

# The College of Liberal Arts & Sciences

## Programs offered in the College of Liberal Arts & Sciences

Addictions Counseling  
 African American Studies  
 Animal Behavior  
 Art & Design  
 Art History  
 Biology  
 Chemistry  
 Child & Family Psychology  
 Climate Science  
 Communication Studies  
 Computer Print Graphics  
 Computer Information Systems  
 Computer Science  
 Cultural Anthropology  
 Dance  
 Earth Science  
 Engineering  
 English  
 Environmental Analysis & Planning  
 Ethnobotany  
 Film Studies  
 Fine Arts  
 Foreign Languages & Literature  
 Forestry  
 Geography  
 Graphic Design  
 Health Science  
 History  
 Industrial & Organizational Psychology  
 Information Technology  
 International Studies  
 Interpretive Biology & Natural History  
 Jazz Studies  
 Journalism  
 Law and Society  
 Law: Bachelor's/J.D. Dual Degree  
 Law School Preparation  
 Leadership in Psychology

Leadership Studies  
 Liberal Studies  
 Mass Communication  
 Mathematical Sciences  
 Mathematics  
 Mechanical Engineering  
 Music  
 Musical Theatre  
 Nursing  
 Philosophy  
 Physics  
 Political Science  
 Professional Writing  
 Psychology  
 Public Administration  
 Public Relations  
 Secure Computing & Information Assurance  
 Social Work  
 Sociology  
 Sustainability Studies  
 Teaching of Writing  
 Theatre  
 Wildlife & Fisheries  
 Women's Studies

### Dr. Kim Hixson

Dean

### Dr. Cindy Herzog

Associate Dean

### Dr. Scott Fritz

Associate Dean

## College of Liberal Arts & Sciences Strategic Plan

### Vision Statement

The College of Liberal Arts and Sciences will be recognized for providing experientially based learning opportunities. Its distinctive and distinguished programs will contribute to the reputation of Frostburg State University as the premier educational and cultural center for the region and for serving as a catalyst for economic development. The college's efforts in undergraduate research and experiential learning will achieve national recognition for providing "real life" experiences for students and for serving as a national model for regional engagement.

### Mission

The mission of the College of Liberal Arts and Sciences (CLAS) is to provide students with a rigorous liberal arts and sciences curriculum grounded in a flexible, broad-based general education program and enriched by the availability of challenging academic majors and minors, graduate programs, interdisciplinary offerings, and other newly evolving programs that are responsive to emerging societal needs.

The college mission is implemented through a diverse, recognized, and credentialed faculty committed to excellence in teaching, learning, scholarship, and creative artistic production.

CLAS fulfills its mission by preparing future leaders to enter a complex changing global society with competence and confidence.

### Core Values

1. We value a high standard of excellence in teaching, service, research, and other professional endeavors.
2. We value a stimulating, collaborative, and supportive setting for students, faculty, staff, and administrators characterized by creativity, innovation, and excellence.
3. We value lifelong learning and professional development for students, faculty, staff, and administrators.
4. We value an atmosphere of mutual respect and support, which promotes open sharing of ideas and viewpoints and debate of issues and concerns.
5. We value high standards of ethics, integrity, responsibility, and accountability.
6. We value the active participation of stakeholders in the planning and development of programs.

7. We value diversity and an atmosphere of mutual respect and acceptance.
8. We value interdisciplinary collaboration.
9. We value assessment as a mechanism for continuous improvement.
10. We value nimble response to change.

### Fundamental Assumptions

1. Teaching methodologies, strategies, curricula, and classroom architecture must be informed by research on the science of learning.
2. In an environment of accelerating change, FSU must be responsive to emerging needs of society.
3. A pattern of continuously diminishing state resources for public higher education has developed nationally.
4. New or expanded programs will be supported by reallocation of existing resources or through external funding.
5. Following the Board of Regents initiative, FSU will continue to improve effectiveness and efficiency.
6. Collaboration across programs, departments, divisions, and colleges can lead to enhanced student learning and improved effectiveness and efficiency.
7. Growth of FSU student population will continue but not uniformly across colleges or departments.
8. Faculty development is critical to achieving educational objectives.
9. CLAS will increase its support of economic development throughout the region.

## Addictions Counseling

### EMPHASIS

**Coordinator:** Dr. Lisa Morshead, Associate Professor, Dept. of Psychology

Frostburg State University offers an Emphasis in Addictions Counseling to help prepare you to be a Certified Addiction Counselor. As the course requirements are currently undergoing changes at the time of this catalog's printing, please contact the Emphasis Coordinator (Dr. Lisa Morshead) or the Chair of the Psychology Department (Dr. Michael Murtagh) for the most up-to-date information in this area.

## African American Studies

### MINOR

**Coordinator:** Dr. James Saku, Professor, Department of Geography

**Professors:** Armiento (English and Foreign Languages), Idris (English and Foreign Languages), Saku (Geography), Makang (Philosophy), Moore (Sociology), O'Rorke (Political Science), Yost-Rushton (Theatre and Dance)

**Associate Professors:** Abbay (History), Redmond (Psychology), Rogers Thomas (Sociology)

**Assistant Professor:** English (Visual Arts)

**Lecturers:** Stevenson (Athletics), Wynder (Diversity Center)

- You may minor in African American Studies. There is no major available.
- All courses in African American Studies may be taken whether or not you wish to pursue the minor.
- A listing of Special Topics courses offered for the minor in future semesters is available through the Coordinator.

### Program Requirements

	MINOR
Hours Required in African-American Studies:	3-18
Hours Required in Other Departments:	0-15
Total Hours Required:	18

## Requirements for Minor in African American Studies

### 1. Required Core Course: (3 hours)

AAST 200 Introduction to African American Studies (GEP Group F)

### 2. Elective Courses: (15 hours)

AAST 300/HIST 301 Traditional Africa  
 AAST 400 Africans of the Diaspora (GEP Group F)  
 AAST 425 History of African American Theatre  
 AAST 490 Topics in African American Studies  
 AAST 494 AAST Practicum  
 ART 302 Artistic Traditions: Africa and the Americas (GEP Group F)  
 ENGL 231 African American Literature (GEP Group F)  
 ENGL 271 Asian and African Literature  
 ENGL 379 Postcolonial Literature  
 GEOG 324 Urban Geography  
 GEOG 403 Geography of Sub-Saharan Africa  
 HIST 353 Contemporary Africa  
 PHEC 415 The Black Athlete in American Society  
 PHIL 311 Asian and African Philosophy (GEP Group F)  
 POSC 330 Politics of Africa  
 PSYC 325 African American Psychology  
 PSYC 450 Multicultural Counseling  
 SOCI 305 Racial and Cultural Minorities (GEP Group F)  
 SOCI 306 Sociology of African Americans  
 SOCI 307 African Americans of Appalachia  
 SOCI 341 Race and Crime

Special Topics courses numbered 290, 403, 490 or 491 in the participating departments when approved by Coordinator.

Independent Studies courses numbered 499 when approved by the Coordinator, limited to one 3-hour total enrollment.

## Animal Behavior

### MINOR

**Coordinator:** Erica Kennedy, Associate Professor, Dept. of Psychology

**Professors:** Raesly, Serfass (Biology)

**Associate Professors:** Lambert (Biology), Kennedy (Psychology)

**Assistant Professors:** Hocking (Biology), Lambert (Biology)

- Animal Behavior is an interdisciplinary minor.
- You cannot major in animal behavior.
- You may find this minor of special interest if you are majoring in biology, interpretive biology and natural history, psychology, or wildlife and fisheries, or if you wish to attend veterinary medicine school.
- Advanced students may apply to care for and conduct research with FSU's small colony of cotton-top tamarin monkeys or to assist with field research projects studying diverse animals in their natural habitats.

## Program Requirements

	MINOR
Hours Required in Biology:	10-11
Hours Required in Psychology:	12
Total Hours Required:	22-23

## Requirements for Minor in Animal Behavior

### 1. Required Courses in Biology: (7 hours)

BIOL 149 General Biology I (GEP Group C)

BIOL 334 Animal Behavior

### 2. Required Courses in Psychology: (9 hours)

PSYC 150 General Psychology (GEP Group D)

PSYC 345 Animal Learning and Cognition

PSYC 420 Physiological Psychology

### 3. Choose one course from Biology and one course from Psychology from the list of courses below. (6-7 hours)

#### One of the following Biology courses:

BIOL 402 Evolution

BIOL 406 Ornithology

BIOL 422 Herpetology

BIOL 423 Mammalogy

#### One of the following Psychology courses:

PSYC 210 Child Development

PSYC 306 Sensation and Perception

PSYC 409 Human Learning and Cognition

PSYC 445 Research Applications in Animal Learning and Cognition

PSYC 490 Evolutionary Psychology

#### 4. Recommended Research Experience:

PSYC 499 Psychology Projects or BIOL 499 Special Problems in Biology

## Art & Design

### MAJOR

#### TEACHING CERTIFICATION OPTION

**Professors:** Brown, Davis, Dieruf

**Associate Professors:** English (Chair), Hein, Herzfeld, Hodges, Odone

- If you complete the major in Art & Design, you will earn the Bachelor of Fine Arts (BFA) degree.
- Minors are offered in art history, fine arts, and graphic design. An emphasis is offered in Computer Print Graphics. See separate sections of catalog.

- You must successfully pass Studio Focus Review (ART 291 – concurrent enrollment in second advanced studio course) and Senior Review (ART 491 – concurrent enrollment in ART 411).
- You must successfully complete ART 207 Graphic Design by the time you earn 45 credit hours. ART 207 also provides instruction in technology fluency and information literacy for BFA candidates.
- Only courses in which a grade of C or better is earned may count towards satisfaction of major and minor requirements.
- Optional internships are available to qualifying students.

## Program Requirements

	MAJOR	TEACHING CERT.
Hours Required in Art:	71	65
Hours Required in Other Departments:	0	38.5
Total Hours Required:	71	103.5

## Requirements for BFA in Art & Design

### 1. Basic Courses: (15 hours)

ART 104 Two-Dimensional Design  
 ART 105 Three-Dimensional Design  
 ART 207 Graphic Design (*Tech. Fluency*)  
 ART 212 Drawing  
 ART 412 Advanced Drawing

### 2. Introductory Studio: (21 hours)

ART 202 Ceramics  
 ART 216 Illustration  
 ART 221 Painting  
 ART 232 Printmaking  
 ART 235 Photography  
 ART 240 Sculpture  
 ART 307 Computer Graphics or ART 336 Digital Imaging for the Fine Arts  
*Graphic Design students must include ART 307 and Fine Art students must include ART 336.*

### 3. Studio Focus Review: (1 hour)

ART 291 Studio Focus Review

### 4. Art History and Critical Studies: (12 hours)

ART 301 Artistic Traditions: Asia (*GEP Group F*)  
 or ART 302 Artistic Traditions: Africa and the Americas (*GEP Group F*)  
 ART 360 Western Art History  
 ART 408 20<sup>th</sup> Century Art History  
 ART 415 Art Criticism

### 5. Advanced Studio Focus (18 hours – 12 credit hours in focus and 6 credit hours in secondary area)

### OR Dual-Media Studio Focus (18 hours – 9 credit hours in focus and 9 hours in secondary area)

ART 402 Advanced Ceramics  
 ART 416 Advanced Illustration  
 ART 407\* Advanced Graphic Design  
 ART 421 Advanced Painting  
 ART 432 Advanced Printmaking  
 ART 435 Advanced Photography  
 ART 440 Advanced Sculpture

\*ART 407 Advanced Graphic Design: Print

\*ART 414 Advanced Graphic Design: Interactive Multimedia Design

### 6. Senior Portfolio: (3 hours)

ART 411 Senior Portfolio (*Capstone*) (*co-registration in ART 491 required*)

### 7. Senior Review: (1 hour)

ART 491 Senior Review (*co-registration in ART 411 required*)

## Requirements for P-12 Teaching Certification Option in Art

If you wish to complete a Maryland State approved program in teaching Art, you must:

- Complete the BFA in Art and Design.
- Meet the phase admissions requirements summarized in the Educational Professions section.
- Complete the professional education sequence described in Education: P-12 Programs.

