00.**

An advanced opportunity to conduct research with a faculty member where students apply their knowledge of Psychology to a specific research project or area. Students may work individually with the instructor or as part of a team that includes several students. Student projects include the development of an evaluated product (e.g., poster presentation, presentation). Specific requirements of project are determined by the instructor. *Prerequisite: PSYC 211 or PSYC 213 and a written plan for the directed study must be submitted to the department head for approval one week prior to registration.*

**PSYC 410. Psychology of the Workplace. 3.00.**

This course is a survey of the applications of psychological principles in the workplace. Emphasis is on topics such as research and methods, personnel decisions, training, attitudes, motivation, leadership, teams, and sociocultural issues in the workplace. Other topics of current interest will also be covered. Course will fulfill sociocultural awareness requirement. *Prerequisite: One SS content course and one NS content course.*

**PSYC 415. Forensic Psychology. 3.00.**

The application of psychological principles and techniques to the law, the criminal justice system, law enforcement and criminal behavior. *Prerequisite: PSYC 335*

**PSYC 420. Advanced Psychological Statistics. 3.00.**

This course presents advanced univariate and multivariate statistical techniques that psychology students need for reading research articles and conducting psychological research. *Prerequisite: One SS content course and one NS content course.*

**PSYC 425. School Psychology. 3.00.**

Applications of psychological principles in school settings, including roles and activities of school psychologists, standards, trends, and issues of treatment and evaluation. *Prerequisite: One SS content course and one NS content course.*

**PSYC 427. Tests and Measurements. 3.00.**

Standardized psychological tests of mental ability, achievement, aptitude and personality with a review of statistical procedures necessary for interpretation of test results. *Prerequisite: One SS content course and one NS content course.*

**PSYC 428. Educational Psychology. 3.00.**

The application of the basic psychological principles of development, learning, cognition, measurement, and social interactions to educational settings. This course examines how psychological theory and research impacts the teaching of reading, writing, science, and mathematics. Students may not count both PSYC 270 and 428 for psychology major credit. *Prerequisite: One SS content course and one NS content course.*

**PSYC 430. Clinical Psychology. 3.00.**

An introduction to the field of clinical psychology including a review of the major theoretical models, psychometrics, psychiatric diagnosis and treatment strategies. *Prerequisite: PSYC 335 and one NS content course.*

**PSYC 435. Community Psychology. 3.00.**

Focus on emerging trends and models in the application of psychology to community, stress prevention programs, human resources and change. *Prerequisite: One SS content course and one NS content course are the prerequisites.*

**PSYC 450. Psychology of Child Abuse and Neglect. 3.00.**

Review of current psychological literature on child abuse and neglect including identification, etiology, treatment, prevention and legal aspects. Family violence issues are also discussed. *Prerequisite: One SS content course and one NS content course.*

**PSYC 452. Child Psychopathology. 3.00.**

The causes, symptoms and classification of childhood psychological disorders. *Prerequisite: PSYC 335 or PSYC 365.*

**PSYC 460. Community Psychology Within Developing Societies. 3.00.**

This course will apply psychology to a critical examination of developing societies around the world. Topics include sociocultural and international contexts, privilege, power, oppressing, terrorism, population growth, and diversity. Consideration is given to developmental and societal determinants of prejudice, discrimination, and inequity. Course meets sociocultural requirement for the psychology major. *Prerequisite: One SS content course and one NS content course.*

**PSYC 475. Psychology of Adulthood. 3.00.**

The physical, social and psychological factors faced by adults and their progression through the life span. *Prerequisite: One SS content course and one NS content course.*

**PSYC 480. Applied Behavior Analysis. 3.00.**

This course focuses on how environmental events influence behavior, and behavior analytic strategies by which behavior may be changed. The emphasis of the course is on the knowledge and skills necessary to plan, develop, and implement interventions for behavior problems in a variety of setting including, but not limited to, business and industry, education, and health and human services. *Prerequisite: PSYC 180 and PSYC 390.*

**PSYC 492. History of Psychology. 3.00.**

The history of psychology as reflected through the individuals, theories and experimental investigation of the discipline. Special emphasis is placed upon relating the current state of psychology to its historical development. *Prerequisite: Must complete at least two courses each from social science and natural science core.*

**PSYC 493. Laboratory in Psychology. 3.00.**

A research course designed by a faculty member that studies a particular topic. Topics will change from semester to semester. Students will be guided in a group through a research experience that would include library research of the topic, design of an experiment, gathering and analyzing the data and writing the results. The course meets the requirement as a capstone course or as a psychology elective. Only 3 credit hours of the course can be used for the psychology major. *Prerequisite: Must complete at least two courses each from social science and natural science core.*

**PSYC 495. Field Placement in Psychology. 4.00.**

Supervised practicum in a counseling, industrial or human service agency. Orientation to agency's service, policies, personnel and professional ethics is provided. The course meets the requirement as a capstone course or as a psychology elective. *Prerequisite: At least two Social Science content courses and two Natural Science content courses. Approval from adviser, course coordinator and department head required one month prior to registration. (Guidelines available in the department office). Prerequisite: PSYC 211 and Junior or Senior standing*

**PSYC 497. Senior Seminar. 3.00.**

A seminar course that will require students to integrate theories, research and/or methods from several areas of psychology and/or related disciplines. Topics will vary from semester to semester. May be taken as a capstone course or psychology elective. Up to six credit hours can be used in the psychology major. *Prerequisite: Must complete at least two courses each from social science and natural science core.*

**PSYC 499A. Honors. 2.00.****PSYC 499B. Honors. 2.00.****PSYC 499C. Honors. 2.00.****Public Policy and Administration****PPA 200. Introduction to Public Policy. 3.00.**

The course introduces students to the nature, dynamics and substance of public policy. Selected policy issues in the United States will be examined through the use of case studies. Foreign and global influences on U. S. policy-making will also be analyzed. Issues will vary across course sections over time. *Prerequisite: POSC 225.*

**PPA 265. Public Administration. 3.00.**

An introductory survey of the principles, functions and processes of public administration with specific emphasis on the political aspects and environment of bureaucracies, and the how and why of policy-making within an administrative system. Organizational structure, personnel, budgeting, public relations and government values, traditions, and objectives are analyzed. *Prerequisite: POSC 225.*

**PPA 359. Policy Analysis. 3.00.**

Study of public policy analysis. Delivers to students rational and alternative techniques for analyzing public policy while providing them opportunities to develop analytical skills. *Prerequisite: PPA 200.*

**PPA 381. Budgetary Process. 3.00.**

An examination of the political planning and strategies of Congress and federal agencies in the budgetary process; politics of budgetary reform; state and local budgetary politics; and intergovernmental impacts on budgeting. *Prerequisite: Junior standing, PPA 265*

**PPA 412. Seminar in Intergovernmental Relations. 3.00.**

Study of the relations between the several levels of government in the United States. Political, fiscal, legal, regulatory and administrative relations as they have evolved within federal and state constitutional frameworks will be examined. *Prerequisite: Junior standing and PPA 265*

**PPA 415. Legal Environment of Public Administration. 3.00.**

Examination of the basic constitutional framework of American public administration. Examines legal constraints imposed on public administrators by law and judicial oversight. Emphasis placed on legal issues affecting public employees. Also examines the basics of public procurement law. *Prerequisite: PPA 265*

**PPA 420. Public Management. 3.00.**

Study of the management of public agencies from the executive viewpoint. Management control of public agencies will be explored including establishment of goals, policies, organizational structure and output of services. Case studies illustrate administrative behavior and managerial operations in local, regional, state and federal agencies. Does not count as part of the political science major or minor. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: Junior standing and PPA 265.*

**PPA 460. Regionalism and Urban Management. 3.00. Crosslisted with PUAD 560.**

A study of the problems and management of urbanization and inter-jurisdictional externalities from a regional perspective. Regionalism will be examined as an approach to solve these problems. *Prerequisite: PPA 200*

**PPA 461. Education and Social Policy. 3.00.**

A study of the development and implementation of education policy in the United States at the national, state, and local levels. Students will be introduced to major issues in contemporary education policy and the evaluation of alternative policies advanced by subgroups of the population. Educational equity and its links to social and economic goals will be examined. *Prerequisite: PPA 200.*

**PPA 462. Social Welfare and Local Government Policy. 3.00.**

A study of the interaction of social welfare policy and local governance in theory and in practice. Students examine state and local government and community-based responses to urban problems from a policy and management perspective. Particular attention is paid to interagency and community collaboration as a way to enhance social service delivery. *Prerequisite: PPA 200.*

**PPA 469. Philanthropy and Volunteerism. 3.00.**

An examination of the role of philanthropy and volunteerism in the nonprofit sector in the United States and globally. Topics discussed include: strategic giving; components of fundraising management and planning; volunteerism as a resource for organizations; board and staff responsibilities in resource acquisition; and monitoring and performance assessment. *Prerequisite: PPA 265*

**PPA 470. Nonprofit Management and Leadership. 3.00.**

This course is designed to introduce students to the fundamentals of governance, accountability, trusteeship, and executive leadership in nonprofit sector organizations. The course will examine critically the principal models, processes, and practices used in managing nonprofit organizations and the relationships between the governing boards and executive leaders of such organizations. *Prerequisite: PPA 265*

**PPA 471. Financial Management for Nonprofit Organizations. 3.00.**

An examination of the tools needed for an executive to understand and to supervise the financial functions in a nonprofit organization. Analyzes strategies used to manage resources in a nonprofit. Explores the finances of nonprofit groups through several case studies and discusses cost accounting techniques and managerial approaches useful to nonprofit



organizations. Prerequisite: PPA 265. Prerequisite: PPA 265

**PPA 472. Contract Management. 3.00.**

The purpose of this course is to provide a broad overview of the theory behind and practical application of contract management. As agencies across government (federal, state, and local) expand the use of contracting billions of taxpayer dollars are transferred into the private sector to conduct public business. This trend is not going away; therefore it is essential that public administrators be effective at managing and overseeing contracts. Prerequisite: PPA 265.

**PPA 475. Grant Writing and Project Management. 3.00.**

An examination of the practical skills needed for writing successful grant proposals as well as for carrying out grant-funded projects. Proposal development features include needs assessments, work plans, and evaluation programs. The foundations of project management examined include staffing, workflow and expense monitoring, stakeholder relationships and demonstrating results. Prerequisite: PPA 265 Prerequisite: PPA 265

**PPA 482. Special Topics in Public Policy. 3.00.**

The course will examine a special topic in public policy. The course may be repeated for credit with a change in the subject matter offered. Prerequisite: PPA 265.

**PPA 483. Special Topics in Public Management. 3.00.**

The course will examine a special topic in public and/or nonprofit management. The course may be repeated for credit with a change in the subject matter offered. Prerequisite: PPA 265

**PPA 484. Environmental Regulatory Policy and Politics. 3.00.**

A study of environmental politics and the policies that environmental advocacy has produced. Topics include the dynamics of policy construction, various substantive policy issues and the prospects for environmental justice and sustainability. Prerequisite: PPA 200.

**PPA 492. Senior Seminar in Public Policy. 4.00.**

This research-oriented seminar provides an overview of public policy studies and the different approaches to research in this field. A major research project will strengthen the research, information access and lifelong learning capacities of the student. Fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisite: Senior standing, POSC 295, and PPA 359.

**PPA 494. Internship in Public Policy. 4.00.**

Provides students with opportunities for experiential learning in organizations engaged with public policy formulation and analysis. A research paper related to the internship is required. Prerequisite: Junior or senior standing; 15 hours of Public Policy and Administration courses and permission of the instructor.

**PPA 496. Internship in Public Management. 4.00.**

Provides students with opportunities for experiential learning in a governmental or nonprofit organization. A research paper and a presentation based on the experience are required. Prerequisite: Junior or Senior standing, 15 hours of PPA courses and permission of the instructor.

**PPA 496W. Public Management Internship in Washington. 6.00.**

This course provides opportunities for experiential learning in Washington, D.C. in public and nonprofit organizations. Requirements include 360 internship hours, a research paper related to the internship, a career report, and regular meetings with the supervising professor. Prerequisite: Junior or Senior standing, 15 credits of relevant coursework and successful application to the Washington Semester Program. \*No more than four semester hours in any combination of internships can be counted towards the major.

## Religion

**REL 101. Religions of the World [C2HQC]. 3.00.**

An investigation of the world's major religions which will give attention to their origin, history, mythology and doctrines. May be used for general education credit.

**REL 101H. Religions of the World - Honors [C2HQC]. 3.00.**

An investigation of the world's major religions which will give attention to their origin, history, mythology and doctrines. May be used for general education credit. Prerequisite: Honors Students

**REL 102. God, Meaning & Morality [C2HQC]. 3.00.**

A study of the ways in which various communities perceive and understand the basis of knowledge, reality, meaning and purpose, ethics, and aesthetics. Students will explore religious and nonreligious approaches to these issues. May be used for general education credit.

**REL 200. Exploring Religion. 3.00.**

We live in an increasingly complex and globalized world, such that understanding religions is now part of cultural literacy. But how should we go about studying religion? This course will provide an introduction to some of the most influential thinkers, common methodologies, important debates and key concepts in the academic study of religion. The course will also consider recent challenges to this field of study. Emphasis will be on applying insights to real-world examples.

**REL 201. Introduction to Hebrew Bible/Old Testament. 3.00.**

A study of selected texts in the Hebrew Bible or Old Testament using the methods of biblical studies, which examines texts in their original historical settings. No prior familiarity with the Bible is needed. Includes introductions to religious texts and cultures in ancient Egypt, Mesopotamia, and the Levant. We will also consider how contemporary readers use the Bible to support a range of policy issues and social platforms as we reflect on how a biblical studies approach might inform these positions.

**REL 202. Introduction to the New Testament. 3.00.**

This course discusses the literature of the New Testament in light of historical, social and religious conditions from which it emerged. Particular attention is given to historical issues related to Jesus and the origins of Christianity.

**REL 210. Religion in America. 3.00.**

The purpose of this course is to offer students the opportunity to explore the broad contours of the intersection of religion with other important facets of American society, such as politics and law, civic space and social activism, social identities, intellectual life, and the arts and media. It will consider the relationship of religion to the constructing of an American identity rooted in ideas of pluralism, tolerance, equality, freedom of conscience, democracy and secularism.

**REL 218. Philosophy of Religion. 3.00. Crosslisted with PHIL 218.**

An intensive examination of religion from the standpoint of philosophical thinking with particular emphasis on the way philosophers view such problems as the existence of God, evil, immortality, religious language, etc. Prerequisite: PHIL 101 or permission of the instructor.

**REL 240. Jesus and the Moral Life. 3.00.**

This is an introductory course that focuses on the ways in which the moral teachings of Jesus of Nazareth, explored both from historical and multi-cultural perspectives, informed and continues to inform, personal ideas and moral visions of society.

**REL 250. Islamic Religious Traditions. 3.00.**

What constitutes Islam and how has it been defined throughout history? Who represents and speaks for Islam? How have we come to our Islamic studies archive and how does it impact how we view Islam? We will discover the different ways Muslims and non-Muslims have answered these questions, in different places, times and social contexts. Based on the most recent research and original source material, we will cover major themes of Islamic religious thought including the Qur'an and its interpretation, the intellectual history of Islam,

Sufism, Islamic law, and Muslim reform and revivalism. We will explore how these components have manifested in diverse cultures throughout Islam's history. In addition to gaining a solid understanding of the problems associated with the study of Islam, successful completion of this course should also equip students with the tools required to analyze broader theoretical issues pertinent to the study of religion. A further goal of this course is to provide a strong theoretical foundation in religious studies so that students are able to think and speak about religion in an informed and insightful manner. The scope of this course is not limited to Islam, as the example of Islam will be used as a case study to wrestle with broader intellectual issues relating to the intersection among religion, history and politics.

**REL 280. Religion and Science. 3.00.**

This course will provide an historical survey of the relationship between religion and the sciences; offer overviews of scientific and theological theory; examine the development of theory formation; focus on issues in astronomy, physics, and biology; explore the ethical implications of scientific and religious theories; and trace developments.

**REL 288. Introduction to Buddhism. 3.00.**

This course explores the historical origins of Buddhism, the central tenets of Buddhist thought, the major meditative practices Buddhists employ, and the relationship between meditation and social action in contemporary Buddhist communities.

**REL 300. Selected Topics in Religion. 3.00.**

Selected topics in religion are studied in depth. See MyMadison for current topic. Course may be repeated for credit when content changes.

**REL 305. Islamic Religious Tradition. 3.00.**

This course introduces the Islamic religious tradition from its inception to the present. Topics covered include the message and style of the Qu'ran, the life and experience of Muhammad, the major beliefs and practices of Islam, and the theological, philosophical and mystical movements in the Islamic empire. Attention is also given to modern Islamic movements and their relation to the modern world inside and outside the Middle East.

**REL 306. Women and Gender in Islam. 3.00.**

This course investigates how particular gender roles, identities, and relationships become signified as Islamic, and the ways in which Muslim women continually re-negotiate the boundaries of gender in living an authentic religious life. Topics will include Qur'anic revelations, the formation of Islamic jurisprudence, sexual ethics, representations of Muslim women in colonial discourse, as well as the role of women in ritual practice and feminist movements.

**REL 309. Jihad in Islamic Traditions. 3.00.**

This course examines jihad as it is debated and sanctioned throughout Islamic history. Jihad means 'struggle' and various Muslim interpreters have defined this struggle in two ways: some have claimed it encompasses violent, militaristic conflict, while others have emphasized the inner, spiritual struggle of an individual to follow God. This course traces how Muslims have interpreted this dual sense of jihad in diverse historical and cultural contexts, thereby laying the foundation to analyze the expression of jihad in the contemporary world.

**REL 310. (Re)thinking Order and Chaos: An Introduction to Hinduism. 3.00.**

This course introduces Hinduism through the concepts of order (dharma), chaos or disorder (non-dharma), and ethic of responsibility (karma), and their relationships to the pursuits of pleasure and material well being and the quest for liberation. It makes sense of chaos and discovers the lurking irrationality of order, and thereby suggests a creative role of chaos in order. This course also challenges the category of religion and the universalism associated with Western religious mythologies.

**REL 313. Classical Chinese Thought. 3.00.**

This course is an introduction to early Chinese thought. The word "thought" is used instead of "philosophy" or "religion" because the Chinese intellectual tradition did not distinguish between philosophy and religion. We will examine how philosophical, religious, and literary elements are all uniquely deployed in texts such as the Analects of Confucius, the Dao De Jing, and other classics. Our approach will involve analysis of language, arguments, cultural context, and authorial intent.

**REL 314. Gandhi and the Other 9/11. 3.00.**

Mahatma Gandhi is unique as a social theorist, a moral and spiritual philosopher, and a social and political activist. He serves as a bridge from post-modern to modern and pre-modern thought. His experience transcends boundaries of culture, geography, religion and politics. In this course students explore the ideas and the story of Gandhi to reflect upon the issues facing the modern world, with an emphasis on the modern nonviolent movement that he launched on 9/11.