## If you are interested in teaching Art ...

Students wishing to teach Art PK12 level (elementary, middle and high school) can obtain both a Bachelor of Fine Arts in Art and Design and a Master of Arts in Teaching (MAT) in five years through the following pathway offered by the MAT Secondary program. This pathway requires students to take nine credits of specified graduate courses while completing their undergraduate program in Art. These nine graduate credits will be used as electives toward the undergraduate degree as well as the requirements of the MATS.

Students interested in this pathway should:

- Discuss the MATS pathway option with their first-year advisor.
- Meet with the MATS Coordinator as a first-year or sophomore.
- Apply to the MATS program in the Spring of their sophomore year (February 1 application deadline).
- Once conditionally admitted (a requirement for the following graduate courses to count as electives in the undergraduate program as well as in the MATS program) take:
  - REED 517 Reading in the Content Area (Fall or Spring Junior or Senior year).
  - SPED 551 Adapting Instruction in Diverse Classrooms (Fall Senior year).
  - SCED 510 Secondary Methods in Curriculum (Spring Senior year).

*Please note that students who are considering this pathway should work with their advisor to create a plan of study that allows these 9 credits of graduate courses to be taken in the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester.*

# Art History

## MINOR

**Professors:** Brown, Davis, Dieruf

**Associate Professors:** English (Chair), Hein, Herzfeld, Hodges, Odone

- Minors are also offered in fine arts and graphic design. A major is offered in Art & Design. See separate listings in this catalog.
- Only courses in which a grade of C or better is earned may count towards satisfaction of major and minor requirements.

## Program Requirements

	MINOR
Hours Required in Art:	15-18
Hours Required in Other Departments:	3-0
Total Hours Required:	18

## Requirements for Minor in Art History

### 1. Basic Courses: (3 hours)

Choose from:

- ART 100 Art Appreciation (GEP Group A)  
 HIST 100 The Twentieth Century World (GEP Group B or Group F)

### 2. Core Courses: (12 hours)

- ART 301 Artistic Traditions: Asia (GEP Group F)  
 or ART 302 Artistic Traditions: Africa and the Americas (GEP Group F)  
 ART 360 Western Art History  
 ART 408 20th Century Art History  
 ART 415 Art Criticism

### 3. Elective: (3 hours)

Choose from:

- ART 370 Women/Gender and the Visual Arts  
 ART 380 19th Century Art History  
 ART 430 Greek and Roman Art  
 ART 460 Renaissance and Baroque Art History

# Biology

## MAJOR

### CONCENTRATIONS IN

- MOLECULAR BIOLOGY
- ENVIRONMENTAL SCIENCE

### OPTION IN PRE-HEALTH PROFESSIONS

## MINOR

### SEE RELATED PROGRAMS:

- ETHNOBOTANY
- FORESTRY
- INTERPRETIVE BIOLOGY & NATURAL HISTORY
- WILDLIFE & FISHERIES

**Contact:** David Puthoff, Associate Professor, Department of Biology

**Professors:** Li, Raesly, Seddon, Serfass

**Associate Professors:** Brosi, Keller, Lambert, Puthoff (Chair), Taylor

**Assistant Professors:** Hocking, Hughes, Sheehan

- Biology is often selected as a major by students planning to enter medicine and other health professions careers. If you plan advanced study in the health professions, you should choose the pre-health professions option.

## Program Requirements

	MAJOR	MINOR	PRE-HEALTH	MOLEC BIO	ENV SCIENCE
Hours Required in Biology:	41-44	21-24	43-45	38-40	46
Hours Required in Other Departments:	30	0	30	39	40
Total Hours Required:	71-74	21-24	73-75	77-79	86

## Requirements for Major in Biology

### 1. Introductory Level Courses: (12 hours)

- BIOL 149 General Biology I (GEP Group C)  
 BIOL 160 General Zoology  
 BIOL 161 General Botany

### 2. Advanced Level Courses: (20 hours)

- BIOL 304 Microbiology  
 BIOL 310 Cell Biology  
 BIOL 340 General Ecology  
 BIOL 350 Genetics  
 BIOL 401 Genetics Laboratory

BIOL 402 Evolution  
 BIOL 496 Seminar in Biology (*Capstone*)

### 3. Biology Electives: (9-12 hours)

Select any 3 classes between the 300 and 456 level. Students can use 3 credits of BIOL 499 or 493 as one (1) of the classes in this category, but may NOT use both.

### 4. Required Courses in Other Departments:

(30 hours)

#### Chemistry:

CHEM 201 and 202 General Chemistry I & II (*CHEM 201 - GEP Group C*)  
 CHEM 311 and 312 Organic Chemistry I  
 CHEM 321 and 322 Organic Chemistry II

#### Mathematics:

MATH 109/110 Elements of Applied Probability & Statistics (*Core Skill 3*)  
 Select one from:  
 MATH 119 College Algebra  
 MATH 120 Pre-Calculus Mathematics (*Core Skill 3*)  
 or MATH 220 or higher

#### Physics:

PHYS 215 and 216 General Physics I & II (*PHYS 215 - GEP Group C*)  
 or PHYS 261 and 262 Principles of Physics I & II (*PHYS 261 - GEP Group C*)

## Requirements for Minor in Biology

### 1. Introductory Level Courses: (12 hours)

BIOL 149 General Biology I (*GEP Group C*)  
 BIOL 160 General Zoology  
 BIOL 161 General Botany

### 2. Elective Hours Within Department: (9-12 hours)

Select any 3 biology courses between the 300 and 456 level, except 401.

## Pre-Health Professions Option for Biology Majors

(*Pre-Dental, Pre-Medical, Pre-Optometry, Pre-Veterinary, Allied Health Fields*)

### 1. Introductory Level Courses: (12 hours)

BIOL 149 General Biology I (*GEP Group C*)  
 BIOL 160 General Zoology  
 BIOL 161 General Botany

### 2. Advanced Level Courses: (17 hours)

BIOL 304 Microbiology  
 BIOL 310 Cell Biology  
 BIOL 340 General Ecology  
 BIOL 350 Genetics  
 BIOL 401 Genetics Laboratory  
 BIOL 496 Seminar in Biology (*Capstone*)

### 3. Advanced Level Classes in Biology (8 hours)

BIOL 321 Anatomy and Physiology I  
 BIOL 322 Anatomy and Physiology II  
 or  
 BIOL 302 Animal Physiology  
 BIOL 427 Comparative Anatomy

### 4. Electives: (6-8 hours)

Choose two of the following:

BIOL 402 Evolution  
 BIOL 404 Histology  
 BIOL 412 General Parasitology  
 BIOL 435 Molecular Biology  
 BIOL 440 Developmental Biology  
 BIOL 445 Immunology  
 BIOL 456 Advanced Microscopy  
 BIOL 493 Advanced Biological Research\*  
 BIOL 499 Special Problems in Biology (*must be 3 credits*)\*  
 CHEM 455 Biochemistry I

\*Students may NOT use both BIOL 493 and BIOL 499 as the two required electives.

### 5. Required Courses in Other Departments: (30 hours)

See Section 4 above (*Biology major*).

## Requirements for Major in Biology – Molecular Biology Concentration

- The molecular biology concentration offers an interdisciplinary program with a strong emphasis on laboratory experiences in biology and chemistry, while maintaining a strong biology core. The option is best suited for students who wish to pursue an advanced degree in cell or molecular biology or to find employment in the biotechnology industry.

### 1. Introductory Level Courses: (12 hours)

BIOL 149 General Biology I (*GEP Group C*)  
 BIOL 160 General Zoology  
 BIOL 161 General Botany

### 2. Advanced Level Courses: (11 hours)

BIOL 304 Microbiology  
 BIOL 310 Cell Biology  
 BIOL 350 Genetics

### 3. Molecular Biology Option: (9 hours)

BIOL 401 Genetics Lab  
 BIOL 435 Molecular Biology  
 BIOL 437 Molecular Biology Seminar (*Capstone*)  
 BIOL 438 Biotechnology Laboratory (3 hours)

### 4. Electives: (6-8 hours)

Choose two of the following:

BIOL 302 Animal Physiology  
 BIOL 403 Plant Physiology  
 BIOL 340 General Ecology  
 BIOL 402 Evolution  
 BIOL 404 Histology  
 BIOL 440 Developmental Biology  
 BIOL 445 Immunology  
 BIOL 456 Advanced Microscopy  
 BIOL 493 Advanced Biological Research\*  
 BIOL 499 Special Problems in Biology\*  
 or IDIS 493 Honors Thesis

\*Students may NOT use both BIOL 493 and BIOL 499 as the two required electives.

**5. Required Courses in Other Departments:***(39-40 hours)***Chemistry:**

CHEM 201 and 202 General Chemistry (*CHEM 201 – GEP Group C*)  
 CHEM 311 and 312 Organic Chemistry I  
 CHEM 321 and 322 Organic Chemistry II  
 CHEM 455, 457 and 456 Biochemistry I, II and Biochemistry Lab

**Mathematics:**

MATH 109/110 Elements of Applied Probability & Statistics (*Core Skill 3*)

and select one from:

MATH 220 Calculus for Applications I

MATH 236 Calculus I (*Core Skill 3*)

**Physics: (8 hours)**

PHYS 215 and 216 General Physics I & II (*PHYS 215 – GEP Group C*)  
 or PHYS 261 and 262 Principles of Physics I & II (*PHYS 261 – GEP Group C*)

## Requirements for Major in Biology – Environmental Science Concentration

- For students interested in the stewardship of natural resources with a greater emphasis on economic and political perspectives.
- This concentration allows you to choose electives in economics, political science and the humanities, which potentially add a thematic direction to your degree.
- You should not choose this concentration if you are in pre-health professions or planning to attend a traditional biology graduate program.

**1. Introductory Level Courses: (22 hours)**

BIOL 149 General Biology I (*GEP Group C*)

BIOL 160 General Zoology

BIOL 161 General Botany

ECON 201/211 Macroeconomics (*GEP Group D*)

GEOG 103/113 Physical Geography (*GEP Group C*)

POSC 110/112\* Introduction to American Politics (*GEP Group D*)

or POSC 113/114 Introduction to World Politics (*GEP Group D*)

or POSC 131\*\* Introduction to Comparative Politics (*GEP Group D or F*)

**2. Advanced Level Courses: (24 hours)**

BIOL 304 Microbiology

BIOL 310 Cell Biology

BIOL 340 General Ecology

BIOL 350 Genetics

BIOL 402 Evolution

BIOL 494 Field Experiences in Biological Sciences (*Capstone - 6 credits*)

**3. Supporting Courses: (16 hours)**

BIOL 406 Ornithology

or BIOL 423 Mammalogy

or BIOL 426 Vertebrate Zoology

BIOL 425 Forest Ecology and Conservation

BIOL 450 Ecology and Management of Wildlife Populations

or BIOL 420 Fish Management and Culture

ECON 202 Microeconomics

GEOG 473 Environmental Law

**4. Courses in Other Departments (18 hours)****Chemistry:**

CHEM 201 and 202 General Chemistry (*CHEM 201 – GEP Group C*)

CHEM 420 Environmental Chemical Analysis

**Mathematics:**

MATH 109/110 Elements of Applied Probability and Statistics (*Core Skill 3*)

Select one from:

MATH 119 College Algebra

MATH 120 Pre-Calculus Mathematics (*Core skill 3*)

or MATH 220 or higher

**5. Electives: (6 hours)**

Select two courses from different groups.

**Group I Advanced Economics**

ECON 309 Comparative Economic Systems

ECON 405 Economic Growth and Development:  
The Developing Economies

ECON 410 Resource and Energy Economics

**Group II Advanced Political Science**

GEOG 407 Political Geography

POSC 330 Politics of Africa

POSC 331 Politics of Latin America

POSC 332 Politics of the Middle East

POSC 450 Environmental Public Policy

**Group III Advanced Humanities**

ENGL 440 Literature of the Environment

HIST 409 World Environmental History

PHIL 315 Philosophy and the Environment

Check the prerequisites for other POSC courses before choosing your introductory POSC course.

\* POSC 131 preferred prerequisite for POSC 330, 331, 332.

\*\* POSC 110/112 required prerequisite for POSC 450

---

## If you are interested in teaching biology ...

Students wishing to teach biology at the secondary school level (middle and high school) can obtain both a Bachelor of Science in Biology and a Master of Arts in Teaching – Secondary (MATS) in five years through the following pathway offered by the MATS program. This pathway allows students to take up to nine credits of required graduate courses while completing their undergraduate program in biology. These nine graduate credits will be used as electives toward their undergraduate degree as well as the requirements of the MATS.

Students interested in this pathway should:

1. Discuss the MATS pathway option with their first-year advisor.
2. Meet with the MATS Coordinator as a first-year or sophomore.
3. Apply to the MATS program in the Spring of their sophomore year (February 1 application deadline).
4. Once conditionally admitted (a requirement for the following graduate courses to count as electives in the undergraduate program as well as in the MATS program) take:
  - a. REED 517 Reading in the Content Area (Fall or Spring of Junior or Senior year).
  - b. SPED 551 Adapting Instruction in Diverse Classrooms (Fall Senior year).
  - c. SCED 510 Secondary Methods in Curriculum (Spring Senior year).

Please note that students who are considering this pathway should work with their advisor to create a plan of study that allows these nine credits of graduate courses to be taken in the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester.

# Interpretive Biology and Natural History

## MAJOR

### SEE RELATED PROGRAMS:

- BIOLOGY
- ETHNOBOTANY
- FORESTRY
- WILDLIFE & FISHERIES

**Contact:** Thomas Lambert, Associate Professor, Department of Biology

**Professors:** Li, Raesly, Seddon, Serfass

**Associate Professors:** Brosi, Keller, Lambert, Puthoff (chair), Taylor

**Assistant Professors:** Hocking, Hughes, Sheehan

- Students majoring in Interpretive Biology and Natural History will learn the skills to teach the general public about the great outdoors. A variety of biological disciplines will be explored including zoology and botany.
- Students are required to participate in a capstone internship working with a federal, state or private agency or industry related to individual interest.
- Students interested in professional and graduate degrees may need to take additional courses.
- Minors are available in biology, forestry, ethnobotany, geography, and sustainability studies.

## Program Requirements

	MAJOR
Hours Required in Biology:	41-43
Hours Required in Other Departments:	22
Total Hours Required:	63-65

## Requirements for Major in Interpretive Biology and Natural History

### 1. Introductory Level Courses: (29 hours)

BIOL 149 General Biology I (GEP Group C)

BIOL 160 General Zoology

BIOL 161 General Botany

CHEM 201 General Chemistry (GEP Group C)

or CHEM 150 General, Organic and Biochemistry (GEP Group C)

CMST 102/112 Introduction to Communication

GEOG 103/113 Physical Geography

MATH 119 College Algebra

or MATH 120 Pre-Calculus Mathematics (Core Skill 3)

or any math course above 219

MATH 109/110 Elements of Applied Probability and Statistics (Core Skill 3)

### 2. Advanced Level Courses (24 hours)

BIOL 334 General Animal Behavior

BIOL 340 General Ecology

BIOL 426 Vertebrate Zoology

BIOL 492 Wildlife, Fisheries and Interpretive Biology and Natural History Seminar (Capstone)

BIOL 494 Field Experiences in the Biological Sciences (Minimum 3 credits)

ENGL 339 Scientific Writing

or ENGL 338 Technical Writing (Core Skill 2)

RECR 394 Environmental Interpretation

### 3. Electives: (19-21 hours)

Take one of the following:

BIOL 406 Ornithology

BIOL 417 Ichthyology

BIOL 422 Herpetology

BIOL 423 Mammalogy

Take one of the following:

BIOL 309 General Entomology

BIOL 411 Invertebrate Zoology

Take one of the following:

BIOL 405 Dendrology

BIOL 409 Plant Taxonomy

Take one additional course from above electives or one of the following:

BIOL 200 Scientific Investigation and Communication

BIOL 230 Wildlife Techniques

BIOL 313 Plant Evolution and Diversity

BIOL 402 Evolution

BIOL 420 Fish Management and Culture

BIOL 425 Forest Ecology and Conservation

BIOL 450 Ecology and Management of Wildlife Populations



# Chemistry

## MAJOR

## MINOR

### TRACK IN TRADITIONAL CHEMISTRY

#### CONCENTRATIONS IN

- PROFESSIONAL CHEMISTRY
- BIOCHEMISTRY

**Professors:** Biser, Larivee (Chair), Senese

**Associate Professors:** Crawford, Norris, Simon

**Assistant Professor:** Currie

- All chemistry majors must take the core courses and select the Traditional Track, Professional Concentration or Biochemistry Concentration to fulfill requirements for the major. The Traditional Track is recommended for students wishing to double major.
- Chemistry is often selected as a major by students planning to enter health professions careers. The Biochemistry Concentration is a suitable choice. (See the section on Health Professions Preparation of this catalog.)
- The Professional Concentration is a strong program for graduate school preparation.

### Program Requirements

	MAJOR			MINOR
	Traditional Track	Professional Concen.	Biochemistry Concen.	
Hours Required in Chemistry:	40	52	41	21
Hours Required in Other Departments:	20	28	35	0
Total Hours Required:	60	80	73	21

### Requirements for Major in Chemistry

#### 1. Core Introductory-Level Courses: (8 hours)

CHEM 201 General Chemistry I (GEP Group C)  
CHEM 202 General Chemistry II

#### 2. Core Advanced Courses: (24 hours)

CHEM 304 Computational Tech. in Chem. (Tech. Fluency)  
CHEM 305 Research Methods in Chemistry  
CHEM 311 Organic Chemistry I  
CHEM 312 Organic Chemistry Laboratory I  
CHEM 320 Quantitative Anal. Chem.  
CHEM 321 Organic Chemistry II  
CHEM 322 Organic Chemistry Laboratory II

CHEM 441 Physical Chemistry Lecture I  
CHEM 445 Physical Chemistry Lab I  
CHEM 492 Capstone Experience

A minimum of 2 hours from among:

CHEM 491 Seminar in Chemistry  
CHEM 493 Advanced Chemical Research  
CHEM 495 Internship in Chemistry

### 3. Required Courses in Other Departments:

#### Mathematics: (8 hours)

MATH 236 Calculus I (Core Skill 3)  
MATH 237 Calculus II

#### Physics: (8 hours)

PHYS 215, 216 General Physics I, II (215: GEP Group C)  
or PHYS 261, 262 Principles of Physics I, II (261: GEP Group C)

### 4. Choice of Specialization: (12-33 hours)

Majors must choose the Traditional Track, Professional Concentration, Biochemistry Concentration or Teaching Certification Option. Requirements listed below.

### 5. All majors must earn a C or better in CHEM 201, 202, 311, 320, 321.

### Requirements for Minor in Chemistry

#### 1. Core Introductory Level Courses: (8 hours)

CHEM 201 General Chemistry I (GEP Group C)  
CHEM 202 General Chemistry II

#### 2. Core Advanced Courses: (13 hours)

CHEM 311 Organic Chemistry I  
CHEM 312 Organic Chemistry Laboratory I  
and 9 additional hours in Chemistry, 300 level or above, no more than 3 credit hours from CHEM 491 Seminar in Chemistry, CHEM 492 Capstone Experience, CHEM 493 Advanced Chemical Research, CHEM 495 Internship in Chemistry and CHEM 499 Special Problems in Chemistry

### Requirements for Traditional Track for Chemistry Majors

#### 1. Core Courses: (48 hours)

Required of all Chemistry majors, listed above

#### 2. Advanced Courses: (8 hours)

CHEM 421 Instrumental Analysis  
CHEM 442 Physical Chemistry II  
CHEM 446 Physical Chemistry Lab II

#### 3. Required Courses in Mathematics: (4 hours)

MATH 238 Calculus III

#### 4. All majors in this track must earn a C or better in CHEM 441.

## Requirements for the Professional Concentration for Chemistry Majors

### 1. Core Courses: (48 hours)

Required of all Chemistry majors, listed above.

### 2. Advanced Courses: (15 hours)

CHEM 411	Advanced Inorganic Chemistry
CHEM 421	Instrumental Analysis
CHEM 442	Physical Chemistry II
CHEM 446	Physical Chemistry Lab II
CHEM 455	Biochemistry I

### 3. Required Elective Courses (7-9 hours)

A minimum of 7 hours in at least two courses:

CHEM 420	Environmental Chemical Analysis
CHEM 438	Advanced Organic Chemistry
CHEM 456	Biochemistry Lab
CHEM 457	Biochemistry II
CHEM 460	Environmental Chemistry
CHEM 490	Selected Topics in Chemistry
CHEM 493	Advanced Chemistry Research

### 4. Required Course in Other Departments:

(12 hours)

BIOL 149	General Biology I (GEP Group C)
BIOL 310	Cell Biology
MATH 238	Calculus III

### 5. All majors in this concentration must earn a C or better in CHEM 441.

## Requirements for the Biochemistry Concentration for Chemistry Majors

### 1. Core Courses: (48 hours)

Required of all Chemistry majors, listed above.

### 2. Advanced Courses: (9 hours)

CHEM 455	Biochemistry I
CHEM 456	Biochemistry Lab
CHEM 457	Biochemistry II

### 3. Required Courses in Biology: (19 hours)

BIOL 149	General Biology I (GEP Group C)
BIOL 304	Microbiology
BIOL 310	Cell Biology
BIOL 350	Genetics
BIOL 435	Molecular Biology

### 4. All majors in this concentration must earn a C or better in CHEM 455.

## If you are interested in teaching chemistry ...

Students wishing to teach chemistry at the secondary school level (middle and high school) can obtain both a Bachelor of Science in Chemistry and a Master of Arts in Teaching – Secondary (MATS) in five years through the following pathway offered by the MATS program. This pathway allows students to take up to nine credits of required graduate courses while completing their undergraduate program in chemistry. These nine graduate credits will be used as electives toward their undergraduate degree as well as the requirements of the MATS.

Students interested in this pathway should:

1. Discuss the MATS pathway option with their first-year advisor.
2. Meet with the MATS Coordinator as a first-year or sophomore.
3. Apply to the MATS program in the Spring of their sophomore year (February 1 application deadline).
4. Once conditionally admitted (a requirement for the following graduate courses to count as electives in the undergraduate program as well as in the MATS program) take:
  - a. REED 517 Reading in the Content Area (Fall or Spring of Junior or Senior year).
  - b. SPED 551 Adapting Instruction in Diverse Classrooms (Fall Senior year).
  - c. SCED 510 Secondary Methods in Curriculum (Spring Senior year).

Please note that students who are considering this pathway should work with their advisor to create a plan of study that allows these nine credits of graduate courses to be taken in the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester.

## Climate Science

### MINOR

Associate Professor: Tianna Bogart, Department of Geography

## Program Requirements

PROPOSED	CLIMATE SCIENCE MINOR
Total Hours Required:	22

## Requirements for Climate Science Minor

### 1. Required Core Courses: (16 hours)

GEOG 103	Physical Geography (GEP Group C)
GEOG 205	Descriptive Meteorology or PHSC 205 Descriptive Meteorology
GEOG 330	Global Climate Change
GEOG 405	Physical Climatology
GEOG 469	Principles of Atmospheric Science

### 2. Electives: (6 hours)

Complete two of the following courses from two different departments:

GEOG 340	Soil: Genesis, Nature and Characteristics*
GEOG 360	Food Systems*
GEOG 406	Management and Conservation of Natural Resources*

- GEOG 445 Biogeography\*
- GEOG 473 Environmental Law
- HIST 409 World Environmental History
- HIST 420 Green: Environment and Economy in US History
- PHIL 315 Philosophy and the Environment
- POSC 450 Environmental Public Policy\*
- SOCI 345 Sociology of the Environment\*

\*Prerequisite needed to enroll in these courses

**3. Recommendations:**

Students are encouraged to select additional course work:

- COSC 130 Introduction to Programming
- MATH 236/237/238 Calculus I/II/III
- PHSC 215 General Physics 1
- Additional Geographic Techniques courses
- Additional Advanced Physical Geography courses

# Communication Studies

**MAJOR**

**MINOR**

**TRACKS IN**

- CONFLICT COMMUNICATION STUDIES
- LEADERSHIP COMMUNICATION STUDIES
- PUBLIC COMMUNICATION AND RHETORICAL STUDIES

**Professor:** Terry (Chair)

**Associate Professors:** Ruminski

**Lecturers:** Daggett, Stoltz

- Only courses in which you earn a grade of C or better may count toward satisfaction of major or minor requirements.
- All grades earned in courses completed for the major in Communication Studies count in determining whether you meet the graduation requirement of a 2.0 cumulative grade point average in the major.