**REL 315. Women and Religion. 3.00.**

Students will explore the diverse relationships between women and the world's major religions (Hinduism, Buddhism, Judaism, Christianity and Islam), both in the past and today. Topics will include women's roles, rights, practices, bodies, sexualities, clothing, representations and more. Feminist approaches for critiquing religious histories, texts and traditions will also be considered.

**REL 317. Introduction to Daoism. 3.00.**

Beginning with the earliest classics and continuing to the present, the course examines Daoism from historical, literary, philosophical and religious perspectives. It explores the difficulties categorizing Daoism as a "philosophy" or "religion," and how it still informs political, philosophical and religious thought in China. First-person exercises in and out of class will yield a holistic and lived understanding of the Daoist tradition.

**REL 320. Judaism. 3.00.**

An examination of the beliefs, practices and historical development of the various forms of Judaism represented in America today: Orthodox, Reform, Conservative and Reconstructionist.

**REL 322. Sociology of Religion. 3.00. *Crosslisted with SOCI 322.***

This course is a sociological analysis of the nature, function, and structure of religion. Survey of the relationship between religion and society: the social nature of religious phenomena, the interaction between religious beliefs and practices and other arenas of secular societies, the social functions of religion, and the way religion changes and is changed by secular society.

**REL 323. Comparative Ethics East and West. 3.00.**

Would Jesus have opposed war? What about Buddha? If both opposed war would they have made the same argument against it? In this course we will think about ethical questions from a crosscultural perspective. Analysis of ethical arguments made in Eastern and Western traditions will bring to light similarities as well as fundamental differences. Case studies will connect the course material to contemporary ethical debates.

**REL 324. Latin American Christianity. 3.00.**

The election of Pope Francis to the papacy reflects the growing influence of Latin America upon world Christianity. This course will provide a historical and thematic overview of the changes in the history of Latin American Christianity. It moves chronologically and geographically, from colonial Latin America to Hispanic immigrant communities. Topics covered include race and colonialism, the Cuban Revolution, the Second Vatican Council, social justice and Christianity, the rise of Pentecostalism, labor movements and inequality, and U.S. Hispanic political influence.

**REL 325. Catholicism in the Modern World. 3.00.**

Study of the variety of responses by contemporary Catholic theologians and philosophers to key elements in Christian doctrine and practice. Topics include Vatican II; scripture, tradition and modern scholarship; Jesus and Christology; contemporary Catholic spirituality; moral issues in the church; and ecumenism.

**REL 330. Religions of Africa and the African Diaspora. 3.00.**

An examination of the character of religious traditions, beliefs and liturgical practices of African and African-Diaspora communities. Both primary (historical and anthropological) and

secondary sources examined.

**REL 332. Born Again Religion. 3.00.**

Evangelical Protestantism has played a vital role in shaping American religious history. The religious and social allegiances of evangelicalism are quite diverse, however. Evangelicals also maintain a paradoxical relationship with American society, functioning both as powerful insiders and vocal outsiders. This course is designed to introduce students to the history of evangelicalism, its religious patterns and its negotiations with contemporary American culture.

**REL 333. The Other Bibles: Dead Sea Scrolls, Pseudepigrapha, and Apocrypha. 3.00.**

This course will familiarize students with a broad range of early Jewish and Christian writings, found outside of the Jewish and Protestant Christian canon, that were held to be Scripture at the time of their production and reception ca. 300 B.C.E. – 200 C.E. Using a broad range of interdisciplinary methodologies drawn from biblical studies, students will study these Scriptures in the context of late Persian, Hellenistic, and Roman cultures, as well as in light of archaeological findings.

**REL 334. New Religious Movements. 3.00.**

America has proven to be fertile soil for the development of new religious traditions. It has encouraged religious pluralism, and has allowed hundreds of new communities to establish themselves as important elements of society. This course will consider some of the representative new religions in America by examining their histories, beliefs, and practices.

**REL 336. African-American Religion. 3.00.**

The purpose of this course is to familiarize the student with the broad contours of the African American religious experience, and its history, practices, and communities by examining the intersection of race and religion in America. Through the close reading of primary texts and increased familiarity with significant scholarly literature, students will gain a basic understanding of the fundamental categories in African American religion.

**REL 340. Introduction to Christianity. 3.00.**

This course is designed to provide a broad survey of the Christian tradition, from its origins to its contemporary expressions. In addition to its historical development, the course will consider Christian belief, ritual, moral practice, and societal engagement. Major intellectual and theological traditions will be addressed through the study of foundational texts. Students will gain a working knowledge of major church communions as well and minor and marginalized movements.

**REL 341. Early Christian Gospels: Origins, History, and Conflict. 3.00.**

Matthew, Mark, Luke, and John are the familiar "canonical" gospels. In the early centuries of Christianity other gospels circulated: the Gospel of Peter, "Q", Infancy Gospels and the so-called Gnostic gospels. This course examines the origins of the canonical and non-canonical gospels, the historical and theological factors at work in the emergence of the canonical gospels to a position of primacy, and the struggles within early Christianity to define its authoritative tradition.

**REL 342. The Historical Jesus Quest. 3.00.**

A study of the attempts of scholarship since the Enlightenment to discover the so-called historical Jesus. Includes discussion of historiographical problems raised in past and present scholarly "quests" for the historical Jesus, analysis of the relationship between memory and the Jesus traditions, and practice in situating the Gospel materials in the social and political context of ancient Roman Palestine.

**REL 343. Paul and the Origins of Christianity. 3.00.**

Some scholars argue that the Apostle Paul was the "real" founder of Christianity, others that he was the faithful interpreter of the Jesus traditions to the Greco-Roman world. After reconstructing the historical course of Paul's life and journeys from the available sources, the course will analyze selected Pauline epistles, sent to early Christian communities, in order to reconstruct his teaching and ethics and to assess his significance for the origins of Christianity.

**REL 348. Christianity in Global Context. 3.00.**

Christianity plays a vital role in many societies around the world. Though often treated as a mostly western or European religion, it was in fact a global religion first and foremost. This course examines Christianity from that global perspective. What does Christianity look like around the world? How have indigenous cultures fashioned their own versions of Christianity in the modern world? Is there unity in the diversity of these global Christianities?

**REL 350. Islamic Law and Society. 3.00.**

This course aims to introduce students to the study of Islamic law, the all-embracing sacred law of Islam. In this course we will consider various facets of the historical, doctrinal, institutional and social complexity of Islamic law in the classical and modern periods. Topics to be discussed include medieval Islamic legal theory, gender and sexuality, the just war, and the issue of Islamic law and universal human rights, particularly as they pertain to women.

**REL 360. History of Christian Thought. 3.00.**

A survey of the development of Christian Thought with primary emphasis on the peoples, ideas, and historical events around which the developments took place. Thus material from Christian origins through to the present will be examined in their historical contexts.

**REL 362. Introduction to U.S. Religious History. 3.00. *Crosslisted with HIST 362.***

The course introduces the religious history of the colonies and the United States, from native traditions through the 20th century. We examine the historical/social impact of groups ranging from Roman Catholic migrants to evangelical Protestants and Scientologists. Special attention is paid to the extraordinary and persistent levels of religious diversity and adherence throughout U.S. history.

**REL 363. Apocalypticism, Religious Terrorism and Peace. 3.00. *Crosslisted with IA 363.***

This course traces apocalypticism from its ancient Jewish and Christian roots to its contemporary manifestations in religious groups around the world. Since apocalypticism is a worldview that cuts across religious traditions, the course covers a variety of religious groups. The last half of the course focuses on the complex relationships between apocalyptic thinking and religious terrorism and entails an independent research project.

**REL 365. Religion and Film. 3.00.**

In this course, students will explore the appearance of the major world religions (Christianity, Judaism, Islam, Buddhism and Hinduism) as well as religious themes (such as redemption or the afterlife) in the medium of film. Students will learn to critique cinematic representations and misrepresentations of religion and to analyze their impact on viewers, as well as to consider how films may provide rituals and other experiences that serve a religious function.

**REL 366. Religion, Animals and the Environment. 3.00. *Crosslisted with ENVT 366.***

This course analyzes the ways in which various religions, especially Judaism and Christianity, understand the relationship of human beings to the environment and non-human animals. We will explore how religious worldviews translate into human impact on the non-human biosphere. Given the global reach of American environmental policies and lifestyles, and the prominent role that biblical interpretation has played in shaping American attitudes and policy, special emphasis will be placed on historical interpretations of the Bible, ranging from human dominionism to human responsibility in caring for the earth, its creatures and its ecosystems. The course explores the complexities involved in using religious positions, interpretations of biblical texts and apocalyptic arguments to inform both environmentalism and policy debates related to the environment. Students will gain a basic introduction to methods of biblical scholarship and familiarity with the general state of scientific consensus on environmental challenges

**REL 375. Nineteenth Century Philosophy and Theology. 3.00. *Crosslisted with PHIL 375.***

A selected study of 19th-century philosophers and theologians with special attention to rationalism, romanticism and idealism. Views of Hegel, Schleiermacher, Ritschl, Marx and others are considered.

**REL 377. Hermeneutics. 3.00. Crosslisted with PHIL 377.**

This course will examine the main features of hermeneutics with particular emphasis on its contemporary perspectives. Discussion will focus on such themes as human understanding and human finitude, the nature of history and tradition, linguisticity and textuality of experience. Readings may address Gadamer, Ricoeur, Schleiermacher, and Dilthey.

**REL 380. Contemporary Theologies. 3.00.**

A survey of one or more of the following contemporary theological movements: continental, North American, African and South American, including Roman Catholic, Orthodox and Protestant approaches, and covering themes such as the conflict between history and faith, Christology, fundamentalism and liberalism, and the emergence of liberation, feminist, black, neo-conservative, secular, pluralist and ecological theologies.

**REL 383. The Global Refugee Crisis and Religion. 3.00.**

Focused on the contemporary refugee crisis, this course investigates the intersection of religion with human experiences of displacement, migration, resettlement, and welcome. We also analyze the place of religion in refugee policy debates as well as the role of faith-based organizations in refugee relief and resettlement. *Prerequisite:* none *Corequisite:* none

**REL 386. Topics in Buddhist Studies. 3.00.**

Study of major issues and thinkers in the Buddhist tradition from ancient times to the present. May be repeated for credit when course content changes.

**REL 387. Buddhist Literature and Liberation. 3.00.**

Focused on the interpretation of Buddhist texts, this course explores how Buddhists have envisioned literary activity as part of a path to spiritual liberation. Students read and analyze a variety of literary genres, from hagiography to haiku; investigate the ritual dimensions of scribing and printing Buddhist scriptures; and apply contemplative disciplines to creative writing assignments.

**REL 388. Tibetan Buddhism. 3.00.**

This course explores the teachings of Tibetan Buddhism as they are practiced and experienced in communities on the Tibetan Plateau. Student research projects investigate the globalization of Tibetan Buddhism, especially through the public life of the Dalai Lama, as well as Tibetan Buddhism's relationship to topics like nonviolence, compassion, mindfulness, interfaith dialogue, psychology and politics.

**REL 410. Dharma/Adharma: Hindu Ethical Reasoning. 3.00.**

What values are advanced in Hindu religious and ethical teachings? How do Hindu texts and traditions define and teach the good life and virtuous living? Is moral responsibility conditioned by caste, class, gender or other socioeconomic factors? These are some of the questions that will be considered in this study on Hindu modes of moral reasoning. This course will also make sense of the structure of chaos (adharma) and the chaos of structure (dharma) and thereby suggest that adharma might somewhat make more sense than dharma.

**REL 425. Religion and Medicine, East and West. 3.00.**

What is the relationship between religion and medicine? How has the idea of healing been influenced by religious faith, historically and philosophically? This course explores a broad range of issues at the intersection of religion and science, from the question of what counts as "proof" to the existential crises that sickness can provoke. Historical perspective is balanced with case studies and current events to show how theoretical concerns affect real-world scenarios. Fulfills the College of Arts and Letters writing-intensive requirement for the major.

**REL 440. Topics in Religion in America. 3.00.**

This course serves as a senior seminar (capstone) for majors in Religion, centered around the subject of Religion in America. As a capstone course, students will pursue their own advanced research projects after an initial, intensive introduction to the subject. Rotating topics include "Mormonism and American Culture" and "American Evangelicalism," as well as others.

**REL 450. Religion and Society. 3.00.**

An advanced exploration of diverse ways in which one or more of the world's religions have engaged questions of significant social impact. Specific course themes vary by year and instructor. Original student research, writing and oral presentation are the centerpieces of this religion capstone course. Fulfills the College of Arts and Letters writing-intensive requirement for the major.

**REL 460. Topics in Ancient Jewish and Early Christian Literature. 3.00.**

An in-depth examination, using critical academic methods, of the historical, literary, and cultural dimensions of selected texts from the literatures of Ancient Judaism and Early Christianity. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite:* REL 201 or REL 202 or permission of the instructor.

**REL 488. Buddhism in the Modern World. 3.00.**

This capstone course in the study of religion applies knowledge of Buddhist thought and practice to contemporary global expressions of Buddhism. A key theme of the course is the tension between tradition and modernity in Buddhist communities, especially in light of post-colonialism and globalization. Specific course themes and content rotate by year. Original student research, writing and oral presentation are the centerpieces of this capstone experience. Fulfills the College of Arts and Letters writing-intensive requirement for the major.

**REL 490. Special Studies Religion. 3.00.**

Designed to give capable students an opportunity to complete independent study in religion under faculty supervision. *Prerequisite:* Permission of the department head. May be repeated for credit.

**REL 490B. Internship. 3.00.**

**REL 493. Religion Course Assistantship. 3.00.**

Students participate as course assistants in religion. Assistantships provide students with a sense of what it is like to teach a religion course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships may also provide opportunities for student assistants to lead discussion and to help their peers review the material outside the classroom. *Prerequisite:* Senior status or permission of the department head.

**REL 495. Religion Internship. 3.00.**

Gives the structured opportunity to gain practical knowledge and experience while serving the community. *Prerequisite:* Philosophy and Religion Major or Minor (Religion Concentration), junior or senior standing.

**REL 499A. Honors. 1.00.**

**REL 499B. Honors. 3.00.**

**REL 499C. Honors Thesis. 2.00.**

## Russian

**RUS 101. Elementary Russian. 3.00 - 4.00.**

The fundamentals of Russian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory.

**RUS 102. Elementary Russian II. 3.00 - 4.00.**

The fundamentals of Russian through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language

laboratory. Prerequisite: RUS 101

**RUS 111. Intensive Russian I. 6.00.**

The fundamentals of Russian through listening, speaking, reading and writing. The course is the equivalent of RUS 101-102.

**RUS 212. Intensive Russian II. 6.00.**

The fundamentals of Russian through listening, speaking, reading and writing. The course is the equivalent of RUS 231-232. Prerequisite: RUS 102 or RUS 111 or sufficient score on the Foreign Language Placement Exam.

**RUS 231. Intermediate Russian I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. Prerequisite: RUS 102/RUS 111 or <250 on FLPE

**RUS 232. Intermediate Russian. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. Prerequisite: RUS 231 or sufficient score on Foreign Language Placement Exam

**RUS 300. Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Russian. Fulfills the College of Arts and Letters writing-intensive requirement for the major. Prerequisite: RUS 232 or RUS 212 or sufficient score on the Foreign Language Placement Exam.

**RUS 308. Introduction to Russian Civilization. 3.00.**

A study of Russian life and culture and the outstanding contributions of Russian-speaking peoples. Instruction is in English. Prerequisite: RUS 300.

**RUS 315. Russian Phonetics. 3.00.**

Intensive drill in Russian sounds and intonation patterns. Continued emphasis on conversation. Instruction is in Russian. Prerequisite: RUS 232 or equivalent.

**RUS 320. Russian Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Russian with emphasis on conversation and composition. Readings in Russian will provide a context for discussion and writing. Prerequisite: RUS 300

**RUS 400. Advanced Conversation. 3.00.**

Discussions deal with topics of current interest. Instruction is in Russian. Prerequisite: RUS 300 or equivalent.

**RUS 438. Studies in Russian Literature. 3.00. Crosslisted with ENG 438.**

A study of selected works of Russian Literature. Instruction is in English. May be repeated for credit when content varies.

**RUS 446. Special Topics in Russian Literature. 3.00.**

Study of a particular topic in Russian literature. It may cover all or a specific Russian literature genre. Course may be repeated if content varies. Prerequisite: RUS 300 or permission of the instructor.

**RUS 447. Special Topics in Russian Civilization. 3.00.**

Study of a particular topic in the civilization and/or culture of Russia. Course may be repeated if content varies. Prerequisite: RUS 300 or permission of the instructor

**RUS 448. Special Topics in Russian Linguistics. 3.00.**

Students will study a particular topic in Russian linguistics. Topics could include an introduction to Russian sociolinguistics or psycholinguistics. Course may be repeated if content varies. Prerequisite: RUS 300 or permission of the instructor.

## Social Work

**SOWK 287. Intro to Social Work. 3.00.**

Overview of social work as a profession with emphasis on various settings and diverse populations as distinguished by age, class, race, ethnicity, culture, spirituality, family structure, marital status, gender, gender identity, sex, sexual orientation, physical or mental ability, socio-economic status, and national origin and the implications to social work practice. Focuses on practical experiences designed to enable students to gain familiarity with the dynamics of the profession. Corequisite: 20 hours community service-learning.

**SOWK 288. Human Rights, Social, Economic and Environmental Justice. 3.00.**

The foundational realities of vulnerable people are introduced in this course through concepts of human rights; social, economic and environmental justice; and diversity/inclusion. Processes that seek to reduce, ameliorate and/or alleviate injustices including advocacy action are explored.

**SOWK 301. Workshops in Social Work. 0.00 - 3.00.**

Detailed study of a topic of interest in social work. May be repeated for credit.

**SOWK 302. Workshops in Social Work. 1.00 - 3.00.**

Detailed study of a topic of interest in social work. May be repeated for credit.

**SOWK 305. Social Work Research Methods. 3.00.**

Study of qualitative and quantitative methods in social work research. Demonstrating scientific and ethical research processes including formulation of research questions, selecting a design, collecting data, analysis and interpretation of data, and exposure to evaluation of practice. Diversity and inclusion are highlighted in the research process. Prerequisite: MATH 220 or SOCI 231; SOWK 287; SOWK 288.

**SOWK 314. Rural Health: an Interprofessional Approach. 3.00. Crosslisted with HTH 314, IPE 314, NSG 314.**

Students study, observe and participate in interprofessional assessment, planning and delivery of community-based primary health care in partnership with residents and agencies of a host rural county. Learning activities will emphasize rural culture, rural health care and interprofessional practice.

**SOWK 317. Skills for Generalist Social Work. 3.00.**

Developing self-awareness of students' own value and culture systems, differentiating between their own systems and those of clients, and how these differences impact on communication. Understanding of empathy, engagement, and other interpersonal skills. Developing skills in communication and interviewing within a strengths-based generalist framework with individuals, families, groups, and communities. Prerequisite: SOWK 287, SOWK 288 or departmental permission. Corequisite: SOWK 320 and junior standing.