**Program Requirements**

	MAJOR	MINOR
Hours Required in Communication Studies:	36	18
Hours Required in Other Departments:	6	0
Total Hours Required:	42	18

## Requirements for Major in Communication Studies

**1. Communication Studies Core Courses:**

(18 hours)

All of the following:

- CMST 102/112 Introduction to Human Communication
- CMST 300 Interpersonal Communication
- CMST 335 Organizational Communication
- CMST 451 Seminar in Communication Theory
- CMST 485 Issues and Responsibilities of Communication
- CMST 494 Communication Studies Practicum (3 credits)  
or CMST 492 Internship Project (3 credits) (Capstone)

**2. Communication Studies Tracks: (18 hours)**

Select one 12-hour track; also, select one additional course from each of the other two tracks (6 hours):

**Conflict Communication Studies**

- CMST 302 Argumentation and Advocacy
- CMST 312 Language Behavior and Communication
- CMST 345 Conflict Management
- CMST 350 Intercultural Communication (GEP Group F)

**Leadership Communication Studies**

- CMST 215 Small Group Communication
- CMST 225 Interviewing
- CMST 322 Presentational Communication
- LEAD 101 Introduction to Leadership Studies

**Public Communication and Rhetorical Studies**

- CMST 302 Argumentation and Advocacy
- CMST 322 Presentational Communication
- CMST 355 Political Communication
- CMST 422 Seminar in Rhetorical Criticism

**3. Required Courses in Other Departments:**

(6 hours)

- COSC 100/110 Introduction to Computer Science  
or ART 207 Graphic Design (Tech. Fluency)
- MCOM 105 Introduction to Mass Communication

## Requirements for Minor in Communication Studies

**1. Communication Studies Core Courses:**

(6 hours)

- CMST 102/112 Introduction to Human Communication
- CMST 451 Seminar in Communication Theory

**2. Communication Studies Electives:**

(12 hours)

Choose four courses from:

- CMST 215 Small Group Communication
- CMST 225 Interviewing
- CMST 300 Interpersonal Communication

CMST 302	Argumentation and Advocacy
CMST 312	Language Behavior and Communication
CMST 322	Presentational Communication
CMST 335	Organizational Communication
CMST 345	Conflict Management
CMST 350	Intercultural Communication
CMST 355	Political Communication
CMST 365	Environmental Communication
CMST 422	Seminar in Rhetorical Criticism
CMST 485	Issues and Responsibilities of Communication

# Computer Information Systems

## MAJOR

## MINOR

### SEE RELATED PROGRAMS:

- COMPUTER SCIENCE
- INFORMATION TECHNOLOGY
- SECURE COMPUTING & INFORMATION ASSURANCE

**Professors:** Chitsaz, Rinard (Chair)

**Associate Professors:** M. Flinn, Zheng

**Assistant Professors:** Pan, Xiao, Xu

**Lecturers:** Gbenro, S. Kennedy

- Computer science courses must have a grade of C or better to be applied towards major or minor requirements.
- You may receive credit by examination for the following courses: COSC 100, 101, 240, 350.

## Program Requirements

	MAJOR	MINOR
Hours Required in Computer Science:	47	13
Hours Required in Other Departments:	27-28	6
Total Hours Required:	74-75	19

## Requirements for Major in Computer Information Systems

### 1. Core Courses: (26 hours)

COSC 101	The Discipline of Computer Science ( <i>Tech. Fluency</i> )
COSC 102	Foundations of Computer Science
COSC 240	Computer Science I
COSC 241	Computer Science II
COSC 325	Software Engineering
COSC 365	Digital Logic
COSC 460	Operating Systems Concepts
COSC 489	Computer Science Capstone

### 2. Required Advanced Courses: (15 hours)

COSC 300	Structured Systems Analysis and Design
COSC 331	Fundamentals of Computer Networks
COSC 380	Computer-Based Information Systems
COSC 440	Database Management Systems
COSC 480	Knowledge-Based Systems

### 3. Other Required Courses:

#### Mathematics (6-7 hours)

MATH 220	Calculus for Applications <i>or</i> MATH 236 Calculus I ( <i>Core Skill 3</i> )
MATH 109/110	Elements of Applied Probability and Statistics ( <i>Core Skill 3</i> ) <i>or</i> MATH 380 Introduction to Probability and Statistics

#### Other: (12 hours)

ACCT 211	Financial Accounting
CMST 102	Introduction to Human Communication
ENGL 338	Technical Writing ( <i>Core Skill 2</i> )
MGMT 251	Management of Organizations

### 4. Electives: (6 hours)

*At least two courses selected from:*

COSC 305	Computer Ethics
COSC 320	Business Programming
COSC 335	Advanced Topics in Computer Networks
COSC 345	The Internet and Multimedia Communications
COSC 350	Low-Level Programming Concepts
COSC 390	Topics in Modern Programming Languages
COSC 431	Secure Computing
COSC 491	Seminar in Computer Science
COSC 494	Field Exp. in Computer/Information Science
COSC 499	Individual Problems in Computer Science
ITEC 442	Electronic Commerce

### 5. Electives in Business: (9 hours)

*Any three of the following courses*

BLAW 291	Legal Environment of Business
MGMT 355	Operations Management
MGMT 356	Leadership and Human Behavior
MGMT 357	Human Resource Management
MKTG 361	Principles of Marketing

## Requirements for Minor in Computer Information Systems

### 1. Core Courses (10 hours)

COSC 101	The Discipline of Computer Science ( <i>Tech. Fluency</i> )
COSC 240	Computer Science I
ACCT 211	Financial Accounting

### 2. Advanced Courses: (6 hours)

*Two of the following*

COSC 300	Structured System Analysis and Design
COSC 305	Computer Ethics
COSC 380	Computer-Based Information Systems

**3. Elective in Business: (3 hours)**

One of the following

- BLAW 291 Legal Environment of Business
- MGMT 355 Operations Management
- MGMT 356 Leadership and Human Behavior
- MGMT 357 Human Resource Management
- MKTG 361 Principles of Marketing

# Computer Print Graphics

## EMPHASIS

**Professors:** Brown, Davis, Dieruf

**Associate Professors:** English (Chair), Hein, Herzfeld, Hodges, Odone

- The emphasis in Computer Print Graphics is offered by the Department of Visual Arts. The department also offers a B.F.A. in Art and Design and minors in art history, fine arts and graphic design.
- You should consider this emphasis if you are a degree-seeking student in another major who would like to acquire additional skills to enhance your professional marketability or a community member seeking professional education in the technology sector.
- Classes are scheduled so you can complete the emphasis in four semesters.

## Program Requirements

	EMPHASIS
Hours Required in Art:	24
Hours Required in Other Departments:	0
Total Hours Required:	24

The emphasis in Computer Print Graphics is designed to assist you to:

- Understand the role a computer plays in a graphic designer’s career
- Learn the basic functions of the Macintosh computer
- Gain fundamental knowledge of graphic applications like QuarkXpress, Adobe Illustrator and Adobe Photoshop
- Learn reproduction and manipulation of scanned images
- Create comprehensive layouts
- Develop a personal design style and vocabulary based on knowledge of past and contemporary design trends, materials and commercial printing techniques

## Requirements for Emphasis in Computer Print Graphics

Students may transfer a maximum of 12 credits into the program selected from ART 104, ART 207, ART 212 and ART 336.

**Required Courses: (24 hours)**

- ART 104 Two-Dimensional Design
- ART 207 Graphic Design
- ART 212 Drawing
- ART 307 Computer Graphics
- ART 336 Digital Imaging for the Fine Arts
- ART 407 Advanced Graphic Design: Print (Level 1)
- ART 407 Advanced Graphic Design: Print (Level II)
- ART 414 Advanced Graphic Design: Interactive Multimedia Design

College-level proficiency in English is required, as evidenced by a passing score on the English placement exam, completion of ENGL 101 or completion of its equivalent at another institution.

# Computer Science

**MAJOR**

**MINOR**

**CONCENTRATION IN NETWORKS**

**SEE RELATED PROGRAMS:**

- COMPUTER INFORMATION SYSTEMS
- INFORMATION TECHNOLOGY
- SECURE COMPUTING & INFORMATION ASSURANCE

**Professors:** Chitsaz, Rinard (Chair)

**Associate Professors:** M. Flinn, Zheng

**Assistant Professors:** Pan, Xiao, Xu

**Lecturers:** Gbenro, S. Kennedy

- Computer science courses must have a grade of C or better to be applied towards major or minor requirements.
- You will be de-registered from any computer science course for which you have not earned a C or better in the prerequisite computer science course(s).
- You may receive credit by examination for the following courses: COSC 100, 101, 240, 350.
- The Department of Computer Science & Information Technologies also offers four certificates to students in other majors and community members. (See separate section).

## Mission Statement

The Computer Science & Information Technologies Department's mission is to present our students with up-to-date curricula and pedagogy in the computer science and information systems disciplines, ensure that they have a solid foundation in the core concepts, equip them with problem solving and decision-making skills, and prepare them for lifelong learning in the discipline. The department provides for and encourages collegial, intellectual, and academic growth of its faculty. The department supports and encourages local and regional technology initiatives contributing to educational and economic advances.

## Program Educational Objectives

The Frostburg Computer Science program will graduate computer science professionals who have:

- A solid foundation in core computer science concepts reinforced with mathematics and natural science
- An ability to apply modern computer science concepts and theories to contemporary, real world problems
- An understanding of professional responsibility to evaluate their ethical obligations to society, employers, employees and their peers
- An understanding of the commitment needed to pursue life long goals through educational and professional endeavors

## Program Outcomes

The Frostburg Computer Science program will provide students with:

- An ability to apply knowledge of computing and mathematics appropriate to the discipline;
- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
- An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
- An ability to function effectively on teams to accomplish a common goal;
- An understanding of professional, ethical, legal, security, and social issues and responsibilities;
- An ability to communicate effectively with a range of audiences;
- An ability to analyze the local and global impact of computing on individuals, organizations and society;
- A recognition of the need for, and an ability to engage in, continuing professional development;
- An ability to use current techniques, skills, and tools necessary for computing practices;
- An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;

- An ability to apply design and development principles in the construction of software systems of varying complexity.

## Program Requirements

	MAJOR	NETWORKS CONC.	MINOR
Hours Required in Computer Science:	50	50	20
Hours Required in Other Departments:	32	32	0
Total Hours Required:	82	82	20

## Requirements for Major in Computer Science

### 1. Core Courses: (26 hours)

COSC 101	The Discipline of Computer Science ( <i>Tech. Fluency</i> )
COSC 102	Foundations of Computer Science
COSC 240	Computer Science I
COSC 241	Computer Science II
COSC 325	Software Engineering
COSC 365	Digital Logic
COSC 460	Operating Systems Concepts
COSC 489	Computer Science Capstone

### 2. Required Advanced Courses: (18 hours)

COSC 310	Data Structures & Algorithm Analysis
COSC 331	Fundamentals of Computer Networks
COSC 350	Low-Level Programming Concepts
COSC 444	Introduction to Parallel Computing
COSC 450	Programming Language Principles & Paradigms
COSC 485	Introduction to the Theory of Computation

### 3. Other Required Courses:

#### Mathematics (14 hours)

MATH 236	Calculus I ( <i>Core Skill 3</i> )
MATH 237	Calculus II
MATH 350	Linear Algebra I
	or MATH 432 Differential Equations
	or MATH 435 Numerical Analysis
	or MATH 437 Combinatorics and Graph Theory
	or MATH 470 Mathematical Models and Applications
MATH 380	Introduction to Probability & Statistics

#### Science (12 hours):

Select two courses from the following:

BIOL 149	General Biology I
CHEM 201	General Chemistry I
GEOG 103	Physical Geography
PHYS 261	Principles of Physics I: Mechanics

AND select one course from the following:

BIOL 160	General Zoology
BIOL 161	General Botany
CHEM 202	General Chemistry II
PHYS 262	Principles of Physics II: Electricity and Magnetism

**Other (6 hours)**

- CMST 102 Introduction to Human Communication
- ENGL 338 Technical Writing (*Core Skill 2*)

**4. Electives: (6 hours)**

*A minimum of 6 hours in at least two courses*

- COSC 305 Computer Ethics
- COSC 335 Advanced Topics in Computer Networks
- COSC 345 The Internet and Multimedia Communications
- COSC 390 Topics in Modern Programming Languages
- COSC 415 Computer Interfacing
- COSC 420 Robotics and Industrial Computer Applications
- COSC 431 Secure Computing
- COSC 435 Network Implementation and Testing
- COSC 440 Database Management Systems
- COSC 445 Network Programming
- COSC 455 Artificial Intelligence
- COSC 465 Computer Systems Architecture
- COSC 470 Compiler Design and Implementation
- COSC 475 Interactive Computer Graphics
- COSC 491 Seminar in Computer Science
- COSC 494 Field Exp. in Computer/Information Science
- COSC 499 Individual Problems in Computer Science
- ITEC 442 Electronic Commerce

**Requirements for Major Concentrating in Networks**

**1. Core Courses: (26 hours)**

- COSC 101 The Discipline of Computer Science (*Tech. Fluency*)
- COSC 102 Foundations of Computer Science
- COSC 240 Computer Science I
- COSC 241 Computer Science II
- COSC 325 Software Engineering
- COSC 365 Digital Logic
- COSC 460 Operating Systems Concepts
- COSC 489 Computer Science Capstone

**2. Required Advanced Courses: (15 hours)**

- COSC 331 Fundamentals of Computer Networks
- COSC 335 Advanced Topics in Computer Networks
- COSC 345 The Internet and Multimedia Communications
- COSC 431 Secure Computing
- COSC 435 Network Implementation and Testing

**3. Other Required Courses:**

**Mathematics: (14 hours)**

- MATH 236 Calculus I (*Core Skill 3*)
- MATH 237 Calculus II
- MATH 350 Linear Algebra I
  - or MATH 432 Differential Equations
  - or MATH 435 Numerical Analysis
  - or MATH 437 Combinatorics and Graph Theory
  - or MATH 470 Mathematical Models and Applications
- MATH 380 Introduction to Probability and Statistics
  - or MATH 109/110 Elements of Applied Probability & Statistics (*Core Skill 3*)

**Science: (12 hours):**

*Select two courses from the following:*

- BIOL 149 General Biology I
  - CHEM 201 General Chemistry I
  - GEOG 103 Physical Geography
  - PHYS 261 Principles of Physics I: Mechanics
- And select one course from the following:*
- BIOL 160 General Zoology
  - BIOL 161 General Botany
  - CHEM 202 General Chemistry II
  - PHYS 262 Principles of Physics II: Electricity and Magnetism

**Other: (6 hours)**

- CMST 102 Introduction to Human Communication
- ENGL 338 Technical Writing (*Core Skill 2*)

**4. Electives: (9 hours)**

*A minimum of 9 hours in at least three courses:*

- COSC 305 Computer Ethics
- COSC 310 Data Structures and Algorithm Analysis
- COSC 350 Low-Level Programming Concepts
- COSC 390 Topics in Modern Programming Languages
- COSC 444 Introduction to Parallel Computing
- COSC 445 Network Programming
- COSC 450 Programming Language Principles & Paradigms
- COSC 455 Artificial Intelligence
- COSC 465 Computer Systems Architecture
- COSC 475 Interactive Computer Graphics
- COSC 485 Introduction to the Theory of Computation
- COSC 491 Seminar in Computer Science
- COSC 494 Field Exp. in Computer/Information Science
- COSC 499 Individual Problems in Computer Science
- ITEC 442 Electronic Commerce

**Requirements for Minor in Computer Science**

**1. Core Courses: (11 hours)**

- COSC 101 The Discipline of Computer Science (*Tech. Fluency*)
- COSC 240 Computer Science I
- COSC 241 Computer Science II

**2. Electives: (9 hours)**

*Three additional computer science courses. Two must be at the 300-level or above.*

**Cultural Anthropology**

**MINOR**

**Coordinator:** Kara Rogers-Thomas, Associate Professor, Depart. of Sociology

- You cannot major in Cultural Anthropology.

**Program Requirements**

	MINOR
Hours Required in Sociology:	9-12
Hours Required in Other Departments:	6-9
Total Hours Required:	18

## Requirements for Minor in Cultural Anthropology

### 1. Basic Courses: (9 hours)

SOCI 100/111 Intro to Sociology (GEP Group D)  
 SOCI 224 Cultural Anthropology (GEP Group F)  
 SOCI 362 Sociology of Religion

### 2. Distribution of Electives: (9 hours)

At least 6 of which must be in two different disciplines other than Sociology.

AAST 300/HIST 301 Traditional Africa  
 AAST 400 Africans of the Diaspora  
 ART 302 Artistic Traditions: Africa and the Americas  
 BIOL 128 Introduction to Ethnobotany  
 BIOL 484 Field Experiences in Ethnobotany and Ecology  
 ENGL 280 Mythology and Literature  
 GEOG 104/114 Human Geography (GEP Group D or F)  
   GEOG 110 World Regional Geography (GEP Group D or F)  
 GEOG 320 Geography of Latin America  
   or GEOG 403 The Geography of Sub-Sahara Africa  
 GEOG 452 Rural Geography  
 HIST 418 Native Peoples of the Americas (GEP Group F)  
 INST 150 Introduction to World Religions (GEP Group F)  
 INST 200 Intro. to International Studies (GEP Group F)  
 MUSC 117 Music of Africa, Asia, & the Americas (GEP Group F)  
 SOCI 350 Folklore in Appalachia  
 SOCI 334 Gender and Social Life  
 SOCI 306 The Sociology of African American

## Dance

### MINOR

**Contact:** Nicole Mattis (Chair), Department of Theatre and Dance

- You cannot major in Dance.

### Program Requirements

	MINOR
Hours Required in Dance:	21
Hours Required in Other Disciplines:	2-3
Total Hours Required:	23-24

### Requirements for Minor in Dance

#### 1. Courses in Dance Technique: (12 hours)

DANC 131 Ballet I  
 DANC 154 Jazz I  
 DANC 165 Tap I

Select a minimum of 6 credits from among:

DANC 231 Ballet II  
 DANC 254 Jazz II  
 DANC 265 Tap II  
 DANC 342 Contemporary Modern  
 DANC 361 Dance for Musical Theatre

#### 2. Courses in Dance Composition and Theory: (9 hours)

DANC 110 Dance Appreciation (GEP Group A)

Select a minimum of 6 hours from among:

DANC 255 Dance Company I (3 or 6 hours)  
 DANC 305 Improvisation  
 DANC 309 Composition and Theory  
 DANC 355 Dance Company II (3 hours)  
 DANC 429 Special Topics in Dance (3 or 6 hours)

#### 3. Required Courses in Other Disciplines:

Select a minimum of 2-3 hours from among:

HEED 200 Nutrition  
 MUSC 100 Introduction to Music Theory  
 THEA 110 Introduction to Acting  
 THEA 210 Voice and Movement  
 THEA 306 Stage Lighting

## Earth Science

### MAJOR

### CONCENTRATION IN ENVIRONMENTAL SCIENCE

**Contact:** Richard Russo (Chair), Department of Geography

**Participating Faculty:**

**Professor:** Precht (Geography)

**Associate Professors:** Allen (Geography), Bogart (Geography), Crawford (Chemistry), Moore (Physics), Norris (Chemistry), Pegg (Biology), Ramspott (Geography)

**Assistant Professors:** Flood (Geography), Wetherholt (Geography)

**Lecturers:** T. Edwards (Geography), A. Lewis (Geography)

- This is a multidisciplinary program administered by the Department of Geography.
- An optional internship is available in Earth Science.
- There is no minor in Earth Science.

### Program Requirements

	MAJOR	ENV. SCIENCE CONC.
Hours Required in Geography:	37	35-40
Hours Required in Other Fields:	14-16	28-33
Total Hours Required:	51-53	66-70



## Requirements for Major in Earth Science

### 1. Required Core Courses: (21 hours)

GEOG 103/113	Physical Geography (GEP Group C)
GEOG 207	Physical Geology and Geomorphology
GEOG 208	Earth Systems History
GEOG 275	Fund. of Geographic Data Handling (Tech. Fluency)
MATH 109	Elements of Applied Probability and Statistics (Core Skill 3)
GEOG 380	Research Methods in Geography

### 2. Required Supporting Science Sequence (8 hours)

Complete one of the following science sequences:

CHEM 201/202	General Chemistry I & II (GEP Group C)
PHY 215/216	General Physics I & II (GEP Group C)
PHY 261/262	Principles of Physics I & II (GEP Group C)
ENES 102	Statics/220 Mechanics of Materials

### 3. Advanced Electives (9-10 hours)

Complete three of the following courses:\*

GEOG 340	Soils: Genesis, Nature and Characteristics
GEOG 405	Physical Climatology
GEOG 406	Management and Conservation of Natural Resources
GEOG 430	Surface Water Hydrology
	or GEOG 335 Oceanography
GEOG 431	Quaternary Environments
	or GEOG 441 Soil Analysis
GEOG 445	Biogeography
GEOG 460	Natural Hazards in the Physical Environment
GEOG 476	Fluvial/Coastal Geomorphology
	or GEOG 475 Glacial/Periglacial Geomorphology
CHEM 420	Environmental Chemical Analysis
	or CHEM 320 Quantitative Analytical Chemistry
	or CHEM 460 Environmental Chemistry

### 4. Technique Courses (3 hours)

Complete one of the following courses:

GEOG 310	Fundamentals of Cartography
GEOG 317	Principles of Geographic Information Science
GEOG 413	Remote Sensing – Image Interpretation
GEOG 433	Surveying and Field Techniques

### 5. Additional Mathematics Course (3-4 hours)

Complete one of the following courses:

MATH 119	College Algebra (Core Skill 3)
MATH 220	Calculus for Applications I
MATH 236	Calculus I (Core Skill 3)
MATH 237	Calculus II

### 6. Senior Requirement (6 hours)

Complete one of the following options:

#### A. Research Option

GEOG 482	Senior Project (I)
GEOG 483	Senior Project (II)

#### B. Technical Option

Take *one* additional course from Advanced Electives and *one* from Technique Courses.

### 7. Capstone Experience (1 hour)

GEOG 486 Earth Science Capstone

## If you are interested in teaching earth science ...

Students wishing to teach earth science at the secondary school level (middle and high school) can obtain both a Bachelor of Science in Earth Science and a Master of Arts in Teaching – Secondary (MATS) in five years through the following pathway offered by the MATS program. This pathway allows students to take up to nine credits of required graduate courses while completing their undergraduate program in geography. These nine graduate credits will be used as electives toward their undergraduate degree as well as the requirements of the MATS.

Students interested in this pathway should:

1. Discuss the MATS pathway option with their first-year advisor.
2. Meet with the MATS Coordinator as a first-year or sophomore.
3. Apply to the MATS program in the Spring of their sophomore year (February 1 application deadline).
4. Once conditionally admitted (a requirement for the following graduate courses to count as electives in the undergraduate program as well as in the MATS program) take:
  - a. REED 517 Reading in the Content Area (Fall or Spring of Junior or Senior year).
  - b. SPED 551 Adapting Instruction in Diverse Classrooms (Fall Senior year).
  - c. SCED 510 Secondary Methods in Curriculum (Spring Senior year).