**SOWK 320. Human Behavior in the Social Environment. 3.00.**

Integrates and expands prerequisite knowledge in biological, psychological, and socio-cultural sciences to assessment of individuals, groups, families, organizations, and communities in a pluralistic society. Application and critique of theoretical frameworks related to impact of race, age, gender, sexual orientation, family form and region. Prerequisite: SOCI 101 or SOCI 110; ANTH 195, SOCI 336 or SOCI 354; PSYC 101; PSYC 160; SOWK 287; SOWK 288.

**SOWK 325. Parent-Child Relationships Across the Lifespan. 3.00. Crosslisted with FAM 325.**

Focuses on intergenerational caregiving and interactions across the lifespan and generations. Uses a developmental framework to explore family life as the territory in which people fulfill relational responsibilities to children and parents while simultaneously attending to independent life stage challenges.

**SOWK 330. Corrections. 3.00. Crosslisted with JUST 330.**

The history, philosophy, policies and problems of the treatment of violators by the police, courts and correctional institutions. Prerequisite: JUST 200 and one other 200 level JUST course

**SOWK 332. Community Mental Health Practice. 3.00.**

Provides a basis for understanding mental health policy and services. Focus is on the needs of the deinstitutionalized mentally ill patient including psychosocial treatment and case management services. Outpatient services for the general public are also covered. Course contains a service component.

**SOWK 335. Social Policy. 3.00.**

Study of the formulation and consequences of social policy in the context of contemporary social, political and economic conditions. Skill development in creation of a proposal, policy evaluation and change advocacy in U.S. society with emphasis on agency, local, state and national levels. *Prerequisite: POSC 302 or POSC 225; SOWK 287; SOWK 288.*

**SOWK 338. Issues and Policies in Family Services. 3.00.**

Examination of historical and philosophical approaches to family policy. Evolution of family-related social policies in the United States is contrasted with those of selected foreign countries with the view toward a national family policy.

**SOWK 340. Violence in Families. 3.00.**

Examination of violence in the family, including spouse, sibling, elder and child abuse. Studies the social and cultural patterns and etiology of family violence. Examines programs and services for the abused and the abuser including shelters, support systems and counseling.

**SOWK 342. Child Welfare Services. 3.00.**

Study of the basic child welfare services -- day care, homemakers, services to unwed parents, protective, foster care and adoption services -- and the principle income maintenance programs as they affect children and their families. Analysis of legal framework and court services and such current issues as guardianship, educational and protective services.

**SOWK 348. Introduction to Developing Societies. 3.00. *Crosslisted with SOCI 348.***

This course examines economic development and social and political change in developing countries. The historical experiences of developing societies will be analyzed within the context of the global system and from the perspective of competing and complementary theoretical perspectives.

**SOWK 350. Social Work Policies and Practices: A European Perspective. 3.00.**

The study of the formulation and consequences of social policy and methods of social work practices in a selected European country within the context of contemporary social, political, cultural and economic conditions. Comparisons and linkages will be made with current U.S. social policies and social work practices. Students will work with both U.S. and European social work faculty. *Prerequisite: SOWK 298 or permission of the instructor.*

**SOWK 352. Culture and Human Services in Dominica. 3.00.**

Study of the culture and formulation of social policy and methods of social work/human service practices in Dominica within the context of contemporary social, political, cultural and economic conditions. Comparisons and linkages will be made with current U.S. social policies and social work practices and theory. Students will work with both U.S. and Dominican professionals. Faculty approval required.

**SOWK 372. Social Work Practice with the Aged. 3.00.**

An examination of America's response to aged Americans from a historical and current perspective. Social problems and social work skills will be examined in light of individual, group and community needs and those affected by social policies.

**SOWK 375. Grant Writing for Agencies. 3.00. *Crosslisted with FAM 375, GERN 375, NPS 375.***

Emphasizing active learning, this course teaches the basics of grant and proposal writing. Efficient research, persuasive prose and the importance of relationships are stressed. Private and corporate philanthropy and government grants are examined.

**SOWK 386. Youth Empowerment Strategies (Yes). 3.00. *Crosslisted with FAM 386.***

Students learn to use group activities that include the creative arts, low ropes, and self-discovery in youth empowerment. The goal is to help youth build life skills and make informed decisions. Prior to beginning work with youth, students complete 25 hours of training.

**SOWK 387. Working with Teens. 3.00.**

Survey of physical, psychological and social theories of adolescent development. Examination of service delivery issues in working with teen-agers. Investigation of topical areas of particular relevance to work with adolescents including sexuality, abuse and neglect, runaways, depression and suicide, and substance abuse.

**SOWK 450. Palliative and Hospice Care: An Interdisciplinary Approach. 3.00.**

An interdisciplinary approach to assessment and care planning of older adults experiencing need for palliative and/or hospice support. Familial, cultural, legislative and social implications of programs and service delivery.

**SOWK 465. Social Work Practice in Mezzo Systems. 3.00.**

Application of social work values, knowledge and methods with small groups is emphasized. Assessment, planning intervention strategies, resource utilization and evaluation are examined. Role play and group processing are utilized. *Prerequisite: SOWK 305, SOWK 317, SOWK 320, SOWK 335 and admission to the social work program; Senior standing. Corequisite: SOWK 466 and SOWK 467.*

**SOWK 466. Social Work Practice in Micro Systems. 3.00.**

Application of social work values, knowledge and methods with individuals and family systems is emphasized. Case assessment, planning intervention strategies, resource utilization and evaluation are examined. Role play and videotaping are utilized. *Prerequisite: SOWK 305, SOWK 317, SOWK 320, SOWK 335, and admission to the social work program. Senior standing. Corequisite: SOWK 465 and SOWK 467.*

**SOWK 467. Social Work Practice in Macro Systems. 3.00.**

Application of knowledge, skills, and methods to the macro systems of professional practice, including neighborhoods, communities and organizations. Attention is given to the impact of racial, ethnic, cultural conditions and geographic factors. *Prerequisite: SOWK 305, SOWK 317, SOWK 320, and SOWK 335 and admission to the social work program. Senior standing. Corequisite: SOWK 465 and SOWK 466.*

**SOWK 481. Social Work Field Practicum I. 6.00.**

Offers students an opportunity to gain a broad knowledge of the basic functions, services and roles of the agency as related to actual social work practice, as well as a specific knowledge of practical intervention skills necessary to carry on effective social work practice. The field experience is the application of knowledge and skill components drawn from previous courses. *Prerequisite: Admission to the field practicum. Social work majors only. Senior standing.*

**SOWK 482. Social Work Field Practicum II. 6.00.**

Offers the student an opportunity to build upon previous field experience by having more responsibility and tasks designed to expand their practice skills in social work. *Prerequisite: SOWK 481. Social work majors only.*

**SOWK 487. Special Topics. 3.00.**

Examination of selected topics of social work practice which are of current importance in the social work profession. Course may be repeated for credit.

**SOWK 490. Special Studies in Social Work. 3.00.**

This course is restricted to majors in social work. The course provides capable students an opportunity to complete independent studies under faculty supervision. Course may be repeated for credit. *Prerequisite: Recommendation of the instructor and permission of the department head.*

**SOWK 493. Professional Forum I: Preparation for Field. 1.00.**

This course provides an orientation to the pedagogy and process of the field practicum. Students become acclimated to the placement process as well as the expectations and requirements of professional social work practice in field sites and includes a series of trainings on topics and issues needed prior to entering their field placement. *Prerequisite: SOWK 305, SOWK 317, SOWK 320 and SOWK 335; admission to the social work program; completion of 50 pre-field service hours; senior standing. Corequisite: SOWK 465, SOWK 466 and SOWK 467.*

**SOWK 494. Professional Forum II: Transition to Professional Practice. 3.00.**

Synthesis of field practicum and coursework throughout the curriculum to promote students' identity as beginning-level social workers, and to facilitate their transition to professional practice. Critical thinking and reflection will be emphasized as students identify and evaluate the empirical and theoretical foundations or practice specific to the field practicum. Senior outcome assessment is integral to this course. *Prerequisite: Social work majors only. Corequisite: SOWK 481 and SOWK 482 field practicum.*

**SOWK 499. Honors. 3.00.**

Independent research topic initiated and completed by qualified second semester junior social work majors.

**SOWK 499A. Honors. 1.00.**

*Prerequisite: Social Work Majors only*

**SOWK 499B. Honors. 3.00.**

*Prerequisite: Social Work Majors only*

**SOWK 499C. Honors. 2.00.**

*Prerequisite: Social Work Majors only*

## Sociology

**SOCI 101. Introductory Sociology. 3.00.**

Provides students with an understanding of the structure and processes of modern societies and their historical antecedents. Explores the universality of the social experience by addressing such topics as culture, socialization, social interaction, bureaucracy, norms and diversity, social inequality, social institutions, modernization, technology and social change, world views, values and behavior.

**SOCI 110. Social Issues in a Global Context [C4GE]. 3.00.**

This course introduces the discipline of sociology from a macrosociological perspective, emphasizing large-scale changes in social organization and institutions. We examine the global forces that shape societies, and the historical, political, social, cultural and economic origins of contemporary social problems. We consider competing theoretical models used in the study of social change as well as the conceptual and methodological challenges in analyzing societies different from one's own. May be used for general education credit.

**SOCI 140. Microsociology: The Individual in Society [C5SD]. 3.00.**

This course introduces the discipline of sociology and the subfield of microsociology. We examine the mutually constitutive relationship between the individual and society. Questions addressed include: How does society influence how we think, feel, believe, act, and interact with others? What influences the self, social identity, shared social meanings, social roles, and one's position in society? How do we, as individuals and as members of social groups, recreate, contest, and change society? May be used for general education credit.

**SOCI 200. Development of Sociological Thought and Method. 3.00.**

This course is a foundation course for sociology majors. Topics will include the historical development of the discipline with an emphasis on the social and philosophical forces that influenced the development of sociology. Main sociological traditions will be introduced including the critical, naturalistic, and interpretive paradigms and sociological analysis from these perspectives. *Prerequisite: SOCI 101 or SOCI 110 or SOCI 140 or permission of instructor.*

**SOCI 231. Introduction to Social Statistics. 3.00.**

Introduction to the techniques for collecting, describing, analyzing and presenting sociological data.

**SOCI 280. Social Gerontology. 3.00. Crosslisted with GERN 280.**

An interdisciplinary introduction to the study of aging. The course provides an overview of issues surrounding aging in contemporary society: personal, familial, communal and societal. *Corequisite: 20 hours of community service-learning.*

**SOCI 300. Sociological Inquiry. 3.00.**

A systematic introduction to various modes of sociological investigation, including positivism, interpretivism, and critical analysis. Students learn to evaluate, critique, and design original sociological inquiries with special attention to how sociological inquiry is guided by different philosophical and theoretical commitments. *Prerequisite: SOCI Major and; SOCI 200 and SOCI 231 or equivalent.*

**SOCI 304. Social Deviance. 3.00.**

Course offers students a wide range of explanations of deviance. Topics considered are the functions, social definitions, societal reactions and political aspects of deviance as characteristic of all societies. Deviant attributes as well as acts are considered.

**SOCI 306. Japanese Society and Culture. 3.00. Crosslisted with ANTH 306.**

This introductory course takes a critical and interdisciplinary approach to exploring Japan. We will apply Sociological, Anthropological, and Demographic perspectives to comparatively understand, analyze, and discuss Japanese society and culture. Students will read and discuss issues related to history, sociodemographic change, gender, work, social class, race/ethnicity, family, health care, and aging in Japanese society.

**SOCI 311. Sociology of the Environment. 3.00.**

This course will introduce students to the central debates that currently preoccupy environmental sociology and political ecology. Emphasis is placed on the importance of sociological, historical and cultural modes of inquiry for understanding: socio-ecological change/crisis, environmental justice/injustice, eco-technological change and the politics of "nature".

**SOCI 315. Technology and Society. 3.00.**

Through an analysis of various issues, problems and case studies, this course will explore the interactions between science, technology and society. The course will examine connections of specific technologies to science, cultural values, social and economic interests, and questions regarding progress.

**SOCI 318. Sociology of Immigration. 3.00.**

This course explores the patterns and processes defining immigration around the world: the reasons for migration, the types of migration, and the way it affects the sending and receiving societies. The course investigates the social forces that affect immigrants and the traits that impact their relocation experience; and how immigration creates new identities for those successful in their quest, contributing to greater cultural diversity of receiving societies.

**SOCI 321. Politics in Society. 3.00.**

The relationship between society and politics, the nature and distribution of social power, political participation, political thought and politics as a vehicle of social change are explored.

**SOCI 322. Sociology of Religion. 3.00. Crosslisted with REL 322.**

This course is a sociological analysis of the nature, function, and structure of religion. Survey of the relationship between religion and society: the social nature of religious

phenomena, the interaction between religious beliefs and practices and other arenas of secular societies, the social functions of religion, and the way religion changes and is changed by secular society.

**SOCI 328. Digital Inequality. 3.00.**

This course examines how social inequality shapes and is reproduced and challenged through digital information and communication technologies. Students will explore how the use of these technologies by consumers, corporations and governments plays an increasingly prominent role in how inequality is structured and experienced in contemporary society.

**SOCI 334. Self and Society. 3.00.**

This course examines the dialectical relationship between self and society. Two primary questions guide the course: How am I, as a social being, created by society? And, in turn, how is society created and sustained by me? In contrast to biological or psychological explanations, this course provides a distinctly sociological analysis of the self. Drawing from multiple perspectives in sociology, the course focuses on the social character of the self, the process of its acquisition and the social influences that continually shape it. Related topics include the social construction of reality, identity construction, emotions, power and inequality, symbolic interaction, ethnomethodology, and impression management.

**SOCI 335. Disability and Society. 3.00.**

This class focuses on the social and cultural aspects of disability in the US and around the world. It explores the meaning of the concept 'disability'; its relation to other social markers such as race, gender, and sexual orientation; how it is experienced by those occupying the category; and major policy approaches to dealing with disability.

**SOCI 336. Race and Ethnicity. 3.00.**

This course examines the social construction of race and ethnicity around the world and how they influence social processes, institutions, change and ideology. The course will include discussions concerning the intersection of race and ethnicity with other aspects of social inequality such as class, gender, sexuality and nationality in contemporary society.

**SOCI 337. Sociology of Gender. 3.00. *Crosslisted with WGSS 337.***

Examination of theories of sex role development, the roles of men and women in society and gender as a social construction.

**SOCI 338. U.S. Urban History. 3.00. *Crosslisted with HIST 338.***

In this course students explore the history of urban spaces in the United States by investigating American cities using a broad chronological, geographical, and thematic framework. Drawing from an array of primary and secondary sources, students will become familiar with the central themes of urban history, and also have the opportunity to produce their own narratives.

**SOCI 341. Sociology of Education. 3.00.**

Examination of sociological theories and research on education, emphasizing stratification, socialization, organization, and relationship between schooling, family, community, and work. Focus on cross-cultural approaches to education.

**SOCI 342. Social Movements in the Middle East. 3.00.**

This course is designed to provide a basic knowledge of current Islamic movements in the Middle East. The primary emphasis is on social movements in Iran, Iraq, Egypt, Algeria, Lebanon, Palestine and Afghanistan.

**SOCI 344. Work and Society. 3.00.**

This course examines the nature and meaning of work under various social and historical conditions. This includes such things as the relationship of work organization to life chances and personal experience, the place of work in social theory, the organization of occupations, occupational socialization and commitment, and how the nature of work changes in relation to local and global contexts.

**SOCI 347. Queer Theories of Gender and Inequality. 3.00. *Crosslisted with WGSS 347.***

Contemporary approaches to the culture and social structure of gender and gender binaries, as they intersect with power, knowledge, science/biology and inequality. Method involves examining and challenging the cultural classification systems that inform knowledge, human action and social institutions. Requires college-level reading, writing and intellectual engagement.

**SOCI 348. Introduction to Developing Societies. 3.00. *Crosslisted with SOWK 348.***

This course examines economic development and social and political change in developing countries. The historical experiences of developing societies will be analyzed within the context of the global system and from the perspective of competing and complementary theoretical perspectives.

**SOCI 352. Birth, Death, Sex: Exploring Demography. 3.00. *Crosslisted with ANTH 352.***

Fertility (birth) and mortality (death) and their biological and social determinants in cross-cultural and evolutionary/historical frameworks. Exploration of the dynamic between the material constraints on and symbolic significance of reproduction, sexuality and death within a cultural context. Critical examination of population growth as a global "problem". Basic demographic methods. *Prerequisite: Prerequisite: Any lower level course in anthropology or sociology or permission of the instructor.*

**SOCI 354. Social Inequality. 3.00.**

Course covers the systems of stratification and inequality in the United States including race, class, gender, religion, sexuality, ethnicity, and nationality. Discussion will center on their role in providing rationales for oppression and discrimination in society and their relationship to the distribution of power and ideological control.

**SOCI 357. Sociology of Disasters. 3.00.**

This course aims to familiarize students with the sociological study of the causes and consequences of disasters. The course takes a broad view of the social science literature on disasters, but largely employs a case study approach. In keeping with sociology's focus on the causes and consequences of social stratification, the relationship between disasters and patterns of inequality will be a central theme throughout the course.

**SOCI 358. Sociology of Consumption. 3.00.**

Consumption encompasses themes that range from identity construction to the macro processes of cultural globalization. As consumption becomes more integral to society, it is becoming more central to various disciplines. This course situates scholarly work from this nascent interdisciplinary field of consumption studies within the context of contemporary social, cultural, and economic issues.

**SOCI 360. Social Movements. 3.00.**

Introduction to the study and analysis of social movements in the United States as agents of social and ideological change. Emphasis is given to movements which have goals of extending and/or protecting rights of individuals and groups in the face of increasing industrialization, urbanization and centralization of power.

**SOCI 361. Sociology of Organizations. 3.00.**

Study of formal organizations primarily in contemporary society. Emphasis is given to the social-historical context that has given rise to and perpetuates the bureaucracy as a form of social organization, and to the study of the structure and dynamics of contemporary formal organizations such as businesses, universities, governments, etc.

**SOCI 363. Sociology of Culture. 3.00.**

This course examines sociological perspectives about values, norms, symbols, rituals and expressions. Course content includes classic perspectives on the relation between culture and institutions as well as the work of contemporary analysts who have developed, revised and/or challenged these classic positions. Students will learn to apply these perspectives to their own analyses of culture.



**SOCI 366. Sociology of Knowledge. 3.00.**

This course explores sociological understandings of the social sources, bases and effects of knowledge, including scientific knowledge. This includes explorations of various knowledge systems, knowledge generating institutions, competing knowledge claims, and the links between knowledge and social power. *Prerequisite: SOCI 200 or instructor permission.*

**SOCI 367. Sociology of Sexuality. 3.00. *Crosslisted with WGSS 367.***

This course examines sociological theory and research on sexual behaviors, identities, cultures, and social movements, investigating how sexuality is shaped by society and its social institutions. In addition, the course examines how sociological research on sexuality is conducted, how society shapes the sociological study of sexuality, the unique ethical concerns and methodological challenges in researching sexuality, and the place of sociology in shaping discourse and social policy on relevant social issues.

**SOCI 368. Contemporary American Culture. 3.00. *Crosslisted with ANTH 368.***

This course analyzes contemporary American society in relation to popular cultural formations and representations. Cultural expressions found in music, literature, film, television, cyberspace and sports will be examined with respect to the values, sentiments, identity constructions, and lived experiences of differentially situated social actors.

**SOCI 372. Sociology of the Community. 3.00.**

This course examines the community as a social form. Considered are its function, social definitions, formative processes, development and systems of change. This survey may include, but not be limited to, examination of community studies research and community advocacy for social justice.

**SOCI 374. Sociology of Families. 3.00.**

Covers the basic concepts and theories in marriage and the family; looks at basic issues in modern family life; examines changes in family functions and in the various stages of the family life cycle and discusses the future of the family in contemporary society.

**SOCI 375. Medical Sociology. 3.00.**

An introduction to the field of medical sociology that examines the salient issues in the field and related theoretical perspectives. These two focuses are important in understanding the ability of humans to live to capacity. Attention is given to health-care programs in developing countries as well as modern industrial societies.

**SOCI 382. Qualitative Sociology. 3.00.**

This course introduces students to qualitative research methods, including participant observation, interviewing, and content analysis. Students will read examples of qualitative sociology and learn how to design and conduct a qualitative research study. In addition to reviewing methodological, theoretical, and ethical issues, students will produce an independent qualitative research project. *Prerequisite: SOCI 200*

**SOCI 385. Madness and Society: the Sociology of Mental Health and Illness. 3.00.**

This course will explore the role that social and cultural factors play in the occurrence, diagnosis, experience, and treatment of mental illness. It will compare sociological perspectives to those of biology and psychology. The course will examine the intersection of mental health systems with other systems, such as the broader health care and the criminal justice systems. Finally, it will critically analyze psychiatry, policy, and popular culture depictions of the mentally ill.

**SOCI 386. Sociology of Nonprofit Organizations. 3.00.**

Focusing primarily on the United States, this course examines the historical and theoretical frameworks that have shaped today's nonprofit organizations. Students will gain a practical understanding of the various types of nonprofit organizations (NPOs) in order to fully grasp their significance as drivers of social change. Special focus will be given to the meaning of civil society, philanthropy as a social construct, stakeholders, professionalization, and the opportunities and challenges facing NPOs in an increasingly interconnected world.

**SOCI 388. Prisons, Punishment and the State. 3.00.**

The course investigates the nature of punishment and the particular forms of punishment meted out by the state. Questions include: What is the purpose of punishment? Why does the state choose incarceration as its standard punishment? What forms of punishment exist in other cultures? We focus on the contexts in which prisons emerged in the US and what they say about our society. Discussions center on power, race, class, gender, age and the political economics of the criminal justice system. *Prerequisite: ANTH 195 or permission of the instructor.*

**SOCI 390. Topics in Cultural Studies. 3.00. *Crosslisted with ANTH 390.***

This course explores contemporary culture through a "cultural studies" lens, an interdisciplinary perspective interested in using empirical knowledge to encourage more just human relations. Specific topics of investigation will vary by semester, but each course will cover cultural studies' intellectual history and its application to cultural expressions found in everyday life, film, music, and text.

**SOCI 391. Study Abroad. 1.00 - 6.00.**

Designed to encourage students to enhance their academic programs through studying abroad. Arrangements must be made with a faculty member who will direct the study with preparatory instructions and final requirements. May be repeated up to 12 credits.

**SOCI 395. Special Topics in Sociology. 3.00.**

Examination of selected topics which are of current importance in sociology. May be repeated for credit when course content changes.

**SOCI 480. Senior Seminar in Sociology. 3.00.**

The integration of previous class experience the student has had during the undergraduate years. Fulfills the College of Arts and Letters writing-intensive requirement for the major. Can be repeated as course content changes. *Prerequisite: SOCI 300.*

**SOCI 485. Sociology Course Assistantship. 1.00 - 3.00.**

Assistantships provide students with a sense of what it is like to teach a sociology course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships also allow for a deeper understanding of course material by providing opportunities for student assistants to lead discussion and to help their peers review the material outside of the classroom. *Prerequisite:* Student must have junior/senior standing, must have earned a grade of B or better in the course for which they will serve as assistant, and may register by faculty invitation only. May be repeated up to six credits; only three credits can count towards the major. A student may serve as a course assistant to the same course twice.

**SOCI 490. Independent Study in Sociology. 1.00 - 3.00.**

Designed to give capable students in sociology an opportunity to complete independent study under supervision. *Prerequisite:* Recommendation of the instructor. More than one repeat requires department head approval.

**SOCI 492. Internship in Sociology. 1.00 - 3.00.**

Provides the student with practical experience in employing and refining sociological skills in a public or private agency under faculty supervision. May be repeated up to six credits.

**SOCI 499A. Honors. 1.00.**

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction. *Prerequisite: Declared sociology major.*

**SOCI 499B. Honors. 3.00.**

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction. *Prerequisite: Declared sociology major.*

**SOCI 499C. Honors. 1.00 - 2.00.**

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction. Prerequisite: Declared sociology major.

**Spanish****SPAN 101. Elementary Spanish I. 3.00 - 4.00.**

The fundamentals of Spanish through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**SPAN 102. Elementary Spanish II. 3.00 - 4.00.**

The fundamentals of Spanish through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. Prerequisite: SPAN 101 is the prerequisite

**SPAN 109. Accelerated Review of Elementary Spanish. 3.00.**

Reviews elementary Spanish grammar, reading, writing, speaking and listening skills in Spanish. One hour of work a week in the language laboratory. For students who have had no more than two or three years of Spanish in high school or qualify through the placement exam. *Prerequisite: Permission of the department head or sufficient score on Foreign Language Placement Exam.*

**SPAN 111. Intensive Span I. 6.00.**

The fundamentals of Spanish through listening, speaking, reading and writing. The course is the equivalent of SPAN 101 - SPAN 102.

**SPAN 212. Intensive Spanish II. 6.00.**

The fundamentals of Spanish through listening, speaking, reading and writing. The course is the equivalent of SPAN 231 - SPAN 232. Prerequisite: SPAN 102, SPAN 109 or SPAN 111 or sufficient score on the Foreign Language Placement Exam.

**SPAN 231. Intermediate Spanish I. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: SPAN 102 / SPAN 109 / SPAN 111 or sufficient score on FL Spanish Placement Exam. A student cannot earn credit for SPAN 231 after completing SPAN 232.*

**SPAN 232. Intermediate Spanish II. 3.00.**

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: Prerequisite: SPAN 231 or sufficient score on FL Spanish Placement Exam*

**SPAN 300. Grammar and Communication. 3.00.**

Intensive training in the use and comprehension of modern, everyday Spanish with emphasis on conversation and composition to give students confidence in expressing themselves in simple idiomatic Spanish. Instruction is in Spanish. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: SPAN 232 or SPAN 212 or Per Placement Exam Score (Spanish)*

**SPAN 300S. Spanish Grammar and Communication. 3.00.**

Intensive training in the use and comprehension of modern, everyday Spanish with emphasis on conversation and composition to give students confidence in expressing themselves in simple idiomatic Spanish. Instruction is in Spanish. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: SPAN 232 or equivalent. Studies Abroad-Salamanca*

**SPAN 307. Spanish Civilization. 3.00.**

A study of Spanish life and culture and the outstanding contributions of Spain to world civilization. Review of historical and contemporary figures. *Prerequisite: SPAN 300.*

**SPAN 307S. Spanish Civilization. 3.00.**

Study of Spanish life and culture from ancient times to the present. *Prerequisite: SPAN 300 or equivalent. Studies Abroad-Salamanca*

**SPAN 308. Latin American Civilization. 3.00.**

A study of the geographical, historical and cultural development of Latin America from pre-Columbian times to the present. Instruction is in Spanish. *Prerequisite: SPAN 300.*

**SPAN 308S. Latin American Civilization - Salamanca. 3.00.**

A study of the geographical, historical and cultural development of Latin America from pre-Columbian times to the present. Instruction is in Spanish. May be used for general education credit. *Prerequisite: SPAN 300 or equivalent. Studies Abroad-Salamanca*

**SPAN 310. Introduction to Spanish Linguistics. 3.00.**

This course will introduce students to the fundamental components of linguistics (phonology, morphology, syntax, pragmatics, and semantics) using data from the Spanish language. The topics and approach of this course consider the social and dialectal varieties of Spanish and the change of Spanish over time, including the present use of Spanish in the United States. The course requires no previous knowledge of linguistics, but presupposes familiarity with Spanish at the 300 credit level or higher.

**SPAN 311. Contrastive Linguistics. 3.00.**

In this course students analyze the main grammatical differences between Spanish and English with the focus on producing accurate and idiomatic translations into both languages. *Prerequisite: SPAN 300 is the prerequisite*

**SPAN 312. Translation Competencies. 3.00.**

In this course, students will develop linguistic competencies required in translation, including reading comprehension, summary writing, text analysis, and use of mono- and bilingual dictionaries. Students will learn some basic electronic tools and word processing skills for translators, and practice several types of translation, including direct translation, inverse translation and back translation. *Prerequisite: SPAN 300 is the prerequisite*

**SPAN 315. Spanish Phonetics. 3.00.**

Intensive drills in Spanish sounds and intonation patterns. Continued emphasis on conversation. *Prerequisite: SPAN 300 is the prerequisite*

**SPAN 320. Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Spanish with emphasis on conversation and composition. Readings in Spanish will provide a context for discussion and writing. *Prerequisite: SPAN 300 is the prerequisite for this course.*

**SPAN 320S. Spanish Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Spanish with emphasis on conversation and composition. Readings in Spanish will provide a context for discussion and writing. Instruction is in Spanish. *Prerequisite: SPAN 300. Studies Abroad-Salamanca*

**SPAN 321. Oral and Written Communication (for Heritage Speakers). 3.00.**

This course takes the place of SPAN 320 for the heritage speaker of Spanish (someone who has learned Spanish from family members and/or at home), with mostly oral (and not written) experience. It provides an opportunity for the student to expand their existing proficiency and to develop more formal language skills. Emphasis will be placed on reading, writing and presenting. Topics of current Latino issues will keep students interested and engaged. *Prerequisite: Student must be a heritage speaker, have an appropriate placement score (+451) and have taken or be currently taking SPAN 300, or permission of the instructor.*

**SPAN 330. Business Spanish. 3.00.**

This course presents basic business and commercial Spanish vocabulary and terminology. It focuses on trade customs and commercial communication, including interviews, letter

writing and simultaneous interpretation. Instruction is in Spanish. *Prerequisite: SPAN 300 is the prerequisite*

**SPAN 330S. Business Spanish-Salamanca. 3.00.**

Study of commercial and technical vocabulary and trade customs in conjunction with practice in the art of commercial communication including interviews, letter writing and simultaneous interpretation. *Prerequisite: SPAN 300 or equivalent. Studies Abroad-Salamanca*

**SPAN 335. Introduction to Spanish Literature. 3.00.**

This course is designed to prepare students in literary analysis of the novel as well as short stories, poetry and drama. All necessary terminology will be studied. Mandatory for all Spanish majors before taking any other literature class. Instruction is in Spanish. *Prerequisite: SPAN 300 is the prerequisite for this course.*

**SPAN 335S. Introduction to Spanish Literature. 3.00.**

This course is designed to prepare students in literary analysis of the novel as well as short stories, poetry and drama. All necessary terminology will be studied. Mandatory for all Spanish majors before taking any other literature class. Instruction is in Spanish. *Prerequisite: SPAN 300. Studies Abroad-Salamanca*

**SPAN 360. Spanish for Public Safety. 3.00.**

This course presents basic Spanish legal vocabulary and terminology. It emphasizes the practical application of the Spanish language in routine and high-risk law enforcement situations and explores cultural issues that are important for law enforcement personnel. *Prerequisite: SPAN 232 is the prerequisite for this course*

**SPAN 365. Medical Spanish. 3.00. Crosslisted with SPAN 365S.**

This course focuses on the basic Spanish language and vocabulary required in the field of Medicine and Health Sciences. Students practice their oral Spanish skills in various simulated medical situations in preparation for future professional application in the medical environment. *Prerequisite: SPAN 300 is the prerequisite for this course.*

**SPAN 365S. Medical Spanish. 3.00. Crosslisted with SPAN 365.**

This course focuses on the basic Spanish language and vocabulary required in the field of Medicine and Health Sciences. Students practice their oral Spanish skills in various simulated medical situations in preparation for future professional application in the medical environment. *Prerequisite: SPAN 232 is the prerequisite.*

**SPAN 370. Legal Spanish. 3.00.**

This course presents basic Spanish legal vocabulary and terminology in various contexts and develops basic skills in reading and writing legal documents in Spanish. It focuses on Latin American and Spanish legal systems and discusses related cultural contexts. *Prerequisite: SPAN 300 is the prerequisite*

**SPAN 385. Latin American Drama and Short Stories. 3.00.**

Reading and analysis of representative plays and short stories from Latin America. Student reports on selected authors. Instruction is in Spanish. *Prerequisite: SPAN 335.*

**SPAN 385S. Latin American Drama and Short Stories-Salamanca. 3.00.**

Reading and analysis of representative plays and short stories from Latin America. Student reports on selected authors. Instruction is in Spanish. May be used for general education credit. *Prerequisite: SPAN 335. Studies Abroad-Salamanca*

**SPAN 386. Spanish Short Stories. 3.00.**

A study of literary Spanish short stories from the Middle Ages to the present, including a selection of texts by prominent authors such as Don Juan Manuel, Cervantes, Alarcón, Bécquer, Zorrilla and Clarín. *Prerequisite: SPAN 335.*

**SPAN 395. Latin American Poetry of the 20th Century. 3.00.**

This course will study poets such as Jose Juan Tablada, Ramon Lopez Velarde, Gabriela Mistral, Pablo Neruda, Cesar Vallejo. Life, works, chronology, historical situation, social context and influences, tendencies and valuations. Instruction in Spanish. *Prerequisite: SPAN 335 is the prerequisite of this course*

**SPAN 400. Advanced Conversation. 3.00.**

Discussions deal with topics of current interest. Instruction is in Spanish. *Prerequisite: SPAN 320 or SPAN 321.*

**SPAN 400S. Advanced Conversation and Composition-Salamanca. 3.00.**

Discussions deal with topics of current interest. Instruction is in Spanish. *Prerequisite: SPAN 300 or equivalent. Studies Abroad-Salamanca*

**SPAN 401. Hispanic/Latinx Cinema for Spanish Conversation. 3.00.**

This is an advanced conversation course that is designed to develop spoken and written fluency and accuracy in film and cultural analysis. Students explore several aspects of life and culture in the Spanish-speaking world and the U.S. including identity, history, politics, social class, gender roles and regional language and arts. *Prerequisite: SPAN 320 or SPAN 321.*

**SPAN 404. Spanish in the United States. 3.00.**

This course will study the present situation of Spanish in the United States, how Spanish has been shaped by social forces in the US and how Spanish, in turn, shapes these forces. *Prerequisite: SPAN 320 or SPAN 321 or permission of the instructor.*

**SPAN 405. Spanish Novels of the 19th and 20th Centuries. 3.00.**

The development of the Spanish novel from the "costumbristas" through the realism of Galdos, and from the writers of the Generation of 1898 to the present. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 406. Spanish Drama of the 19th and 20th Centuries. 3.00.**

Readings and discussions of representative works of Spanish drama from the Romantic period to the present. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 407. Aspects of Spanish Civilization. 3.00.**

This course will study the history, culture and society of Spain during the 20th and 21st centuries. Emphasis will be placed on the changes in Spain after Franco. Instruction in Spanish. *Prerequisite: SPAN 300*

**SPAN 415. The Spanish-American Novel. 3.00.**

Reading and analysis of representative works of Spanish-American novelists of the 19th and 20th centuries. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 424. Spanish Picaresque Novel. 3.00.**

A study of the Spanish Picaresque Novel, including Lazarillo de Tormes, Quevedo's El Buscon and Alonso de Castillo Solorzano's Las harpias en Madrid, culminating in the connections of Cervantes work with the picaresque. *Prerequisite: SPAN 335 or permission of the instructor*

**SPAN 425. Prose of the Golden Age. 3.00.**

A study of the chivalric, sentimental, pastoral and picaresque genres of prose literature and of their development through the Golden Age, Culminating in Cervantes. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 426. Drama of the Golden Age. 3.00.**

A study of the "comedia" of the Golden Age including works of Lope de Vega, Calderon de la Barca, Tirso de Molina and Ruiz de Alarcon. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 427. Poetry of the Golden Age. 3.00.**

Lecture and analysis of Spanish poetry beginning with the Renaissance through the end of the 17th Century. The course will cover poets such as Garcilaso de la Vega, Fray Luis de

Leon, and San Juan de la Cruz. Instruction in Spanish. *Prerequisite: SPAN 335*

**SPAN 428. Don Quixote. 3.00.**

Examination of Cervantes's two-part novel, which some have named the first modern novel or the greatest novel of all time. Includes study of the book's literary and social context, analysis of narrative techniques and levels of fiction, and major critical approaches to the work across the centuries. Instruction is in Spanish. *Prerequisite: SPAN 335 or permission of the instructor*

**SPAN 430. Advanced Business Spanish. 3.00.**

This course presents advanced business and commercial Spanish vocabulary and terminology. By focusing on topics such as the origin of business and companies, company constitution and organization, human resources, labor law and commercial law, marketing, products, services, and the sale of consumer goods, students compare the business environment of Latin America with that of the United States. *Prerequisite: SPAN 330*

**SPAN 434. Advanced Studies in Latin American Literature in Translation. 3.00. Crosslisted with ENG 434.**

This course will study Latin American literature in translation. The course will focus on the work of major Spanish-American authors.

**SPAN 435. Translation Strategies. 3.00.**

This course discusses aspects of translation theory such as skopos, translation loss, translation gain, and language bias. Students learn several translation strategies at the phrase and sentence levels and practice these strategies thoroughly before investigating terminology, terminology mining and terminology management. Instruction is in English and Spanish. *Prerequisite: SPAN 300*

**SPAN 436. Introduction to Interpretation. 3.00.**

This course presents an overview of the interpreting profession. It introduces students to the main techniques they need to become competent interpreters in the various sectors of interpreting. Instruction is given in English and Spanish. *Prerequisite: SPAN 300*

**SPAN 439. Major Authors of Literature in Spanish in Translation. 3.00. Crosslisted with ENG 439.**

This course will study the work of both Peninsular and Latin American authors in translation. The course will focus on major Spanish speaking authors and their work, both in Latin America and in Spain. May be repeated as course content changes.