Please note that students who are considering this pathway should work with their advisor to create a plan of study that allows these nine credits of graduate courses to be taken in the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester.

## Environmental Science Concentration in Earth Science

- The Environmental Science concentration is dedicated to the study of the relationships between humans and their environments.
- You will become sensitive, articulate, and knowledgeable about increasingly complex environmental issues facing contemporary society.
- Course work in this concentration will provide the theoretical and practical background as well as the skills necessary to study environmental science from a wide range of perspectives.
- You must meet certain criteria and deadlines prior to enrollment in either GEOG 488 or GEOG 492.
- You must select 2 other members for your advisory committee in addition to your advisor from the faculty in participating departments. At least 1 member of the committee must be from Geography.

## Summary of Requirements for Environmental Science Concentration in Earth Science

### 1. Introductory Level Courses: (13 hours)

GEOG 103/113	Physical Geography (GEP Group C)
GEOG 104/114	Human Geography (GEP Group D or F)
	or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)
GEOG 275	Fundamentals of Geographic Data Handling (Tech. Fluency)
MATH 119	College Algebra (Core Skill 3) –or any other MATH 220 or above

**2. Required Advanced Courses: (13 hours)**

GEOG 380	Research Methods in Geography
GEOG 406	Management and Conservation of Natural Resources
GEOG 445	Biogeography
GEOG 472	Environmental Planning or GEOG 473 Environmental Law
GEOG 486	Earth Science Capstone

**3. Required Supporting Science Sequence: (16 hours)**

BIOL 149	General Biology I (GEP Group C)
BIOL 160	General Zoology
	or BIOL 161 General Botany
CHEM 201	General Chemistry I (GEP Group C)
CHEM 202	General Chemistry II

**4. Electives: (24-25 hours)**

Select two courses in each group:\*\*

**GROUP I Advanced Biology**

BIOL 340	General Ecology
BIOL 406	Ornithology
BIOL 409	Plant Taxonomy or BIOL 405 Dendrology
BIOL 421	Sample Design and Analysis of Plant Communities
BIOL 422	Herpetology
BIOL 423	Mammalogy
BIOL 430	Introductory Limnology

**GROUP II Advanced Techniques**

GEOG 310	Fundamentals of Cartography
GEOG 317	Principles of Geographic Information Science
GEOG 413	Remote Sensing - Image Interpretation
GEOG 420	Topics in the Mapping and Geospatial Sciences
GEOG 433	Surveying and Field Techniques

**GROUP III Advanced Physical Geography**

GEOG 335	Oceanography
GEOG 340	Soil: Genesis, Nature and Characterization
GEOG 405	Physical Climatology
GEOG 430	Surface Water Hydrology
GEOG 431	Quaternary Environments
GEOG 432	Groundwater Hydrology
GEOG 460	Natural Hazards in the Physical Environment
GEOG 469	Principles of Atmospheric Science

**GROUP IV Advanced Human Systems**

Take two of the following from two different disciplines:

CMST 365	Environmental Communication
ECON 410	Resource and Environmental Economics
ENGL 440	Literature of the Environment
GEOG 300	Economic Geography
GEOG 330	Global Climate Change
GEOG 360	Food Systems
GEOG 410	Locational Analysis
GEOG 425	Geography of Transportation
GEOG 452	Rural Geography
HIST 409	World Environmental History
HIST 418	Native Peoples of the Americas
HIST 420	Green: Environment and Economy in US History
PHIL 315	Philosophy and the Environment
POSC 450	Environmental Public Policy
PSYC 488	Environmental Psychology
RECR 394	Environmental Interpretation
RECR 443	Issues & Risk Management in Recreation & Parks
RECR 448	Principles of Ecotourism

SOCI 345	Sociology of the Environment
SUST 455	Seminar in Sustainability Studies

\*\*some of these courses may require additional prerequisite course work.

# Engineering

**MAJOR**

**Professors:** Deng-Luzader, G. Latta, Plitnik, O. Soysal, Wang

**Associate Professors:** Abdo, Eltayeb, E. Moore (Chair)

**Assistant Professors:** Liu, Speights, Wondmagegn

**Mission Statement**

The mission of the FSU Engineering Program is to provide excellent undergraduate education in engineering; to establish close partnership with and provide technical knowledge to industry, government and local business; to contribute to economic development within the state of Maryland, specifically in the Western Maryland region; and to provide related services to the campus community and community at large.

**Program Educational Objectives**

Within the first few years following graduation, alumni of the Engineering BS program will demonstrate:

- Meet expectations in engineering careers or graduate education.
- Demonstrate appropriate utilization of professional skills of teamwork, problem solving, design, research and communication with all participants.
- Engage in the community through the application of knowledge of ethical obligations to society, employers, employees and peers.
- Engage in life-long learning to update their technical knowledge and understanding of societal and contemporary issues.

**Program Outcomes**

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- a. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## B.S. in Engineering at AACC and Cecil College

The B.S. in Engineering is also offered at the Anne Arundel Community College Regional Higher Education Center at Arundel Mills in collaboration with AACC (electrical engineering) and at Cecil College (materials engineering). Students with an associate degree in engineering may complete the bachelor's degree through onsite, interactive video, and online courses offered at these sites. See following pages.

### Program Requirements

	ELEC. CONC.	MATERIALS CONC.
Hours Required in Engineering:	56-58	57
Hours Required in Other Disciplines:	31	31
Total Hours Required:	87-89	88

### Requirements for Major in Engineering

#### 1. Core Courses (42 hours)

CHEM 201	General Chemistry I (GEP Group C)
ENES 100	Introduction to Engineering Design
ENES 401	Fundamentals of Energy Engineering
ENME 271	Numerical Methods in Mechanical Engineering
ENME 272	Introduction to Computer-Aided Design
MATH 236	Calculus I (Core Skill 3)*
MATH 237	Calculus II*
MATH 238	Calculus III*
MATH 432	Differential Equations*
PHYS 261	Principles of Physics I – Mechanics, Waves and Oscillations (GEP Group C)*
PHYS 262	Principles of Physics II – Thermodynamics, Electricity and Magnetism*
PHYS 263	Principles of Physics III – Light and Modern Physics*

\*All majors must earn a C or better in MATH 236, MATH 237, MATH 238, MATH 432, PHYS 261, PHYS 262, and PHYS 263.

#### 2. Area of Concentration (45-47 hours)

Majors must choose to concentrate in one of the following areas:

##### Electrical Engineering (45-47 hours)

ENEE 204	Basic Circuit Theory
ENEE 206	Fund. Digital and Electric Circuits Lab
ENEE 244	Digital Logic Design
ENEE 303	Analog and Digital Electronics
ENEE 307	Electronic Circuits Lab
ENEE 322	Signal and System Theory
ENEE 350	Computer Organization
ENEE 380	Electromagnetic Theory

ENEE 445	Introduction to Communication Systems
ENEE 408	Capstone Design Project for Electrical Engineers
ENEE 439	Topics in Signal Processing
ENEE 475	Power Electronics
ENEE 481	Project Development in Electrical Engineering
ENES 310	Mechatronic and Robotic Design

Two electives from any 300- or 400-level ENEE, ENES or ENME course or CHEM 304

##### Materials Engineering (46 hours)

ENES 102	Statics
ENES 220	Mechanics of Materials
ENES 221	Dynamics
ENME 232	Thermodynamics
ENME 331	Fluid Mechanics
ENME 332	Transfer Processes
ENME 350	Electronics and Instrumentation I
ENME 351	Electronics and Instrumentation II
ENME 382	Engineering Materials and Manufacturing
ENME 405	Fundamentals of Materials Engineering
ENME 410	Capstone Design Project for Materials Engineering
ENME 425	Microfabrication
ENME 481	Project Development in Materials Engineering

Two electives from any 300- or 400-level ENEE, ENES, or ENME course or CHEM 304

## Engineering at AACC

### BS PROGRAM

LOCATED AT AACC AT ARUNDEL MILLS, A REGIONAL HIGHER EDUCATION CENTER

**Coordinator:** Wudyalew Wondmagegn, Assistant Professor

#### About the Program

- Accessible
- Earn your B.S. degree close to home
- Affordable
- FSU has one of the lowest tuition rates in the state of Maryland
- Transfer-friendly
- Credits taken at community college applied toward the B.S. degree
- FSU offers a Bachelor of Science in Engineering degree with an electrical engineering concentration at Anne Arundel Community College at Arundel Mills Regional Higher Education Center.
- This program is designed to meet the needs of modern industry and is open to community college graduates who have completed an A.S. or A.S.E. degree in Engineering.
- FSU offers courses on site and via distance learning for students at the Arundel Mills Center to complete the Bachelor of Science requirements.

## Program Educational Objectives

A few years from graduation, alumni of the B.S. in Engineering program at AACC will:

- Meet expectations in electrical engineering careers or graduate education
- Demonstrate appropriate utilization of professional skills of teamwork, problem solving, design, research and communication with all participants
- Engage in the community through the application of knowledge of ethical obligations to society, employers, employees and peers
- Engage in lifelong learning to update their technical knowledge and understanding of societal and contemporary issues

## Program Outcomes

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Program Requirements

To earn the Bachelor of Science in Engineering from FSU, students must complete a total of 120 credit hours of coursework.

Students entering this program must have an associate's degree in engineering from a community college and are expected to have completed:

1. 32-33 credits of general education, to include Freshman Composition, 3 credits in the arts, 6 credits in the humanities and 6 credits in social sciences
2. 3 additional credits (any category)
3. Calculus 1, 2 and 3 and Differential Equations
4. Calculus-based physics sequence
5. General Chemistry
6. Engineering coursework, to include Introduction to Engineering Design, Circuit Theory, Programming in C and Digital Logic Design

Once admitted into the program at AACC at Arundel Mills, students will complete a minimum of 50 additional credits of engineering and upper-

division general education coursework. The majority of the upper-division courses will be taught on site at AACC at Arundel Mills Regional Higher Education Center. Several will be delivered via interactive video or through online learning.

Total Hours Required at FSU:	50
------------------------------	----

### \*Courses at FSU (50 hours)

ENEE 303	Analog and Digital Electronics
ENEE 307	Electronic Circuits Lab
ENEE 322	Signal and System Theory
ENEE 350	Computer Organization
ENEE 380	Electromagnetic Theory
ENEE 408	Capstone Design Project for Electrical Engineers
ENEE 439	Topics in Signal Processing
ENEE 445	Introduction to Communication Systems
ENEE 475	Power Electronics
ENEE 481	Project Development in Electrical Engineering
ENES 310	Mechatronic and Robotic Design
ENES 401	Fundamentals of Energy Engineering
ENME 373	Advanced Computer-Aided Design

*Advanced Writing General Education Course from Approved List*

*Two electives from any 300- or 400-level ENEE, ENES or ENME course. Any courses offered at FSU to meet credit requirements.*

*All majors must earn a C or better in the following prerequisite courses for the major requirements at FSU: ENEE 204, ENEE 206, ENEE 244, MATH 236, MATH 237, MATH 238, MATH 432, PHYS 261, PHYS 262, and PHYS 263.*

*\*Other courses as needed to meet FSU graduation requirements.*

# Engineering at Cecil College

## BS PROGRAM

**Coordinator:** Wudyalew Wondmagegn, Assistant Professor

**Onsite Coordinator:** Scott Hemphill, Assistant Professor

## About the Program

- Accessible
- Earn your B.S. degree close to home
- Affordable
- FSU has one of the lowest tuition rates in the state of Maryland
- Transfer-friendly
- Credits taken at community college applied toward the B.S. degree
- FSU offers a Bachelor of Science in Engineering degree with a materials engineering concentration at Cecil College's Northeast campus.

- This program is designed to meet the needs of modern industry and is open to community college graduates who have completed an A.S. or A.S.E. degree in Engineering.
- FSU offers courses on site and via distance learning for students at Cecil College to complete the Bachelor of Science requirements.