**SPAN 446. Special Topics in Spanish Literature. 3.00.**

Study of a particular topic in Spanish literature. It may cover all or specific Spanish literature genre. Course may be repeated if content varies. *Prerequisite: SPAN 335.*

**SPAN 446S. Special Topics in Spanish Literature - Salamanca. 3.00.**

Study of a particular topic in Spanish literature. It may cover all or specific Spanish literature genre. *Prerequisite: SPAN 335.*

**SPAN 447. Special Topics in Spanish Civilization and Culture. 3.00.**

Students will study a particular topic in the civilization and/or culture of Hispanic countries. Course may be repeated if content varies. *Prerequisite: SPAN 320 or SPAN 321 or permission of the instructor.*

**SPAN 448. Special Topics in Spanish Linguistics. 3.00.**

Students will study a particular topic in Spanish linguistics. Topics could include an introduction to Spanish sociolinguistics and psycholinguistics. Course may be repeated if content varies. *Prerequisite: SPAN 320 or SPAN 321 or permission of the instructor.*

**SPAN 455. Women in Hispanic Literatures. 3.00.**

Study of women in literature in the Hispanic world. Focus on women authors, female characters in literature or both. The course may include works from Spain or Latin America from any time period. Examination of feminist literary criticism, canon formation and other critical topics. Emphasis may vary according to the instructor. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 461. Post War Literature in Spain. 3.00.**

Reading and analysis of representative works of Spanish novelists and their development after the Civil War in Spain. Emphasis on Spanish history and society under the influence of Franco's Regime. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 462. Spanish Comic Theater of the 20th Century. 3.00.**

The course will study the work of the main playwrights of the comic theater of 20th century Spain and their type of humor: Carlos Arniches, the brothers Alvarez Quintero, Pedro Muñoz Seca, Enrique Jardiel Poncela and Miguel Mihura. Instruction is in Spanish. *Prerequisite: SPAN 335*

**SPAN 465. Cinema and Literature. 3.00.**

Studies of the structure of the cinema and its relation to literature. Comparison between different literary works and their interpretation in cinema. The course will cover topics in Spain and Latin America. Instruction in Spanish. *Prerequisite: SPAN 335.*

**SPAN 465S. Cinema and Literature. 3.00.**

Comparative studies between cinema and literature. May be used for general education credit. *Prerequisite: SPAN 335. Corequisite: SPAN 335.*

**SPAN 470. Advanced Legal Spanish. 3.00.**

This course will study the difference between national and international law and legal systems, as well as law and its origins and moral and justice concepts in society and among legislators. Intergovernmental organizations such as United Nations, International Labor Organization and International Court of Justice will be examined. Human rights and related violations and government actions in conflict resolutions will be discussed. Instruction in Spanish. *Prerequisite: SPAN 300*

**SPAN 475. Advanced Medical Spanish. 3.00.**

This course provides future medical professionals with further practice in Spanish in the medical context. Students learn advanced medical vocabulary and anatomical terminology, develop their reading comprehension skills, and acquire greater fluency through student presentations and classroom discussions on the latest medical techniques and advances. *Prerequisite: SPAN 365.*

**SPAN 476. Culture and Medicine in Latin America. 3.00.**

This course enables students to acquire greater linguistic proficiency and cultural competence in the medical context through classroom discussions and reading comprehension. Students analyze historical and contemporary medical discoveries, discuss holistic and indigenous medicine, and examine popular and religious beliefs applied to medicine in Latin America. *Prerequisite: SPAN 300.*

**SPAN 477. Culture and Medicine in Spain. 3.00.**

This course enables students to acquire greater linguistic proficiency and cultural competence in the medical context through classroom discussions and reading comprehension. Students analyze historical and contemporary medical discoveries and discuss alternative and popular medicine applied to medicine in Spain. *Prerequisite: SPAN 300.*

**SPAN 485. Business and Society in Latin America. 3.00. Crosslisted with SPAN 485S.**

This course explores the development of Latin American society in the business and economic contexts and investigates areas such as importation and exportation, the health and education systems, banking and financial institutions, agriculture, and the textile, fashion, wine, motion picture, music, and media industries. *Prerequisite: SPAN 300.*

**SPAN 486. Business and Society in Spain. 3.00.**

This course investigates several sectors of the Spanish economy, including the food industry, industrial port activity, importation and exportation, the petrochemical industry, the leisure industry, and the wine making industry. Students tour several important multinational companies in Salamanca, Spain, and attend presentations given in Spanish by staff of those companies. This course is taught in Salamanca, Spain. *Prerequisite: SPAN 300.*

**SPAN 490. Special Studies in Spanish. 1.00 - 3.00.**

Allows students an opportunity to complete independent studies under faculty supervision. *Prerequisite: Permission of the department head.*

**SPAN 490S. Special Studies in Spanish -Salamanca. 3.00.**

This course gives students the opportunity to integrate in the Spanish society through a JMU sponsored internship/field experience. Students will have the chance to work in local schools and businesses. The experience will allow students to interact with the community through conversation and their assigned responsibilities. *Prerequisite: Studies Abroad-Salamanca*

**SPAN 490T. Sp St Spanish Art - Salamanca. 3.00.**

A study of the art and architecture of Spain from medieval times through the present. Concentration on specific artists, SPAN 490as well as general movements in the history of Spanish art. ARTH 414 meets liberal studies requirement. *Prerequisite: Studies Abroad-Salamanca*

**SPAN 492. Latinx Community Practicum. 3.00.**

This course gives students the opportunity to collaborate with the local Spanish-speaking community through semester placements in schools or service agencies. Students will develop a better understanding of the Hispanic culture as well as immigration issues affecting the community. *Prerequisite: SPAN 320 or SPAN 321.*

**SPAN 494. Practical Medical Spanish. 3.00.**

This course enables JMU medical Spanish students to interact with Spanish students at the Universitat Rovira i Virgili in Tarragona, Spain, to practice Spanish in real-life medical situations at local hospitals, clinics or primary care centers in collaboration with Spanish health science professionals, and to observe the differences between the medical cultures of Spain and the United States. *Prerequisite: SPAN 365.*

**SPAN 495. Practical Spanish for Public Safety/Legal Spanish. 3.00.**

This course focuses on Spanish for public safety, law enforcement, and the judicial/legal system in collaboration with local and state agencies and the Spanish-speaking community. Students consolidate their theoretical knowledge, gain confidence in the language, and observe both the direct impact of their learning and the critical role of language proficiency in today's increasingly diverse society. *Prerequisite: SPAN 300.*

**SPAN 496. Translation/Interpreting Internship. 3.00.**

Practical experience in translation or interpretation within a public agency, nonprofit organization or private business. Periodical reports and a final paper are required for the course. The student will be supervised by a faculty member. *Prerequisite: SPAN 435 or SPAN 436 or permission of the instructor.*

**SPAN 498. The Generation of 1898. 3.00.**

This course examines major Spanish writers who engaged with their nation's defeat in the 1898 Spanish-American War. Students will read, analyze and discuss works from Azorín, Pio Baroja, Valle-Inclán, Antonio Machado, Maeztu and Unamuno. This group of intellectuals varied in their writing styles but shared a broad commitment to the cultural and aesthetic renewal of Spain. *Prerequisite: SPAN 335*

**Sport and Recreation Management.****SRM 201. Foundations of Hospitality, Sport and Recreation Management. 3.00. Crosslisted with HM 201.**

An introduction to the basis for the professions that make up the School of Hospitality, Sport and Recreation Management. A focus on these professions in governmental, voluntary, private, and commercial settings is incorporated. Both the economical significance and the professional preparation for success in the industry is both introduced and practiced. *Prerequisite: HM or SRM major or permission of the director.*

**SRM 202. Foundations of Leadership in Hospitality, Sport and Recreation Management. 3.00. Crosslisted with HM 202.**

An introduction to the basis for the professions that make up the School of Hospitality, Sport and Recreation Management. A focus on these professions in governmental, voluntary, private and commercial settings is incorporated. Finally both the economical significance and the professional preparation for success in the industry is both introduced and practiced. *Prerequisite: HM or SRM Major or permission of the director*

**SRM 203. Foundations of Ethics and Law in Hospitality, Sport and Recreation Management. 3.00. Crosslisted with HM 203.**

An introduction to ethics and law within the sport, hospitality and recreation industry. The ethical portion introduces students to select theories of ethics, ethical issues and an ethical decision making model; and the legal portion introduces students to basic legal terminology and concepts while concentrating on negligence and employment issues. *Prerequisite: HM or SRM major or permission of the director*

**SRM 241. Introduction to Sport and Recreation Management. 3.00.**

Introduces the sport and recreation management professions in governmental, voluntary, private, public and commercial settings. Outlines development of sport and recreation and the evolution of the mega-leisure industry. Overviews professional preparation in sport and recreation management. *Prerequisite: SRM 201 and declared SRM major.*

**SRM 242. Sociology and Psychology of Sport and Recreation. 3.00.**

The primary purpose of this course is to investigate sport and recreation related activities and services from a sociological and psychological perspective. The focus will be on activity through the lifespan and using theory and current issues from both disciplines to aid the practitioner in their interactions with participants and constituents and with the development and management of sport and recreation related activities and services. *Prerequisite: SRM 201 and declared SRM major or disabilities studies minor.*

**SRM 282. Practicum in Sport and Recreation. 3.00.**

A sequence of selected practicum experiences which provides the student with supervised practicum experience in Sport and Recreation Management. *Prerequisite: SRM 241*

**SRM 330. History of Sport and Recreation. 3.00.**

This course covers the development of sports and recreational activities and their significance in American life from colonial times to the present. It is designed both to supplement students' understanding of American history and to examine the role that sports and recreational activities have played in shaping contemporary society.

**SRM 333. Management in Sport and Recreation. 3.00.**

This course will provide students with the knowledge to apply the management principles and theories to specific professional organizations in the sport and recreation industry. Sport and recreation management applications covered include administration principles for specific organizations, human resource management, fiscal management, marketing, and risk management. *Prerequisite: SRM 241*

**SRM 334. Introduction to Sport Media. 3.00.**

Examination of the knowledge and skills required for the business of sports communications, including strategic and personal communications, leadership, publishing, advertising, public relation and crisis management. The course also examines sport communications from a sociological and legal perspective and the emergence of online sport communication and the new sport media. *Prerequisite: SRM 241.*

**SRM 335. Cognitive Processes and Current Issues. 3.00.**

This class begins with the basic question as to how we think and why, and then expands into an introduction of the different of cognitive processes used in sport and recreation management settings. These different processes include: creative thinking, critical thinking, problem solving, decision making and logical thinking. The class will then apply those processes in addressing various current issues facing the sport and recreation industries. *Prerequisite: SRM 241.*

**SRM 337. Programming and Assessment in Sport and Recreation Management. 3.00.**

This course will examine the basics of sport and recreation programming and assessment. Students will be presented with tools and strategies for developing and assessing programs and evaluating their outcomes. Students will learn how to program for agencies of various sizes with an understanding of the importance of recognizing service population needs. *Prerequisite: SRM 241*

**SRM 434. Ethical and Legal Issues in Sport and Recreation Management. 3.00.**

This course is designed to introduce students to current ethical and legal issues of concern to professionals in sport, recreation and leisure studies. Students will examine the impact of these issues on organizational and managerial policies and decision-making. *Prerequisite: SRM 333.*

**SRM 435. Sport Marketing and Sales. 3.00.**

This course will examine how promotional activities and sales efforts are closely intertwined and impact upon the success or failure of the sport and leisure industry. Particular emphasis will be placed on ticket sales and sport sponsorship. *Prerequisite: SRM 333 and MKTG 380.*

**SRM 436. Facilities and Event Management. 3.00.**

Designed to explore the principles of planning, design, and management of selected sport, recreation, and exercise facilities. The course will also cover the planning and management of special events. This will include budgeting, design, staffing, evaluation/assessment, crowd management and relative human resource management. *Prerequisite: SRM 333.*

**SRM 438. Human Resources in Sport and Recreation Management. 3.00.**

An overview of human resource management and development in sport and recreation environments. This course will provide an introduction to administrative practices involving employer and employee relationships and an application of these concepts to day to day management duties. Course focus will be policies, legal issues, recruiting, hiring, job analysis, creating position descriptions, evaluation, training, development and supervision of staff members and volunteers. *Prerequisite: SRM 333.*

**SRM 440. Sport and Recreation Management Seminar. 3.00.**

This course is for students to learn the business skills required for success in the sport and recreation management industry. Students will evaluate and analyze multiple critical thinking approaches and conflict management and negotiation skills, as well as customer service models, entrepreneurial theories and practices, and concepts within the industries of sport and recreation. *Prerequisite: Completion of all 300-level SRM courses required for the major.*

**SRM 482. Internship in Sport and Recreation Management. 6.00 - 12.00.**

A full-time professional experience which affords the opportunity to apply theory and methodology under qualified supervision from the cooperating agency and the university. Students may take only one additional course (three or four credits) while enrolled in this course. The additional course must be approved in advance by the site supervisor and the director of SRM. *Prerequisite: SRM 282, SRM 333 and 72 credit hour complete.*

**SRM 490. Special Studies in Sport and Recreation Management. 3.00.**

Designed to give capable students in Sport and Recreation Management an opportunity to complete independent study under faculty supervision. *Prerequisite: SRM major and permission of the director.*

**SRM 498. Special Topics in Sport and Recreation Management. 3.00.**

This course is designed to allow explorations of areas of current topical concern, or to exploit special situations. Course content will vary. For current course content consult your adviser or the SHSRM Director. *Prerequisite: SRM major and permission of the director.*

**SRM 499A. Honors. 1.00.**

See catalog description entitled "Graduation with Distinction" and "Graduation with Honors." *Prerequisite: Permission of the director.*

**SRM 499B. Honors. 3.00.**

See catalog description entitled "Graduation with Distinction" and "Graduation with Honors." *Prerequisite: Permission of the director.*

**SRM 499C. Honors. 2.00.**

See catalog description entitled "Graduation with Distinction" and "Graduation with Honors." *Prerequisite: Permission of the director.*

**Swahili****SWA 101. Elementary Swahili I. 3.00 - 4.00.**

The fundamentals of Swahili through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in language laboratory. Student will receive no credit for course if he/she has had two or more years of the language in high school.

**SWA 102. Elementary Swahili II. 3.00 - 4.00.**

The fundamentals of Swahili through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour's work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course.

**SWA 111. Intensive Swahili. 6.00.**

The fundamentals of Swahili through listening, speaking, reading and writing. The course is the equivalent of SWA 101-SWA 102.

**SWA 212. Intensive Swahili II. 6.00.**

The fundamentals of Swahili through listening, speaking, reading and writing. The course is the equivalent of SWA 231 - SWA 232. *Prerequisite: SWA 102 or SWA 111 or permission of the instructor.*

**SWA 231. Intermediate Swahili I. 3.00.**

A thorough review of first year grammar and vocabulary building. Conversation, composition and readings will be chosen to reach competency at the lower intermediate level Swahili. *Prerequisite: SWA 102, SWA 111 or permission of the instructor*

**SWA 232. Intermediate Swahili II. 3.00.**

A thorough review of Swahili grammar and vocabulary building. Conversation, composition and readings will be chosen to reach competency at the advance intermediate level. *Prerequisite: SWA 231 or permission of the instructor*

**SWA 300. Grammar and Communication. 3.00.**

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Swahili. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: SWA 232 or SWA 212 or permission of instructor*

**SWA 320. Swahili Oral and Written Communication. 3.00.**

Intensive training in the use of modern, everyday Swahili with emphasis on conversation and composition. Readings in Swahili will provide a context for discussion and writing. *Prerequisite: SWA 300*

**SWA 490. Special Studies in Swahili. 3.00.**

Special topics or independent studies in Swahili.

**TESOL****TESL 381. Practicum in TESOL Instructional Strategies. 3.00.**

The course provides supervised field experiences in working with English as a Second Language students, NK-12. Preservice teachers will demonstrate competencies developed in the English as a Second Language endorsement program and in consultation with a field supervisor. *Prerequisite: Completion of ESL minor requirements.*

**TESL 382. Practicum in TESOL First/2nd Language Acquisition. 1.00.**

This one credit practicum provides an opportunity for students to work directly with English language learners under the supervision of a mentor teacher and a University Supervisor to identify and recognize principles of first and second language acquisition as evident in classroom contexts. Content of the practicum will directly correlate with topics covered in TESL 426. *Corequisite: TESL 426.*

**TESL 383. Practicum in TESOL Literacy Development. 1.00.**

This one credit practicum provides an opportunity for students to work directly with English language learners to plan and implement oral language, reading, and writing strategies in language arts and content instruction that are directly related to topics covered in the LED 435 course. *Prerequisite: LED 366. Corequisite: LED 435*

**TESL 384. Practicum in Literacy Development. 1.00.**

This one credit practicum provides for pre-service teachers to work directly with students in grades PreK-12 (as determined by the LED 366 instructor) on literacy development under the supervision of a mentor teacher and a University Supervisor. They plan and implement literacy strategies in language arts and content instruction directly related to LED 366 course material. Most pre-service teachers will assist Prek-5 students. *Corequisite: LED 366*

**TESL 385. Practicum in TESOL. 1.00-3.00**

This practicum provides an opportunity for students to work directly with English learners under the supervision of a mentor teacher and a university supervisor. Course content and site locations will vary depending upon the specific focus of the practicum.

**TESL 421. Foundations of ESL PK-12 Collaboration. 3.00.****TESL 425. Cross-Cultural Education. 3.00.**

The course provides students with knowledge of the effects of socio-cultural variables in an instructional setting.

**TESL 426. Concepts in First and Second Language Acquisition. 3.00.**

This course is designed to help students gain familiarity with first and second language acquisition. In understanding the process of language acquisition, students will be better equipped to design instructional strategies that facilitate English Language Learners language acquisition, and to create supportive environments.

**TESL 428. Assessment for Curriculum Development in English as a Second Language. 3.00.**

The course provides students with a variety of assessment practices for assessing English language learners' abilities. Students will examine ways to use assessment results in the development of appropriate curriculum. *Prerequisite: TESL 426; TESOL minors only*

**TESL 470. Instructional Strategies for Teaching English as a Second Language. 3.00.**

This course is designed to provide preservice ESL teachers with experiences in designing and implementing instructional strategies to meet the linguistic needs of English Language Learners and utilizing assessment instruments to evaluate student progress.

**TESL 480. Student Teaching/Internship. 6.00 - 12.00.**

Enables students to apply skills and attitudes acquired in all components of their professional education preparation. Students design and implement instructional activities under the guidance of teaching professionals. *Prerequisite: PSYC 160, EDUC 310, EDUC 300, pre-professional studies, TESOL core courses.*

**TESL 481. Student Teaching Seminar in TESOL. 1.00.****TESL 482. Field Work in Professional Development, Partnership and Advocacy Seminar. 1.00.**

Students examine opportunities for professional development from professional associations, universities and other organizations across Pk-16. Strategies to build partnerships with colleagues, families and communities are presented. Important social and political issues affecting education of majority and minority students and models of advocacy for students and their families are presented. *Prerequisite: TESL 426*

**TESL 490. Special Studies in TESOL. 1.00-3.00.**

The course is designed to allow the student to complete an independent study in a TESOL-related area under faculty supervision. *Prerequisite: Permission of the instructor.*

**Theatre****THEA 100. Theatre and Dance Colloquium. 0.00. Crosslisted with DANC 100.**

Weekly department colloquium; work in progress presented, viewed and discussed by student body, faculty, and guests. Professionals in the field frequently hold master classes. All majors in the School of Theatre and Dance are required to enroll in and pass two semesters in the freshman/first transfer year and two additional semesters during the student's progression in their major. *Prerequisite: School of Theatre and Dance majors only.*

**THEA 171. Performance Production. 3.00. Crosslisted with DANC 171.**

An introduction to the methods of the production of scenery, properties, costumes, lighting, sound and performance management for theater and dance performance. Instruction in the skills required for the operation of lighting and sound equipment will be taught. Students are required to complete a main stage running crew assignment as a component of this course. *Prerequisite: School of Theatre and Dance majors and minors only.*

**THEA 204. Theatre Practicum: Scenery. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of scenery. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 204 or THEA 304 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 205. Theatre Practicum: Lights. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of lighting. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 205 or THEA 305 credit toward the major requirements and a maximum of four credit hours of THEA 204 -THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 206. Theatre Practicum: Costumes. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of costumes. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 206 or THEA 306 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 207. Theatre Practicum: Management. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of management. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 207 or THEA 307 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major

requirements.

**THEA 208. Theatre Practicum: Performance. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of performance. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 208 or THEA 308 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 210. Introduction to Theatre [C2VPA]. 3.00.**

Study of the theatre as an art form. Emphasis on introducing students to a broad spectrum of theatrical activity and opinion. Consideration of the components that comprise a theatre event including acting, directing, design, costuming, lighting and playwriting. May be used for general education credit. May not be used for major credit.

**THEA 211. Performance Analysis. 3.00.**

Plays are examined as texts for performance. Theories of performance and methods for the analysis of performances in and out of the theater are studied. *Prerequisite: Theatre and musical theatre majors and theatre minors, American studies minors and creative writing minors only.*

**THEA 250. The Collaborative Artist: Sophomore Studio. 3.00. Crosslisted with DANC 250.**

The course explores the creative and collaborative processes within the development of performance events. Emphasis is placed upon the role of the artist as a social and artistic force in society. Studio-based creative explorations along with the viewing and discussion of live and recorded performances are integral to the course in order for students to investigate, experience, and devise collaboratively within the context of various performance forms across multiple disciplines and cultures. *Prerequisite: School of Theatre and Dance majors only and sophomore standing.*

**THEA 251. Acting I: Basic Acting. 3.00.**

A study of basic acting as a performance experience. Emphasis on fundamentals of performance including concentration, transitions, interaction and the structuring of action.

**THEA 253. Musical Theatre Laboratory. 1.00.**

Introduction to issues related to Musical Theatre through music and text analysis, vocal technique, and practice of the repertoire. Topics relating to vocal and physical health, professional practice, and musical theatre resources will also be covered. May be repeated once for credit. *Prerequisite: Musical theatre majors only.*

**THEA 261. Voice for the Stage. 3.00.**

Theories and exercises designed to equip the student with proper speech for the stage through a fundamental understanding of phonetics and articulation. *Prerequisite: THEA 251.*

**THEA 271. Technical Theatre. 3.00.**

Study of the technical aspects of stage production. Emphasis upon practical experience in the use of stage and shop facilities. Consideration of the physical theater and stage, construction, painting and rigging of scenery as applied to theatrical production. *Prerequisite: THEA 171 or DANC 171.*

**THEA 273. Design Aspects of Performance. 3.00.**

Study of the interrelationship between the playwright, director and actor with the scenic, lighting and costume designers; introduction of the basic documents of the design process; survey of current and historical trends in theatrical design; no artistic or technical skills necessary.

**THEA 281. Movement for the Actor. 3.00.**

Students in this course develop and refine movement skills for stage performance. Through a study of approaches, such as Viewpoints, Animal Work, and Laban Techniques, students develop methods of artistic expression using their body. Through movement, students discover new connections to speech and text and improve the condition, flexibility, and responsiveness of their physical instrument. Students also develop the means for making effective physical choices in the creation of a performance. *Prerequisite: THEA 251.*

**THEA 303. Topics in Theater. 1.00 - 3.00.**

Study of current topics and issues in theater. Emphasis on contemporary themes of immediate concern.

**THEA 304. Theatre Practicum: Scenery. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of scenery. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 204 or THEA 304 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 305. Theatre Practicum: Lights. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of lighting. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 205 or THEA 305 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 306. Theatre Practicum: Costumes. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of costumes. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 206 or THEA 306 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 307. Theatre Practicum: Management. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of management. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 207 or THEA 307 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 308. Theatre Practicum: Performance. 1.00.**

Students will complete practical theatre assignments on main stage productions in the area of performance. Repeatable. Prior approval required. Majors may apply a maximum of one THEA 208 or THEA 308 credit toward the major requirements and a maximum of four credit hours of THEA 204-THEA 208 or THEA 304-THEA 308 toward meeting major requirements.

**THEA 310. Theatre for Young Audiences. 3.00.**

An exploration of professional theatre practices in Theatre for Young Audiences (TYA), including Theatre for the Very Young (TVY) and Theatre for Teens. With an emphasis on theatre-making, this course examines historical contexts of TYA, investigates theatre companies and practitioners and identifies applications for education, outreach and engagement. *Prerequisite: School of Theatre and Dance majors only and sophomore standing, or permission of the instructor.*

**THEA 315. World Theatre Histories, Texts and Performances I. 3.00.**

Study of world theatre from its Origins to the Seventeenth Century. The class explores how theatre has been created and consumed in diverse settings around the globe, with particular emphasis given to dramatic texts and performance traditions, as well as critical, literary, and performance theories. Includes study of theatre architecture and production design; political, social, intellectual, and aesthetic contexts of performances, and the theory and history of acting across time and place. *Prerequisite: THEA 211*

**THEA 316. World Theatre Histories, Texts and Performances II. 3.00.**

Study of world theatre from the seventeenth to late-nineteenth century. The class explores how theatre has been created and consumed in diverse settings around the globe, with particular emphasis given to dramatic texts and performance traditions, as well as critical, literary and performance theories. Includes study of theatre architecture and production



design; the political, social, intellectual and aesthetic contexts of performance; and the theory and history of acting across time and place. *Prerequisite: THEA 211.*

**THEA 317. World Theatre Histories, Texts and Performances III. 3.00.**

Study of world theatre from the late nineteenth century to the present. The class explores how theatre has been created and consumed in diverse settings around the globe, with particular emphasis given to dramatic texts and performance traditions, as well as critical, literary and performance theories. Includes study of theatre architecture and production design; the political, social, intellectual and aesthetic contexts of performances; and the theory and history of acting across time and place. *Prerequisite: THEA 211, THEA 315 and THEA 316.*

**THEA 320. Theatre Teaching Methods – Primary Level. 3.00.**

An exploration of teaching drama in primary and elementary school. Topics include creative drama, process drama, story drama, drama-based pedagogy and arts integration. This course considers lesson planning, classroom management and assessment in the primary and elementary school. *Prerequisite: Theatre or IDLS majors only.*

**THEA 321. Theatre Teaching Methods – Secondary Level. 3.00.**

Exploration of teaching drama and theatre in secondary school. Topics include discipline-based theatre education, drama-based pedagogy, theatre workstations, brain-based learning and arts integration. This course considers lesson planning, classroom management and assessment in the middle and high school. *Prerequisite: Theatre or IDLS majors only.*

**THEA 322. Equity, Inclusion and Access in Education and Performance. 3.00. *Crosslisted with DANC 322.***

An exploration of practices in theatre and dance education and performance that support equity, inclusion and access. This course looks at the intersections of arts education, art-making and performance, applied theatre, and community engaged practice. *Prerequisite: School of Theatre and Dance majors only and sophomore standing.*

**THEA 323. Youth Theatre. 3.00.**

An exploration of teaching artistry, devised theatre and applied drama/theatre with youth, directing the young performer and building educational programs in schools. With an emphasis on teaching, directing and arts administration, this course examines opportunities for learning through theatre-making and theatre performance. *Prerequisite: School of Theatre and Dance majors and theatre minors only and sophomore standing, or permission of the instructor.*

**THEA 325. Theatre Teaching Practicum. 3.00.**

An advanced study of drama/theatre education focusing on professional practices, contemporary issues in education and pedagogy in practice. In addition to course work, students work closely with a cooperating teacher in a local school to observe and reflect, support instruction, and develop and facilitate lessons. *Prerequisite: THEA 320, THEA 321 and permission of the instructor.*

**THEA 331. Technical Costuming. 3.00.**

Introduction to the technical aspects involved in building complete costume ensembles for the stage, screen and dance. Emphasis placed on experiencing unique problems in production situations, including specialized costume and accessory construction, ornamentation, fabric treatment, difficulties and alternatives in presenting historical clothing, and renovating and exploiting available materials. *Prerequisite: THEA 171 and THEA 206 or THEA 306, or permission of the instructor*

**THEA 332. Costume and Fashion History. 3.00.**

A survey of Western world costume from 4000 B.C. to the present as it reflects the sociocultural and socioeconomic aspects of the times. Emphasis on the evaluation of historic costume and fashion in relation to architecture, sculpture, painting and other art forms.

**THEA 333. Costume Design. 3.00.**

The study of basic costume design techniques for performance. Emphasis on costuming in terms of the total production concept including directorial approach, setting and lighting design. Consideration of the process of costuming a production from first production meetings to opening.

**THEA 336. History, Theory and Practice of Stage Makeup. 3.00.**

Study of the history and practice of makeup for ceremonial and theatrical presentations of selected major cultures, from ancient Egypt to the present. Consideration given to makeup as a reflection of the social organization of each culture. Emphasis on makeup as an important element in the history of design aesthetics as well as a vital part of the performing arts.

**THEA 347. Playwriting. 3.00. *Crosslisted with ENG 347.***

Study of the process of writing plays. Consideration of plot, character, thematic material, conflict and dramatic structure. Emphasis on individual writing assignments. *Prerequisite: Sophomore standing or permission of the instructor.*

**THEA 351. Acting II: Intermediate Acting. 3.00.**

Study of the fundamental theories and methods of acting. Emphasis on laboratory experience in the preparation of scenes. Consideration of various acting techniques through performance with maximum individual on-stage instruction. *Prerequisite: THEA 251 and sophomore standing.*

**THEA 352. Music Theatre Performance for Theatre and Music Majors. 3.00.**

Introductory course exploring the fundamentals of song analysis technique. Emphasis on solo song preparation. Basic music skills and singing ability are highly recommended. This course is designed for actors and singers who are just beginning to develop their musical theatre repertoire and their capacity to integrate singing and acting techniques. *Prerequisite: THEA 251 and a theatre (School of Theatre and Dance) major or music theatre (School of Music) concentration, or permission of the instructor.*

**THEA 353. Music Theatre Performance. 2.00.**

Introductory course exploring the fundamentals of song analysis technique in the preparation of music theatre repertory for performance. Emphasis on solo song preparation. Basic music skills and singing ability are highly recommended *Prerequisite: THEA 251 and THEA 253.*

**THEA 354. Music Theatre Workshop. 1.00.**

The preparation of musical theatre repertory for public performance. Emphasis on the application of the tools acquired in THEA 251, THEA 353, and other theatre, music, and dance skills classes. Students may participate as a performer, or as a member of the production/ artistic team. *Prerequisite: Admission is by audition/interview only*

**THEA 355. Directing for the Theatre. 3.00.**

Study of the principles, problems and techniques of play direction. Emphasis on historical and modern theories. Techniques of direction considered as applied to the stage and cinematography. *Prerequisite: THEA 211 THEA 251. Acting I: Basic Acting THEA 211 and THEA 251.*

**THEA 357. Music Theatre History and Analysis. 3.00. *Crosslisted with MUS 357.***

Survey of musical theatre genres, composers, lyricists, performers, directors and choreographers in America from 1750 to present. Includes practical study of the format of the libretto and musical score in relationship to the major musical theatre genres. Consideration of how music theatre developed from and reflected the cultural, social, and political landscape of its time. *Prerequisite: Musical Theatre majors only or permission of the instructor.*

**THEA 365. Dramaturgy. 3.00.**

Study of the skills and techniques of the dramaturg, including strategies for production dramaturgy and new work dramaturgy of both theatre and dance. Emphasis on communication, adaptation, research and analysis. Consideration of best practices for the dramaturg's collaborations with directors, choreographers, playwrights, performers, designers and audience members. *Prerequisite: THEA 211 or permission of the instructor.*

**THEA 371. Advanced Technical Theatre. 3.00.**

Advanced study of the technical aspects of stage production. Emphasis upon contemporary scenographic techniques. Consideration of construction, decoration, rigging and touring

problems in theatre production. *Prerequisite: THEA 271.*

**THEA 372. Scene Painting. 3.00.**

An introduction to the foundational techniques of scene painting, presented through a series of practical projects designed to provide students with the skills to achieve the core processes of scene painting.

**THEA 373. Drafting for the Stage. 3.00.**

An introduction to the foundational techniques of drafting for the stage, presented through a series of 8 practical drafting projects designed to provide students the skills to produce ground plans, elevations and sections in both pencil and CAD drafting environments.

**THEA 374. Stage Lighting. 3.00.**

Study and analysis of stage lighting. Consideration given to basic elements of electricity, electrical control and circuitry, reflection, refraction, and color. Emphasis on the lighting design and aesthetics of a theatrical production.

**THEA 375. Sound Design. 3.00.**

Study and analysis of the aural environment for theatre. Emphasis placed on sound design process and the methods and tools available to sound designers. Consideration given to the various mediums of sound design through in class projects.

**THEA 376. Scene Design. 3.00.**

Study and analysis of the visual elements of theatrical production. Emphasis on the principles and elements of design, drafting and rendering. Consideration of the aesthetics of stage design through specific applied projects.

**THEA 382. Contemporary Theatre. 3.00.**

Study of post-1968 world theatre with particular attention to English and American drama. Emphasis is placed on significant drama of the last twenty-five years with discussion of trends in theatrical production and dramatic writing in recent decades. *Prerequisite: THEA 211 or permission of the instructor.*

**THEA 390. Directed Projects. 1.00 - 3.00.**

Supervised projects related to the study of theater. Credit given for original, individual or group programs beyond the usual course offerings in theater. A suitable completed project or report is required before credit can be awarded. *Prerequisite: Permission of the director.*

**THEA 441. Senior Seminar in Theatre. 3.00.**

Capstone during which students spend a semester researching and developing a project related to an area of study in the major. The course may also include portfolio development, career preparation, practices in the professional theatre and other theatre-related topics of interest. *Prerequisite: Theatre and musical theatre majors only and senior standing.*

**THEA 442. Senior Seminar. 1.00.**

A single semester seminar for students in the honors program to be taken concurrently with THEA 499C. Students spend the semester completing their honors thesis project. The course may also include portfolio development, career preparation, practices in the professional theatre and other theatre-related topics of interest. *Prerequisite: Theatre and musical theatre majors only and senior standing. Corequisite: THEA 499.*

**THEA 447. Advanced Playwriting. 3.00. Crosslisted with ENG 447.**

An advanced workshop with emphasis on developing full-length dramatic material. *Prerequisite: THEA 347 or ENG 347, and junior standing.*

**THEA 449. London Theatre. 3.00.**

Study of London theater. Consideration given to current productions of classic and contemporary works. Emphasis on production elements including acting, directing, design, writing and economic considerations. *Prerequisite: Semester-in-London students only.*

**THEA 451. Meisner Technique Intensive. 3.00.**

Intensive study and practice of the Meisner Technique. Emphasis on the foundational steps of the technique to develop advanced listening, imaginative, and interactive skills as a means for fostering effective habits for creative freedom and improvisational spontaneity. Practice in fully doing, truthful personal investment, and honest availability to oneself and a partner within heightened circumstances. *Prerequisite: THEA 351.*

**THEA 452. Acting III: Contemporary Scene Study. 3.00.**

Study of advanced acting technique through the analysis, discussion, and presentation of contemporary scenes. Emphasis on developing tools to improve the pursuit of an intention, partnering, and moment-to-moment work. *Prerequisite: THEA 351 and junior standing.*

**THEA 453. Acting IV: Approach to Heightened Language. 3.00.**

Advanced study of script analysis and performance technique in multiple genres exploring heightened dramatic text. Exploration will be through individual and group assignments. Emphasis on practical tools including scansion, imagery work, and the translation of text into active physical choices. *Prerequisite: THEA 452.*

**THEA 454. Advanced Music Theatre Performance. 2.00.**

Continuation of the THEA 353 emphasizing more complex problems in music theatre performance including duets, trios, musical scenes. *Prerequisite: THEA 353.*

**THEA 455. Auditioning for Musical Theatre. 2.00.**

Advanced study of auditioning technique for professional musical theatre. Emphasis on developing appropriate musical theatre audition repertory. Unions, audition formats, performance opportunities, routes to a professional career, and agents and managers will also be covered. *Prerequisite: Musical theatre major, THEA 353 and THEA 454.*

**THEA 460. Auditioning and Professional Issues. 3.00.**

Study of advanced audition techniques for the stage. Emphasis on the selection, scoring, and performance of monologues. Consideration of professional issues in regard to graduate-level study or professional work in performance. *Prerequisite: Theatre major performance concentrators and THEA 453.*

**THEA 466. Media Performance. 3.00.**

Study of the principles and techniques of dramatic performance for the camera and microphone. Emphasis on the adaptation of each student's performance and production skills to the recording and filming of narrative works. Consideration of the differing problems and potentials of stage, video and film presentations. *Prerequisite: THEA 452.*

**THEA 471. Stage Management. 3.00. Crosslisted with DANC 471.**

Study and analysis of stage management. Consideration given to the methods and strategies for successful stage management for theater, dance and other performances. Emphasis on developing management and organizational skills. *Prerequisite: THEA 171*

**THEA 473. Advanced Design and Rendering. 3.00.**

Advanced study in design for performance through theoretical production planning. Instruction in illustration and presentation methods necessary to communicate scenery, costume and lighting designs for performance. Emphasis is placed on the collaborative interaction between the production designers and the director or choreographer towards the creation of unified design. *Prerequisite: THEA 273 and one of the following: THEA 333, THEA 374, THEA 375 or THEA 376, or permission of the instructor.*

**THEA 480. Student Teaching. 3.00 - 12.00.**

Enables students to apply, in the public school classrooms and the comprehensive child development programs, those skills and attitudes acquired in all components of teacher education. Under the guidance of university supervisors, students are provided activities designed to familiarize them with the classroom teacher's role. *Prerequisite: PSYC 160 and*

EDUC 300 or EDUC 360, appropriate methods courses and permission of the coordinator of field experiences.

**THEA 481. Theory and Performance Studies. 3.00.**

Twentieth and twenty-first century theories of theater and performance are studied and performance traditions outside of Europe are examined. *Prerequisite: THEA 211.*

**THEA 485. American Theatre. 3.00.**

Study and analysis of the American theatre experience as presented in the dramatic literature of the country. Emphasis on basic American themes. Consideration of plays, playwrights and performers significant to the development of American theatre. *Prerequisite: THEA 211 or permission of the instructor.*

**THEA 488. Alternative Performance. 3.00.**

Focus on key figures of the avant-garde and experimental theatre from the late 20th and early 21st centuries. Explores the motivations, concepts and creative techniques behind innovations in post-dramatic and devised theatre. As part of developing theoretical and historical understanding, students practice different methods of devising, collaborating and conceptualizing theatrical performance, culminating in an original presentation of student work.