### Program Educational Objectives

A few years from graduation, alumni of the B.S. in Engineering program at AACC will:

- Meet expectations in materials engineering careers or graduate education
- Demonstrate appropriate utilization of professional skills of teamwork, problem solving, design, research and communication with all participants
- Engage in the community through the application of knowledge of ethical obligations to society, employers, employees and peers
- Engage in lifelong learning to update their technical knowledge and understanding of societal and contemporary issues

### Program Outcomes

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Program Requirements

To earn the Bachelor of Science in Engineering from FSU, students must complete a total of 120 credit hours of coursework.

Students entering this program must have an associate degree in engineering from a community college and are expected to have completed:

1. 30 credits of general education, to include Freshman Composition, 6 credits in arts and humanities and 6 credits in social sciences
2. Calculus 1, 2 and 3 and Differential Equations
3. Calculus-based physics sequence
4. General Chemistry

5. Engineering coursework, to include Introduction to Engineering Design, Statics, Mechanics of Materials, Dynamics and Thermodynamics

All majors must earn a C or better in the following prerequisite courses for the major requirements at FSU: MATH 236, MATH 237, MATH 238, MATH 432, PHYS 261, PHYS 262 and PHYS 263.

Once admitted into the program at Cecil College, students will complete at least an additional 50 credits of engineering and upper-division general education coursework. The majority of the upper-division courses will be taught on site at Cecil College. Several will be delivered via interactive video or through online learning.

Total Hours Required at FSU:	55
------------------------------	----

### \*FSU Courses (55 hours)

Advanced Writing General Education course from approved list

- ENME 331 Fluid Mechanics
- ENME 332 Transfer Processes
- ENME 350 Electronics and Instrumentation I
- ENME 351 Electronics and Instrumentation II
- ENME 373 Advanced Computer-Aided Design
- ENME 382 Engineering Materials and Manufacturing
- ENES 401 Fundamentals of Energy Engineering
- ENME 405 Fundamentals of Materials Engineering
- ENEE 408 Capstone Design Projects of Electrical Engineers
- ENME 410 Capstone Design Project for Mechanical Engineers
- ENME 425 Microfabrication
- ENME 481 Project Development in Materials Engineering

Advanced Writing General Education Course from Approved List

Three electives from any 300-400 level ENES, ENEE, or ENME course and one additional elective (any)

**For students transferring from Cecil College:** Students at FSU are required to have 3 credits in arts and 6 credits in humanities. Since Cecil College requires only 3 credits in arts and humanities (plus EGL 102, which counts as 6 credits of humanities), students will need to complete an additional course in the category in which they are deficient once admitted to FSU.

\*Other courses as needed to meet FSU graduation requirements.

## Mechanical Engineering

### COLLABORATIVE PROGRAM

### MAJOR

**Coordinator:** Julie Wang, Department of Physics and Engineering

- A collaborative program between Frostburg State University and the University of Maryland, College Park, which allows students to remain on the Frostburg campus for four years while receiving a B.S. degree in mechanical engineering from UMCP.
- This program is accredited by ABET.

- The degree awarded to students completing the program is a B.S. from UMCP.
- During the first-year and sophomore years, you will be enrolled as a pre-engineering major. You will complete general education and engineering science courses taught by faculty on-site at FSU. FSU tuition rates will apply.
- After completing 45 credits of designated course work, you must apply for admission to College Park's Clark School of Engineering. After meeting UMCP's admissions standards, you will be accepted into the second half of the program as an engineering major. UMCP's tuition rates will apply for this part of the program. You must reapply for financial aid and scholarships through UMCP.
- Upper-level engineering courses will be delivered over interactive video from College Park to FSU. All laboratory and design courses will be taught by FSU faculty.
- To be granted advanced placement credit for a course, you must meet UMCP's minimum requirements. These differ from FSU's standards, with a higher score required by UMCP in a number of areas. Please consult the Engineering Coordinator to verify AP scores required to receive credit.

## Mission Statement

The mission of the FSU Collaborative Mechanical Engineering Program is to provide excellent undergraduate education in mechanical engineering; to establish close partnership with and provide technical knowledge to industry, government and local business; to contribute to economic development within the state of Maryland, specifically in the Western Maryland region; and to provide related services to the campus community and community at large.

## Program Educational Objectives

A few years from graduation, the graduates of the Collaborative Mechanical Engineering Program will:

1. Act as valuable employees or professionals in a broad range of career paths centered on Mechanical Engineering skills.
2. Apply their broader analytical skill set through finding innovative solutions to real-world problems and creating new knowledge, ideas, and products.
3. Show professionalism and an ability to think globally through constructive teamwork, group problem solving, and effective communication with others not of an engineering background.
4. Demonstrate ethical decision-making, which will lead to increased levels of responsibility and leadership positions.
5. Engage in life-long learning by keeping their technical knowledge and understanding of contemporary issues up-to-date and taking advantage of professional development opportunities.

## Program Outcomes

The students of the Mechanical Engineering Collaborative Program will demonstrate throughout the curriculum:

1. An ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics

2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Program Requirements

	MAJOR
Hours Required in Engineering:	68
Hours Required in Other Departments:	40
Total Hours Required:	108*

\*Note: A minimum of 120 credits and satisfactory completion of all department, college and university requirements must be satisfied to earn a degree from UMCP.

## Summary of UMCP's General Education Program Requirements

- The University of Maryland will accept completion of FSU's General Education Program.
- Minimum of 40 credit hours required

## Summary of Pre-Engineering Requirements

### 1. Engineering Science Courses (12 hours)

ENES 100	Introduction to Engineering Design
ENES 102	Statics
ENES 220	Mechanics of Materials
ENES 221	Dynamics

### 2. Required Courses in Other Departments

(40 hours)

CHEM 133	General Chemistry for Engineers ( <i>preferred</i> ) or CHEM 202 General Chemistry II
CHEM 201	General Chemistry I ( <i>Meets GEP requirement</i> )
ENGL 101	Freshman Composition ( <i>Meets GEP requirement</i> )
ENGL 339	Scientific Writing or ENGL 338 Technical Writing ( <i>Meets GEP requirement</i> )
MATH 236	Calculus I ( <i>Meets GEP requirement</i> )
MATH 237	Calculus II
MATH 238	Calculus III
MATH 432	Differential Equations
PHYS 261	Principles of Physics I: Mechanics, Waves and Oscillations ( <i>Meets GEP requirement</i> )
PHYS 262	Principles of Physics II: Thermodynamics, Electricity and Magnetism
PHYS 263	Principles of Physics III: Light and Modern Physics

After completing 45 credits of designated course work, you must apply for admission to College Park's Clark School of Engineering.

## ADMISSION CRITERIA

To be eligible for fall 2019 admission to the Collaborative Program at UMD, students must meet the following criteria by the end of the spring 2019 semester:

- A minimum cumulative GPA of 3.0 on all college level coursework
- Completion of MATH 237 (Calc II) with a minimum grade of B or better
- Completion of PHYS 261 (Physics I) with a minimum grade of B or better
- Completion of CHEM 202 or CHEM 133 (Chemistry for Engineers or Chemistry II) with a minimum grade of C or better

Admission notes:

- Only one of the above listed "gateway" courses may be repeated to earn the required grade, and that course may only be repeated once.
- Students with more than 60 credits may still apply. Regardless of your credit level at transfer, this program is designed to be completed in a minimum of three full-time fall/spring semesters.
- Students on F-1 or J-1 Visas are not eligible for this program.

## Summary of Engineering Requirements

### 1. Required Engineering Courses (41 hours)

ENME 232 Thermodynamics  
 ENME 271 Numerical Methods in Mechanical Engineering (*will satisfy MATH 206*)  
 ENME 272 Introduction to Computer-Aided Design  
 ENME 331 Fluid Mechanics  
 ENME 332 Transfer Processes  
 ENME 350 Electronics and Instrumentation I  
 ENME 351 Electronics and Instrumentation II  
 ENME 361 Vibration, Controls and Optimization I  
 ENME 371 Product Engineering and Manufacturing  
 ENME 382 Engineering Materials and Manufacturing Processes  
 ENME 392 Statistical Methods for Product and Process Development  
 ENME 400 Machine Design  
 ENME 462 Vibration, Controls and Optimization II  
 ENME 472 Integrated Product and Process Development (*Capstone*)

### 2. Elective Hours in Department (15 hours)

# English

## MAJOR

## MINOR

### CONCENTRATIONS IN:

- LITERATURE
- CREATIVE WRITING
- PROFESSIONAL WRITING

**Professors:** Armiento, Barkley, A. Duncan, S. Duncan (Chair), Idris, Kehrwald, LaFemina, R. Smith, Snelson

**Associate Professors:** R. Brewer, Knott, Morris, Raucci

**Assistant Professors:** Hartzog, Shimmin

**Lecturer:** Browne

- The department also coordinates minors in creative writing, film studies, journalism and public relations.
- Emphases in professional writing and in the teaching of writing are offered.
- ENGL 101, 111, 150, 215, 221, 250, 308, 309, 310, and 312 do not count toward major or minor.

## Program Requirements

	MAJOR	MINOR
Hours Required in English:	42	24
Hours Required in Other Departments:	0	0
Total Hours Required:	42	24

## Requirements for Major in English

### 1. Core Curriculum (15 hours)

ENGL 260 British Literature: Beowulf to Present\*  
 ENGL 261 American Literature: Colonial to Present\*  
 ENGL 270 European and Neo-European Literature\*  
 or ENGL 271 Asian and African Literature\*  
 ENGL 300 Critical Writing About Literature\* (*Core Skill 2*)  
 ENGL 306 English Language Structure and Development\*+

\* Must have a C or better to count toward major.

### 2. Concentrations (27 hours)

Majors must choose one of the following concentrations:

Literature  
 Creative Writing  
 Professional Writing

## Requirements for Literature Concentration

### 1. Major Core Curriculum: (15 hours – listed above)

### 2. Concentration Core Requirements: (9 hours)

ENGL 340 Shakespeare  
 ENGL 471 Seminar in Critical Theory  
 ENGL 489 English Capstone

### 3. Period Courses: (9 hours)

Take one of the following:

ENGL 371 Literature of the Middle Ages  
 ENGL 372 Early Modern Literature  
 ENGL 373 Literature of the Enlightenment

Take one of the following:

- ENGL 374 Literature of the Age of Revolution  
 ENGL 375 Romanticism  
 ENGL 376 Realism and Naturalism

Take one of the following:

- ENGL 377 Modernism  
 ENGL 378 Postmodernism  
 ENGL 379 Postcolonial Literature

#### 4. Specialization Course: (3 hours)

Take one of the following:

- ENGL 431 World Drama I  
 ENGL 432 World Drama II  
 ENGL 440 Literature of the Environment  
 ENGL 450 Women and Literature  
 ENGL 490 Selected Topics in English

#### 5. Electives: (6 hours)

Students may count a maximum of 3 hours of writing courses beyond ENGL 300 Critical Writing About Literature. Students may count one 200-level course

## Requirements for Creative Writing Concentration

### 1. Major Core Curriculum: (15 hours – listed above)

### 2. Concentration Requirements: (24 hours)

- ENGL 334 Creative Writing: Fiction  
 ENGL 335 Creative Writing: Poetry  
 ENGL 460 Form and Theory of Fiction and Poetry  
 ENGL 470 Senior Workshop  
 ENGL 489 English Capstone

Six hours from the following:

- ENGL 360 Creative Nonfiction  
 ENGL 434 Advanced Fiction Writing  
 ENGL 435 Advanced Poetry Writing

### 3. Elective: (3 hours)

English course (300/400 level)

## Requirements for Professional Writing Concentration

### 1. Major Core Curriculum (15 hours – listed above)

### 2. Concentration Requirements: (27 hours)

- ENGL 330 Business Writing  
 or ENGL 338 Technical Writing  
 ENGL 336 Journalistic Writing  
 ENG 355 Socially Networked Journalism  
 ENGL 360 Creative Nonfiction  
 ENGL 402 Editing and Production  
 ENGL 430 The Composing Processes  
 ENGL 436 Advanced News and Feature Writing  
 ENGL 438 Applied Digital Writing  
 ENGL 489 English Capstone

## Requirements for Minor in English

### 1. Core Curriculum

(15 hours—Same as major)

### 2. Minor Core Requirement (3 hours)

ENGL 340 Shakespeare

### 3. Electives (6 hours)

Criteria for electives: Students must take 6 hrs. of literature at the 300/400 level.