**THEA 490. Special Studies in Theatre. 1.00 - 3.00.**

An independent study for students to pursue individual research under the guidance of a faculty adviser. Department consent required to enroll.

**THEA 495. Internship Theatre. 3.00 - 6.00.**

A faculty-arranged, prepared and monitored off-campus internship program designed to provide practical experience in theatre for students preparing for careers in those areas. Department consent required to enroll.

**THEA 499. Honors in Theatre. 1.00 - 3.00.**

Repeatable to a maximum of six credits. Offered fall and spring. Students enrolled for three credits must attend class meetings of THEA 441. Department consent required to enroll.

## University Studies

**UNST 102. Career and Academic Planning. 1.00. *Crosslisted with UNST 102H.***

A course designed to prepare students for career and academic planning. Specific content includes accessing career and academic resources, career decision-making skills, and self awareness.

**UNST 102H. Career and Academic Planning. 1.00. *Crosslisted with UNST 102.***

A course designed to prepare students for career and academic planning. Specific content includes accessing career and academic resources, career decision-making skills, and self awareness. *Prerequisite: Honors Students*

**UNST 150. Global Learning and Living: Madison International. 1.00.**

This course provides an opportunity for a diverse cohort of international and U.S. students to learn from and about each other through stimulating discussions, intercultural residence hall programs and the opportunity to participate in service learning. *Prerequisite: Participation in the Madison International Learning Community or permission of the instructor.*

**UNST 151. Making Sense of Beliefs and Values: A Guided Tour for Global Citizens. 3.00.**

Explores the origin and nature of beliefs and values and how they are linked to actions, policies and practices around the world. These processes are examined through a range of big picture issues (e.g., religious, political, environmental, gender-based, cultural) that are relevant to all global citizens. Through dynamic speakers, discussions, readings, activities and lectures, this course helps students develop a deeper understanding of self, others and the larger world. *Prerequisite: Participation in the Madison International Learning Community*

**UNST 190. Special Topics in University Studies. 1.00 - 3.00.**

Special topics course with topics approached from a variety of academic perspectives. Designed for lower-level elective credit. *Prerequisite: Permission of the instructor.*

**UNST 250. Alternative Break Leadership Training. 2.00.**

A leadership training curriculum that covers a broad range of topics essential to leading an alternative break trip. This course incorporates service learning pedagogy. This will be accomplished through the use of affective and cognitive approaches. Personal growth as it relates to core concepts of leadership will be prominent. Emphasis is also placed on peer interaction, active participation, extensive reading, case work and a range of guest speakers. Attendance is required. *Prerequisite: Permission of the instructor.*

**UNST 251. Alternative Break Leadership Practicum. 1.00.**

Hands-on practicum of leadership strategies and techniques. Collaborative learning is enhanced when students apply what they learn in class by describing relevant lessons learned through experiences outside the classroom. The focus of this course is to provide students with the opportunity to lead in an observed setting and receive constant feedback and mentoring on their demonstrated leadership skills, critical reflection, inquiry, dialogue, and group interaction. *Prerequisite: UNST 250.*

**UNST 307. Health Education Facilitation and Synthesis. 2.00.**

UNST 307 is a two-credit course designed to provide students with skills and knowledge to be effective peer health educators. Students will receive health content knowledge while increasing their group facilitation, presentation and processing skills.

**UNST 389. Campus Health Communication. 2.00.**

This course provides students an opportunity to learn about, create and communicate messages about health and wellness topics. Students develop the content produced in the campus publication Potty Mouth. Students develop skills in media literacy, selfdirected learning and systems thinking, and they create media products. Through group discussion and interviews, students learn how to effectively communicate health behaviors to their peers.

**UNST 390. Special Studies in University Studies. 1.00 - 3.00.**

Designed to give students an opportunity to complete independent study and/or research under faculty supervision in university studies. *Prerequisite: Permission of the instructor.*

**UNST 398. Practicum in University Studies. 1.00-3.00.**

Selected practicum experiences, which provide students with supervised practicum experiences. *Prerequisite: Permission of the instructor.*

**UNST 475. Dollars and Sense. 3.00.**

This practical course will review the affect a personal philosophy on money, and management of personal finances, has on all aspects of life when it comes to securing the American Dream. Students will learn real life skills in the areas of eliminating debt, creating a budget, understanding investments and insurance, saving money, planning for retirement, shopping for a house and other topics dealing with financial issues faced in daily life.

**UNST 480. Internship Preparation, Participation and Professionalism. 1.00-3.00.**

This course provides preparation, support during and reflection after internship experiences in a variety of disciplines. It will cover the internship experience, professionalism, networking and reflection. Open to all majors for elective credit. *Prerequisite: Permission of the instructor.*

**UNST 490. Advanced Special Studies in University Studies. 1.00 - 3.00.**

Exploration of a significant topic in depth. *Prerequisite: Permission of the instructor.*

**UNST 498. Internship in University Studies. 1.00 - 6.00.**

The course allows students to receive academic credit for work experienced in an agency or organization related to university studies. *Prerequisite: Permission of the instructor.*

## Vocational Education

### **VOED 383. Curriculum & Instructional Procedures in Vocational Education. 3.00.**

The study and development of techniques and methods to provide vocational education instruction to secondary school students. Competencies to be developed will include planning for instruction, applying different methodologies, and assessing student performance and progress. The relationship of vocational education to other curricular areas will also be addressed.

## Women's, Gender and Sexuality Studies

### **WGSS 200. Introduction to Women's, Gender and Sexuality Studies [C5SD]. 3.00.**

Interdisciplinary introduction to theories and scholarship in Women's, Gender and Sexuality Studies. Examines the social construction of gender, how gender affects access to opportunity, and the experiences and contributions of women throughout history. Provides a foundation for subsequent work in the women's, gender, and sexuality studies minor.

### **WGSS 300. Special Topics in Women's, Gender and Sexuality Studies. 3.00.**

Examination of selected topics of importance to the field of women's, gender and sexuality studies.

### **WGSS 301. Feminist Blogging: Writing for Shout Out! JMU. 3.00. *Crosslisted with SCOM 301.***

The goal of this course is to work in a feminist collective to write daily blog posts for the Shout Out! JMU blog. Students will organize the blog, research and write blog posts, publicize the blog, and create dialogue by commenting on one another's blog posts as a means of consciousness raising.

### **WGSS 302. Third Wave Ecofeminism. 3.00. *Crosslisted with SCOM 302.***

This course explores the historically strong association between women and nature, in which the image of Mother Earth is central, and critiques the power-as-domination assumption of our culture shown in the exploitation of women and of the earth itself. Religious, psychological, social, historical and scientific manifestations of this assumption will be examined, along with alternative models of power and responsibility. Students will explore the considerable research on ecofeminism.

### **WGSS 325. Gender and Violence. 3.00.**

This course explores the public nature of private violence, specifically violence committed against women in U.S. culture. Students will investigate the social, political and personal meaning of violence within a gendered context. Students will analyze the ways in which demographic, social, cultural, economic and political factors teach us to think about women in violent terms as well as help perpetuate violence against women. Students will consider violence not only in its physical dimension, but also in its symbolic and structural manifestations. Students will also examine the ways in which ideas about race, ethnicity, class and sexuality affect the degree and types of violence committed against women.

### **WGSS 337. Sociology of Gender. 3.00. *Crosslisted with SOCI 337.***

Examination of theories of sex role development, the roles of men and women in society and gender as a social construction.

### **WGSS 341. Gender and Justice. 3.00. *Crosslisted with JUST 341.***

This course is an interdisciplinary examination of the causes, structure and consequences of gender oppression. Consistent with the social justice track of the major, notions of fairness, justice, and equality with respect to gendered social, political and economic relations will be examined.

### **WGSS 347. Queer Theories of Gender and Inequality. 3.00. *Crosslisted with SOCI 347.***

Contemporary approaches to the culture and social structure of gender and gender binaries, as they intersect with power, knowledge, science/biology and inequality. Method involves examining and challenging the cultural classification systems that inform knowledge, human action and social institutions. Requires college-level reading, writing and intellectual engagement.

### **WGSS 348. Communication & Gender. 3.00. *Crosslisted with SCOM 348.***

Studies of theories and research regarding the influence of gender in various human communication contexts, both public and private. Emphasis on the critical analysis of existing theory and empirical research and the potential competent uses of communication for social change. *Prerequisite: SCOM 121, SCOM 122, or SCOM 123*

### **WGSS 350. The Philosophy of Feminism. 3.00. *Crosslisted with PHIL 350.***

An intermediate-level examination of philosophical problems in feminist theory and feminist contributions to philosophy.

### **WGSS 355. American Women At War. 3.00. *Crosslisted with MSCI 355.***

This course invites students to engage a series of issues about the role of women in the US military. This course will examine the contributions & experiences of women who served during the American Revolution, the U.S. Civil War, WW I & II, Korea, Vietnam and the Persian Gulf War(s). Also included in this course is an examination of how women in military service both past and present are an instrument for societal change in America specifically in promoting the cause of women's rights.

### **WGSS 367. Sociology of Sexuality. 3.00. *Crosslisted with SOCI 367.***

This course examines sociological theory and research on sexual behaviors, identities, cultures and social movements, investigating how sexuality is shaped by society and its social institutions. In addition, the course examines how sociological research on sexuality is conducted, how society shapes the sociological study of sexuality, the unique ethical concerns and methodological challenges in researching sexuality and the place of sociology in shaping discourse and social policy on relevant social issues.

### **WGSS 368. Women's Literature. 3.00. *Crosslisted with ENG 368.***

A study of literature by women.

### **WGSS 369. Feminist Literary Theory. 3.00. *Crosslisted with ENG 369.***

An intensive study of a variety of feminist critical approaches and their applications to literature.

### **WGSS 370. Queer Literature. 3.00. *Crosslisted with ENG 370.***

An exploration of texts and issues in literature written by and about lesbian, gay, bisexual, transgender and queer writers, including critical and theoretical issues as well as questions of canon. Text studied may include fiction, poetry, drama, essays and memoirs written primarily, but not exclusively, in the 20th century.

### **WGSS 376. Anthropology of Reproduction. 3.00. *Crosslisted with ANTH 376.***

Provides students with a critical and cross-cultural perspective on human reproduction. Examining how individuals draw on social and symbolic resources to sort out complicated private decisions, we will discuss how reproductive experiences are embedded in local, national and transnational politics. Topics covered may include: cross-cultural perspectives on childbearing and childlessness, kinship, and the globalization of new reproductive technologies such as in vitro fertilization. *Prerequisite: ANTH 195 or permission of the instructor.*

### **WGSS 383. Women and Politics in Comparative Perspective. 3.00. *Crosslisted with POSC 383.***

A study of the causes and consequences of women's political marginalization in the United States and abroad. The course examines socioeconomic and political dimensions of gender inequality, exploring how women have worked through social movements, electoral politics, and public policy initiatives to overcome obstacles to their political empowerment.

### **WGSS 400. Issues and Research in Women's, Gender and Sexuality Studies. 3.00.**

The capstone seminar for the Women's, Gender and Sexuality Studies minor. Focuses on readings in feminist philosophy, history and literature. Students will engage in research in critical issues affecting women's lives. *Prerequisite: WGSS 200 and nine additional credits approved by the Women's, Gender and Sexuality Studies Coordinator.*

### **WGSS 417. Women's Global Health and Human Rights. 3.00. *Crosslisted with HTH 417, NSG 417.***

An international and human rights approach providing an overview of health issues within the context of a woman's life cycle. Attention will be given to critical issues of women's health such as access to health care and gender based violence. Such issues as sexuality, nutrition, diseases affecting women, violence, harmful traditional practices, and sex

trafficking will be discussed.

**WGSS 420. Feminist Rhetorics. 3.00. *Crosslisted with SCOM 420, WRTC 420.***

Surveys key women figures in classical and contemporary rhetorical traditions and challenges the strategies used to historicize this tradition from feminist perspectives. Explores diverse feminist rhetorical discourses informed by race, sexual orientation, ethnicity and social class. *Prerequisite: WRTC 103 or equivalent and junior or senior standing, or permission of instructor.*

**WGSS 423. Advanced Studies in Gender and Sexuality in Literature. 3.00. *Crosslisted with ENG 423.***

Advanced study of a topic using a gender and sexuality studies approach to literary texts. This course will explore how gender and sexuality and their representation in literature are shaped by social, cultural, historical, and political contexts. Course may be repeated as topic changes.

**WGSS 466. Advanced Studies in Women's Literature. 3.00. *Crosslisted with ENG 466.***

Advanced study of women's literary achievements in several cultural and historical contexts. May be focused by theme. *Prerequisite: ENG 368/WGSS 368 or ENG 369/WGSS 369.*

**WGSS 485. Gender Issues in Science. 3.00. *Crosslisted with ISAT 485.***

An interdisciplinary course that looks at the scientific process, science practitioners, and science students through the lens of gender analysis. Students read literature, lead discussions, perform experiments, and analyze both data and processes to address the effects of educational systems on the preparation and careers of scientists, the influence of politics and culture on scientific inquiry, and the effects of critiques grounded in gender analyses on understanding the scientific process.

**WGSS 490. Special Studies in Women's, Gender and Sexuality Studies. 3.00.**

Designed to give capable students in women's, gender and sexuality studies an opportunity to complete independent study under faculty supervision. *Prerequisite: Admission by recommendation of the instructor and permission of the program coordinator.*

**WGSS 492. Internship in Women's, Gender and Sexuality Studies. 1.00 - 3.00.**

Provides the student with practical experience in employing and refining women's, gender and sexuality studies concepts in a public or private agency, under faculty supervision.

**WGSS 495. Special Topics in Women's, Gender and Sexuality Studies. 3.00.**

In-depth examination of selected topics of current importance to the field of women's, gender and sexuality studies. Offered only with approval of the program coordinator and dean of the College of Arts and Letters. May be repeated for credit when course content changes. *Prerequisite: WGSS 200 or consent of instructor.*

## Writing, Rhetoric, and Technical Communication

**WRTC 103. Critical Reading and Writing [C1W]. 3.00.**

Fosters reflective, critical reading, writing, and research in public discourse, culture, humanities, technology, and science. Challenges students to consider cross disciplinary modes of inquiry through multiple genres with an attention to enlightened, global citizenship. Emphasizes revising for rhetorical effectiveness. WRTC 103 fulfills the General Education Cluster One writing requirement and is a prerequisite for all WRTC courses numbered 200 or above. May be used for general education credit. May not be used for major credit.

**WRTC 200. Introduction to Studies in Writing, Rhetoric, and Technical Communication. 3.00.**

Initial core course and portal of entry into the School of Writing, Rhetoric and Technical Communication. Students will read and discuss foundational articles, undertake course projects and explore the roles that writers, rhetoricians and technical communicators are called upon to fill in their internships and jobs. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 201. Theory and Methods in Writing, Rhetoric, and Technical Communication. 3.00.**

Introduction to the theories and methodologies employed by practitioners in writing, rhetoric and technical communication. Emphasis is placed on methods of inquiry in the discipline. Primary topics include major theoretical perspectives and theorists; the relationship of research to disciplinary knowledge; and the dynamic nature of language and communication. *Prerequisite: WRTC 200 or permission of the instructor. Corequisite: WRTC 200.*

**WRTC 300. Professional Editing. 3.00.**

Introduction to the conceptual and technical editing of a wide range of documents for diverse audiences and different purposes. Consideration of genre, tone, style and syntax. Students will learn to interact with authors and clients and will practice both hard copy and electronic editing. Course topics allow students to encounter a wide range of editorial experiences to prepare them for the workplace. *Corequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 301. Language, Law and Ethics. 3.00.**

Broad examination of the nexus of law, ethics and language. Exploration of a variety of genres in legal writing, providing a background in the role of law and ethics in society and helping students understand how language operates in the construction of legal and moral codes. Primary topics include intellectual property, privacy, legal issues in communication, the history of legal language and the ownership and ethical use of information. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 310. Semiotics. 3.00.**

Systematic approach to the production of meaning and interpretation with analytical examination of semiotic signs as aggregates of information management and communication. Complexity of meaning in communication conduits, speech, texts, images, symbols, codes, icons, media designs, gestures, music and objects are investigated. Also explored is the relationship between semiotic sign systems and ecosocial systems as they impact information management and production in society. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 312. Studies in Literacy. 3.00.**

Advanced research and writing course designed to explore the important roles that literacy plays in society. Students will examine the concept of literacy through historical, political, sociological, educational and cross-cultural lenses. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 314. Writing in the Public Sphere. 3.00.**

Introduction to the concept of the public sphere and an examination of a variety of texts and media that illustrate the function of the public sphere. Students apply theoretical knowledge to the analysis of public discourse and present their analyses in oral and written formats. Students gain important insights into their own roles and responsibilities as citizens within the public sphere and learn to use language effectively in multiple rhetorical situations. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 316. Research Methodologies in WRTC. 3.00.**

Introduction to the process of conducting research grounded in inquiry. Students use a variety of research methodologies to gather information from secondary and primary sources. Students evaluate information for accuracy and usability and interpret information for the audience and rhetorical context they have defined. Students in this course design a research study, carry it out and write a subject appropriate report. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 318. Intercultural Professional Communication. 3.00.**

Focus on the importance of culture to professional communication, both in print and online, by using an intercultural perspective to examine audience, purpose, persona, context, language, page and screen design, graphics and color. Includes a consideration of basic models of culture developed in professional environments, incorporating management, teamwork and translation issues, as well as how American culture differs from other cultures worldwide. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 326. Environmental Communication and Advocacy. 3.00. *Crosslisted with SCOM 354.***

An exploration of the multifaceted aspects of environmental controversies including the rhetoric, advocacy campaigns and decision-making processes that produce and attempt to manage environmental conflict. Emphasis on persuasive efforts by, interest groups, corporations, resource managers, government agencies, scientific experts, politicians and citizens to influence public understanding of environmental issues, adoption of sustainable behavior and lifestyles, and public policy outcomes. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 328. Practicum. 1.00 - 3.00, repeatable up to 6 credits.**

Allows students to engage in practical experience opportunities in the field of Writing, Rhetoric, and Technical Communication. Students may apply no more than 3 practicum credit hours toward completion of WRTC major or minor requirements. *n*

**WRTC 330. Rhetorical Analysis and Criticism. 3.00.**

Survey and application of a range of rhetorical approaches to analyze print, oral, visual, and multimodal forms of everyday communicative practices. Primary topics include the origins of rhetoric, the manifestations of contemporary forms of communication, the rhetorical theories used to explain those forms, and the criticisms developed to respond to them.

*Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 332. Creative Approaches to Digital Storytelling. 3.00.**

This course introduces students to the history and methods of digital storytelling and provides them with the opportunity to critically evaluate a range of digital stories and to develop their own digital storytelling projects. Digital stories are narratives that are composed in digital environments using sound, audio, still images, video, and interactive elements like maps, charts and timelines. By the end of the course, students will be able to adapt digital storytelling techniques to suit a variety of genres and audiences. Throughout the course, students learn to assess digital storytelling artifacts, such as short video documentaries and mixed media narratives, and their usefulness for particular audiences and contexts. In addition to these digital composing techniques, students learn to assess and use a variety of online platforms where digital stories can be published, critique and improve their own and others' work, collaborate with others and create digital storytelling artifacts for clients. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 334. Introduction to Popular Writing. 3.00.**

A theoretical and practical overview of the growing field of popular writing. Students will analyze a broad range of genres -- including reviews, commentaries, profiles, blogs, and ads -- from a broad range of publications, including newspapers, magazines, and the Web, with the goal of acquiring a critical understanding of the rhetorical aims and practices of popular writing. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 336. Writing Consultation. 3.00.**

Integrates the theory and practice of writing consultation in academic and professional settings and is suited for developing tutors, teachers, consultants and editors. The course includes mentorship and practice in the University Writing Center, and it provides students opportunities to develop as writers, scholars and professionals. Upon completion of the course, students will be eligible for, but not guaranteed, employment in the University Writing Center. *Prerequisite: WRTC 103 and permission of the instructor.*

**WRTC 338. Genre Theory. 3.00.**

Introduction to key concepts and principles of genre theory, specifically as taken up by scholars and practitioners of writing, rhetoric, and technical communication. Students will investigate both academic and nonacademic genres and explore different purposes for writing in a range of appropriate genres. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 340. Writing as Leading. 3.00.**

Investigation of contemporary leadership theories as they apply to writing; students will apply these principles and techniques to their own writing. The course will explore how writers lead readers and how leaders employ writing and use writers to influence their audiences. Students will gain experience writing in typical leadership genres, such as the position paper and the op-ed piece. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 342. Writing Place. 3.00.**

Examines the relationship between language and location by analyzing print and virtual rhetorics of the social and natural environment. Students will learn about the rhetorical tradition of place-centered expression and the importance of place in society. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 344E. The Origins of Rhetoric. 3.00.**

Survey of the origin and development of rhetorical theory as a product of the classical Mediterranean world, tracing its development through the Enlightenment in Europe. Major periods and thinkers will be studied with the goal of contextualizing theories that still heavily influence writing and technical communication practices today. Includes an emphasis on critical thought as a precursor to rhetorical praxis and how the classical past can inform modern authorship.

**WRTC 350. Foundations of Technical Communication. 3.00.**

Introduction to the major theories, issues, and contributors in the field of technical and scientific communication. Students explore global, print and electronic communication, ethical and legal issues, and the project cycle. They start with rhetorical analyses of audiences and progress through deliverables. Students learn to problem solve through a variety of technical communication projects and develop their career interests in chosen technical communication fields. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor.*

**WRTC 351. Visual Rhetoric. 3.00. Crosslisted with SCOM 351, WRTC 351L.**

A study of the rhetorical foundations of visual and verbal arguments in academic disciplines and popular culture. Students will analyze and produce visual and verbal arguments in a variety of rhetorical contexts. *Prerequisite: WRTC 103 & 100 Level SCOM*

**WRTC 351L. Visual Rhetoric. 3.00. Crosslisted with SCOM 351, WRTC 351.**

A study of the rhetorical foundations of visual and verbal arguments in academic disciplines and popular culture. Students will analyze and produce visual and verbal arguments in a variety of rhetorical contexts. *Prerequisite: WRTC 103 and 100 Level SCOM.*

**WRTC 352. Online Design I. 3.00.**

Introduction to the most recent versions of HTML/CSS coding and industry-standard programs for creating web-friendly images, both vector and pixel based. Students will become familiar with elementary JavaScript coding and responsive web design, and explore app-based possibilities. Assignments are project-based and lead to the creation of online deliverables for various purposes. Emphasis on electronic tools and portfolio projects to prepare students for careers in digital communication. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 354. Document Design. 3.00.**

Examination of the principles of design and the importance of the project cycle in designing documents. Students use layout and graphics programs to create professional brochures, flyers, posters, newsletters, and manuals. Students work individually and collaboratively on their projects, producing excellent portfolio pieces. This course gives students flexibility for a wide variety of career opportunities in business and industry, the non-profit sector, and government. *Prerequisite: WRTC 300 or permission of instructor*

**WRTC 356. Web Theory and Design. 3.00.**

Introduction to Web design, emphasizing audience, purpose, structure, accessibility, content, and usability. Students analyze, create, and redesign effective websites and graphic pieces. They also learn how to create Web teams, negotiate contracts, and manage large-scale Web projects, adhering to copyright issues. They use industry accepted applications for Web and graphic design. Students in this course have the opportunity to develop several professional portfolio pieces. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 358. Writing About Science and Technology. 3.00.**

Focus on the development and application of rhetorical strategies and tools used in writing about science and technology for a contemporary, general audience. As citizen-interpreters, students analyze and produce writing designed to make even 'hard' science and technology accessible, with particular attention to narrative, to the framing of policy issues, and to establishing relevance. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 359. Digital Communications Consulting. 3.00. *Crosslisted with SCOM 359, SMAD 359.***

This class will train students to become effective tutors of digital communication. The class will frame that expertise with the training of the best strategies for college tutors, via theory, research and practice. Tutors for the Learning Centers develop vital professional skills: pedagogical aptitude, professional interpersonal communication, and experience with cross disciplinary perspective on digital texts. *Prerequisite: Admission to the WRTC, SCOM, SMAD major.*

**WRTC 360L. British Media and Society. 3.00. *Crosslisted with HUM 251L, SCOM 360L, SMAD 360L.***

Study the history, nature, and impact of mass media in the United Kingdom. Emphasis on the impact modern media has on society, and society has on media. Consideration of similarities and differences in mass media in the United States and Great Britain. Consideration of the relationship between mass media and the arts. Focus on 20th century mass media in London, one of the world's preeminent and most influential centers.

**WRTC 410. Sociolinguistics. 3.00.**

Exploration of the role of language in society and an in-depth examination of the theoretical discourse and analytical paradigms within which questions of language are premised, analyzed and debated. Course emphasizes two important fields - micro- and macro-sociolinguistics - in dealing with choices in language use and preferences in communication strategy. Focusing on applied linguistics, students learn how to apply their skills in the social engineering of language to their career development. *Prerequisite: WRTC 103 or equivalent.*

**WRTC 412. Content Strategy. 3.00.**

Focused study of the theory and practice of building a content strategy applicable for a variety of organizations (business, nonprofit, government). Students will learn content strategy theories, perform case study analyses and apply their findings to the design of content strategies with specific organizations in mind. *Prerequisite: WRTC 200 and WRTC 201, or permission of instructor.*

**WRTC 414. Major Theorists in WRTC. 3.00.**

Focused, in-depth study of a specific theorist or scholarly tradition in the discipline. It situates the theorist and his/her work in historical, political, rhetorical, and linguistic contexts. Students engage in original research that investigates, converses with, and/or builds upon the selected theorist's scholarship. Subject matter varies with each offering. *Prerequisite: WRTC 103 or equivalent and junior/senior standing or permission of instructor.*

**WRTC 416. Rhetoric of Environmental Science and Technology. 3.00. *Crosslisted with SCOM 465.***

An advanced study of the way the public receives, makes sense of, and influences scientific and technical information about environmental issues. Implications of these processes on environmental policy will be analyzed. Readings and assignments will concentrate on the interactions between technical and public spheres of communication, with an in-depth examination of the way the media facilitates the transfer of information between scientific communities and public audiences. *Prerequisite: WRTC 103 or equivalent and junior or senior standing, or permission of instructor.*

**WRTC 420. Feminist Rhetorics. 3.00. *Crosslisted with SCOM 420, WGSS 420.***

Surveys key women figures in classical and contemporary rhetorical traditions and challenges the strategies used to historicize this tradition from feminist perspectives. Explores diverse feminist rhetorical discourses informed by race, sexual orientation, ethnicity and social class. *Prerequisite: WRTC 103 or equivalent and junior or senior standing, or permission of instructor.*

**WRTC 426. Special Topics in Writing, Rhetoric, and Technical Communication. 3.00.**

Focused, in-depth study of specific areas or subjects in writing, rhetoric, and technical communication. Topics may pertain to issues relevant to the discipline, to the study of particular theories and practices, or to the study of significant figures in the field. Seminars may be repeated for credit when course content changes. *Prerequisite: WRTC 103 or equivalent and junior/senior status, or permission of instructor*

**WRTC 430. Contemporary Rhetorical Theory and Practice. 3.00. *Crosslisted with SCOM 343.***

Examines contemporary rhetorical theory and practice in relation to specific social, economic and technological changes in the 20th century, with particular emphasis on theoretical frameworks. Students learn about the changing needs of postmodern communicators and how new rhetorical theories have developed to anticipate, respond to, and shape those changes. Also explored is the value of contemporary rhetorical theories for communicative and performative events. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 432. Rhetoric of the Personal Narrative. 3.00.**

Examination of the rhetorical elements of personal narrative. Students will read examples of personal narratives ranging from essays to longer memoirs and autobiographies, in order to examine questions related to purpose, audience, voice, and style. Discussion will include what makes a piece of writing personal, what makes it a narrative, and what makes it effective. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 434. Advanced Popular Writing. 3.00.**

Advanced focus on a particular genre in popular writing, such as reviews, commentaries, opinion pieces, profiles, blogs, or ads. Students will engage with a specific genre to acquire both a critical understanding of its rhetorical aims and practices as well as the skills to practice writing within that genre. Students in this course have the opportunity to develop several professional portfolio pieces. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 436. Teaching Writing. 3.00.**

Introduces students to the major philosophies, theories, and pedagogies of teaching writing. Special attention is devoted to such practical matters as understanding and developing effective writing assignments, methods of responding to student texts-in-progress, and evaluating writing. *Prerequisite: WRTC 300 or permission of instructor.*

**WRTC 447. Interaction Design. 3.00. *Crosslisted with ISAT 447.***

Study of and practice with processes, principles, tools, models, and techniques for designing interactions between humans and digital products and systems. Topics include physiological and psychological factors affecting interaction design, interaction design process, interaction models, styles, and paradigms, design notations and representations, prototyping, and interaction design evaluation. *Prerequisite: For WRTC majors: Junior standing only.*

**WRTC 450. Digital Rhetoric. 3.00.**

Introduces the rhetoric of digital design in a variety of contexts. Students learn what makes for effective static and interactive digital designs and practice analyzing and creating digital designs. Student will compose technical documents within diverse traditions, which include digital rhetoric, mixed media, and visual rhetoric. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 452. Online Design II. 3.00.**

Introduction to data basing and adding animation to a website. Students create interactive, professional websites that can include forms, animated buttons, searchable catalogs and splash pages. Students also have the opportunity to work with additional tools for developing creative portfolio pieces. *Prerequisite: WRTC 352 or permission of instructor.*

**WRTC 454. Publication Management. 3.00.**

Exploration of the publication production process that addresses the theory and practice of project management for professional print and electronic documents. Students work collaboratively to examine managerial and editorial responsibilities. Topics include defining editorial policy, defining management roles, working with project teams, creating document publication schedules, reviewing and editing submissions for publication and collaborating with authors. *Prerequisite: WRTC 300 or permission of instructor*

**WRTC 456. Usability Testing. 3.00.**

Theoretical and practical study of the product testing of documents and interfaces in a variety of media environments. Students design, plan, and conduct tests; code data from the tests; interpret the results, and write reports. Students also research and analyze various tests as they learn about the rhetorical aims of document and interface assessment.

*Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 458. Scientific and Medical Communication. 3.00.**

Introduction to the context and use of language in scientific and medical disciplines. Emphasis is placed on understanding the rhetorical nature of scientific discourse. Primary topics include examining different forms of scientific and medical writing in traditional and digital contexts; the nature of communication within professional communities; and, composing texts for general readers. *Prerequisite: WRTC 200 and WRTC 201 or permission of instructor*

**WRTC 460. Legal Writing. 3.00.**

Study of the central components of legal writing and the language of law with an emphasis on the genres of the legal professions. Primary focus is on legal analysis, intellectual property and fair use, and the creation of genre-relevant documents, including memoranda, briefs and legal summaries. *Prerequisite: WRTC 300 and WRTC 301, or permission of the instructor.*

**WRTC 462. Government Writing. 3.00.**

This course provides intensive practice in government genres or genres that occur at the intersection between governmental and political writing at the local and national levels. Democratic institutions create writing exigencies that require rhetorical intervention and technical knowledge, and this course offers writing practice in relevant genres, including news releases, consultant reports (i.e., feasibility studies), lobbyist communication and staff reports (i.e. monthly updates and annual reports). The authors of such genres include elected officials, appointed officials, citizen groups and individual citizens. Relevant issues include taxation, zoning, recycling, water treatment, sewer and wastewater treatment, environmental issues, transportation, and any other timely infrastructure or policy question. *Prerequisite: WRTC 300 and WRTC 301, or permission of instructor.*

**WRTC 480. Writing for Business and Industry. 3.00.**

Introduction to the communication and discourse practices of the business community through a community-based learning model. Emphasis is placed on working directly with a business organization. Primary topics include language and ethics in business; the understanding of audience for business communication; and the creation of business documents, including proposals and business plans. *Prerequisite: WRTC 300 and WRTC 301 and WRTC 330 or WRTC 350, or permission of instructor.*

**WRTC 484. Writing for Nonprofits. 3.00.**

Introduction to the nonprofit sector through a community-based learning model. Emphasis is placed on working directly with a nonprofit agency in the local community. Primary topics include the role of the nonprofit in society, especially as an organization for change; creation of internal and public documents, including proposals, grants, and publicity materials; and the legal requirements for nonprofit status. *Prerequisite: WRTC 300 and WRTC 301 and either WRTC 330 or WRTC 350 or permission of instructor*

**WRTC 486. Writing in the Community. 3.00.**

Introduction to political and social engagement at the community level using multiple texts and a community-based learning model. Emphasis is placed on writing, reflection, and hands-on service projects with community agencies. Primary topics include an examination of the central role of rhetoric in citizenship, leadership, social justice and social change. *Prerequisite: WRTC 300 and WRTC 301 and either WRTC 330 or WRTC 350, or permission of instructor.*

**WRTC 488. Writing in the Health Sciences. 3.00.**

Introduction to the medical field through a community-based learning model. Emphasis is placed on communication within the medical field and the translation of medical language for lay audiences. Primary topics include the roles of the practitioner and audience in medical communication; power relationships among clinicians and patients; and the creation of medical documents, including reports, proposals and technical articles. *Prerequisite: WRTC 300 and WRTC 301 and either WRTC 330 or WRTC 350 or permission of instructor*

**WRTC 490. Independent Study in Writing, Rhetoric, and Technical Communication. 3.00.**

Individualized projects in Writing, Rhetoric and Technical Communication. Available only to junior or senior majors, though exceptions may be made at the director's discretion. May be repeated with the director's approval when course content changes. *Prerequisite: WRTC 103 or equivalent and junior/senior status and permission of instructor*

**WRTC 495. Internship in Writing, Rhetoric and Technical Communication. 3.00.**

Allows students to incorporate field experience with WRTC course work through internships in government, business, industry, or education where they can observe communication processes and apply effective written, interpersonal and public communication skills. Students must complete an application process and be approved before receiving a permission number to enroll in the course (see Internship page on WRTC website for requirements and forms). *Prerequisite: WRTC 300, WRTC 301, Junior or Senior Standing, and permission of instructor.*

**WRTC 496. Capstone in Writing, Rhetoric and Technical Communication. 3.00.**

Capstone experience in which students reflect on their course work in the major with the aim of articulating how the major has broadened and deepened their understanding of the theories and practices of written communication and rhetoric as they apply to academic and professional contexts; demonstrating how WRTC student learning objectives tie together to inform their academic and professional work; and articulating short-term and long-term career goals. Students participate in seminar-style discussions, compose a personal philosophy of writing/editing/design through analysis of the work they have created in the major, and create a professional digital portfolio containing their strongest work from WRTC courses, internships and professional positions that are most representative of their career goals. *Prerequisite: WRTC 495.*

**WRTC 499. Honors. 1.00 - 6.00.**

Offered Fall and Spring. Year Course.



- Jonathan R. Alger**, President, Professor.  
B.A., Swarthmore College; J.D., Harvard Law School.
- Linwood H. Rose**, President Emeritus, University Professor.  
B.A., Virginia Polytechnic Institute and State University; M.S., University of Tennessee; Ed.D., University of Virginia.
- Emad Abdurasul**, Visiting Assistant Professor of Mathematics and Statistics.  
B.S., Al-Fatah University (Libya); M.S., Graduate Institute of Planning (Taiwan); M.S., Ph.D., Missouri University of Science and Technology.
- Mohamed S. Aboutabl**, Associate Professor of Computer Science.  
B.S., M.S., University of Alexandria (Egypt); M.S. Ph.D., University of Maryland, College Park.
- Thomas R. Adajian**, Associate Professor of Philosophy.  
B.S., University of Wisconsin, Madison; Ph.D., University of North Carolina at Chapel Hill.
- Andrea H. Adams**, Director, Faculty Development and eLearning Programs, Center for Instructional Technology; Assistant Professor, Libraries and Educational Technologies.  
B.S., Virginia Polytechnic Institute and State University; M.Ed., James Madison University.
- Melinda J. Adams**, Associate Dean, Public and International Affairs, College of Arts and Letters; Professor of Political Science.  
B.A., Emory University; M.A., Ph.D., University of Wisconsin, Madison.
- Regina Adams**, Transfer Advising Coordinator, University Advising.  
B.S. State University of New York, College at Oswego; M.S. University of Southern Mississippi.
- Aderonke A. Adesanya**, Professor of Art History.  
B.A.Ed., Obafemi Awolowo University (Nigeria); M.A., Ph.D., University of Ibadan (Nigeria).
- Yonathan Admassu**, Associate Professor of Geology and Environmental Science.  
B.S., Addis Ababa University (Ethiopia); M.S., University of Akron; Ph.D., Kent State University.
- Jessica R. Adolino**, Professor of Political Science.  
B.A., Fairfield University; Ph.D., The Ohio State University.
- Ehsan Ahmed**, Head, Department of Economics; Professor of Economics.  
B.A., Punjab University, Lahore (Pakistan); M.A., Government College, Lahore (Pakistan); M.A., Roosevelt University; Ph.D., Michigan State University.
- Jeremy D. Akers**, Associate Professor of Health Professions.  
B.S., Radford University; M.S., James Madison University; Ph.D., Virginia Polytechnic Institute and State University.
- Geary E. Albright**, Director of the John C. Wells Planetarium, Associate Professor of Physics and Astronomy.  
B.A., Bates College; M.Ed., M.A., Ph.D., University of Virginia.
- Carlos Galvan Alemán**, Associate Professor of Communication Studies.  
B.A., M.A., California State University, Fresno; Ph.D., The University of Iowa.
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