## Requirements for Creative Writing Minor

### 1. Core (12 hours)

- ENGL 334 Creative Writing: Fiction  
 ENGL 335 Creative Writing: Poetry  
 ENGL 460 Form and Theory of Fiction and Poetry  
 ENGL 434 Advanced Fiction Writing OR ENGL 435 Advanced Poetry Writing

### 2. Electives (9 hours)

Choose from the following

- ENGL 100 Publication Practicum (1 hour; repeatable to 4 credits)  
 ENGL 360 Creative Nonfiction  
 ENGL 377 Modernism OR ENGL 378 Postmodernism  
 ENGL 402 Editing and Production  
 ENGL 430 Composing Processes  
 ENGL 434 Advanced Fiction Writing (if not taken for core)  
 ENGL 435 Advanced Poetry Writing (if not taken for core)  
 THEA 350 Playwriting  
 Relevant special topics courses are also welcomed as electives as approved by the coordinator.

## Requirements for Certification in Teaching Secondary English

If you wish to complete a Maryland State-approved program in teaching English, you must complete the BA/BS in English: Literature Concentration:

### 1. Major Core Curriculum (15 hours – listed above)

### 2. Certification Requirements: (27 hours)

Complete the requirements for the Literature Concentration and take ENGL 276 Adolescent Literature and ENGL 430 The Composing Processes as your required electives. If these courses are not taken as the required electives in the Literature Concentration, you will need to take them as additional six credits.

- Select the Teacher Certification Option. See the Secondary Education Coordinator for details.
- Meet the phase admission requirements summarized in the Educational Professions section.
- Complete the professional education sequence described in Education: Secondary Programs.

### 3. Educational Professions Requirements: (37 hours)

Students must meet the phase admissions requirements summarized in the Educational Professions section.



**Summary of Requirements for the Secondary Teacher Certification Option:**

If you wish to complete a Maryland State-approved program in teaching English, you must:

Complete the BA/BS in English: Literature Concentration

- Take some additional coursework in English to qualify for Maryland State certification and to meet NCATE accreditation standards: ENGL 276, ENGL 416 and ENGL 430.
- Meet the phase admission requirements summarized in the Educational Professions section.
- Declare a second major in Secondary Teacher Education. See the Secondary Teacher Education Program Coordinator for details.
- Complete the professional education sequence described in Education: Secondary Programs

If you wish to pursue certification for teaching at the secondary level, through a Master of Arts in Teaching degree, you should complete the undergraduate English major and then the Master of Arts in Teaching program. In the English major, you should choose the Literature Concentration. In addition, you must complete the following courses:

- ENGL 276 Adolescent Literature
- ENGL 306 English Language Structure and Development
- ENGL 430 The Composing Processes

If the courses listed above are not completed on the undergraduate level, candidates for the Master of Arts in Teaching program may be required to take additional coursework to meet content standards. It is highly recommended that candidates take ENGL 491 Practicum in the Teaching of Writing.

**Requirements for Certification in Teaching Secondary English through the Master of Arts in Teaching Degree**

If you wish to pursue certification for teaching at the secondary level through a Master of Arts in Teaching degree, you should complete the undergraduate English major and then the Master of Arts in Teaching program. In the English major, you should choose the Literature Concentration and take these courses as your electives:

ENGL 276 Adolescent Literature

ENGL 430 The Composing Processes

(If the courses listed above are not completed on the undergraduate level, as a candidate for the Master of Arts in Teaching program, you may be required to take additional coursework to meet content standards.)

1. Complete the Master of Arts in Teaching (graduate) program.

**Professional Writing**

**EMPHASIS**

**Coordinator:** Sydney Duncan, Professor, Department of English

- To be eligible for an emphasis, you must achieve at least a C in each writing course applied to emphasis.
- If you are majoring in English with a concentration in professional writing, you are not eligible for the emphasis.
- You cannot major in Professional Writing.

The emphasis in professional writing is open to degree-seeking students in any major and non-degree seeking members of the community who would like to strengthen writing skills.

Non-degree-seeking students must provide evidence of successful completion of no fewer than 42 college-level credits, including a first-year English course, passed with a grade of C or better.

**Program Requirements**

	EMPHASIS
Hours Required in English:	12
Hours Required in Other Departments:	0
Total Hours Required:	12

**Requirements for Emphasis in Professional Writing**

Select 12 hours from the following courses:

- ENGL 330 Business Writing
- ENGL 336 Journalistic Writing
- ENGL 338 Technical Writing
- ENGL 339 Scientific Writing
- ENGL 355 Socially Networked Journalism
- ENGL 402 Editing and Production
- ENGL 436 Advanced News and Feature Writing
- ENGL 430 The Composing Processes
- ENGL 438 Applied Digital Writing

# Teaching of Writing

## EMPHASIS

**Coordinator:** Sydney Duncan, Professor, Department of English

- The Emphasis in the Teaching of Writing is open to degree-seeking students in any major.
- To be eligible to complete the emphasis, students must achieve at least a C in each applied course.

## Program Requirements

	EMPHASIS
Hours Required in English:	12
Hours Required in Other Departments:	0
Total Hours Required:	12

## Requirements for Emphasis in the Teaching of Writing

### 1. Select 3 hours from the following:

- ENGL 300 Critical Writing About Literature
- ENGL 308 Social Sciences Advanced Composition
- ENGL 309 Advanced Composition: Humanities
- ENGL 310 General Advanced Composition
- ENGL 312 Honors: Advanced Composition
- ENGL 330 Business Writing
- ENGL 338 Technical Writing
- ENGL 339 Scientific Writing

### 2. 6 hours of ENGL 491 Practicum in the Teaching of Writing

### 3. Select 3 hours from the following:

- ENGL 306 Language Structure and Development
- ENGL 430 Composing Processes

# Environmental Analysis & Planning

## MAJOR

**Contact:** Richard Russo (Chair), Department of Geography

### Participating Faculty:

**Professors:** Precht (Geography), Raesley (Biology)

**Associate Professors:** Allen (Geography), Ramspott (Geography)

**Assistant Professors:** Brosi (Biology), Flood (Geography), Hocking (Biology)

- This multidisciplinary program is jointly administered by the Departments of Biology and Geography.
- You may not minor in Environmental Analysis and Planning.
- The program is supported by the Maryland Department of the Environment.
- Internship is optional.
- You are advised to complete the 100- and 200-level courses within your first 60 hours of course work, and before enrolling in 400-level courses in Geography and Biology.

## Program Requirements

	MAJOR
Hours Required in Geography:	37-39
Hours Required in Biology	18-20
Hours Required in Other Departments:	11
Total Hours Required:	66-70

## Requirements for Major in Environmental Analysis & Planning

### 1. Courses in Biology: (18-20 hours)

- BIOL 149 General Biology I (*GEP Group C*)
- BIOL 160 General Zoology  
or BIOL 161 General Botany
- BIOL 340 General Ecology

Take 2 of 4 courses-\*

- BIOL 303 Plant Physiology
- BIOL 304 Microbiology
- BIOL 328 Economic Botany
- BIOL 405 Dendrology
- BIOL 409 Plant Taxonomy
- BIOL 421 Sample Design and Analysis of Plant Communities
- BIOL 425 Forest Ecology and Conservation
- BIOL 430 Limnology
- BIOL 439 Environmental Toxicology

\* *GEOG 445, Biogeography, may be substituted for one of the BIOL electives.*

### 2. Courses in Geography: (37-39 hours)

Required EVAP Core: (28 hours)

- GEOG 103/113 Physical Geography (*GEP Group C*) (4)
- GEOG 207 Geology and Geomorphology (4)
- GEOG 275 Fundamentals of Geographic Data Handling (*Tech. Fluency*) (3)
- GEOG 430 Surface Water Hydrology (4)
- GEOG 433 Surveying and Field Techniques (3)
- GEOG 470 Environmental Restoration (4)
- GEOG 472 Environmental Planning (Capstone) (3)
- GEOG 473 Environmental Law (3)

Take 2 of 8 Earth Science Courses: (6-7 hours)

- GEOG 208 Earth System History (4)
- GEOG 330 Global Climate Change (3)
- GEOG 340 Soil: Genesis, Nature and Characterization (3)

- GEOG 431 Quaternary Environments (3)
- GEOG 432 Groundwater Hydrology (3)
- GEOG 441 Soil Analysis (3)
- GEOG 475 Glacial/Periglacial Geomorphology (3)
- GEOG 476 Fluvial/Coastal Geomorphology (3)

Take 1 of 4 Geographic Technique Courses: (3-4 hours)

- GEOG 310 Fundamentals of Cartography (3)
- GEOG 317 Principles of Geographic Information Science (4)
- GEOG 413 Remote Sensing (3)
- GEOG 420 Topics in the Mapping & Geospatial Sciences (3)

**3. Required Courses in Other Departments: (11 hours)**

- CHEM 201 General Chemistry I (GEP Group C)
- CHEM 202 General Chemistry II
- MATH 109/110 Elements of Applied Probability and Statistics (3)  
or MATH 119 College Algebra (Core Skill 3) (\*\*)

\*\* MATH 119 is co-requisite for CHEM 201 and a pre-requisite for CHEM 202

**4. Recommended Courses in Other Departments: (Not required)**

- CHEM 341 Introduction to Geochemistry
- ENGL 338 Technical Writing (Core Skill 2)
- MATH 220 Calculus for Applications I

# Ethnobotany

**MAJOR**

**MINOR**

**SEE RELATED PROGRAMS:**

- BIOLOGY
- CULTURAL ANTHROPOLOGY
- ENVIRONMENTAL ANALYSIS & PLANNING
- FORESTRY
- GEOGRAPHY
- INTERPRETIVE BIOLOGY & NATURAL HISTORY
- SUSTAINABILITY STUDIES
- WILDLIFE & FISHERIES

**Coordinator:** Sunshine L. Brosi, Associate Professor, Department of Biology

**Participating Faculty:**

**Professors:** Fritz, Li (Biology), Precht

**Associate Professors:** Biser, (Chemistry), Brosi (Biology), Puthoff (Biology),  
Rogers Thomas (Sociology)

- Ethnobotany is an interdisciplinary major.
- You are encouraged to minor in related fields, including cultural anthropology, chemistry, geography, sociology, foreign language, biology and sustainability studies.
- A degree in Ethnobotany will prepare you for work in government and non-governmental organizations focused on resource management,

conservation, and related areas where human communities and natural environments interact.

- You are encouraged to participate in summer internships with local and regional organizations.
- Students interested in professional and graduate degrees may need to take additional courses.
- You have the option to participate in research on medicinal plants of the Appalachian region through the Appalachian Center for Ethnobotanical Studies (ACES) a cooperative program with Frostburg State University, West Virginia University and the University of Maryland Biotechnology Institute.

## Program Requirements

	MAJOR	MINOR
Total Hours Required:	68	20-21

## Requirements for Major in Ethnobotany

**1. Scientific Foundations (22 hours)**

- BIOL 149 General Biology I (GEP Group C)
- BIOL 161 General Botany
- CHEM 201 General Chemistry I (GEP Group C)  
or CHEM 150 General, Organic and Biochemistry (GEP Group C)
- GEOG 103 Physical Geography (GEP Group C)
- MATH 109/110 Elements of Applied Probability and Statistics  
(Core Skill 3)
- MATH 119 College Algebra (Core Skill 3)  
or MATH 120 Pre-Calculus (Core Skill 3)  
or any math course level III or higher

**2. Ethnobotany Core (13 hours)**

- BIOL 128 Introduction to Ethnobotany
- BIOL 328 Economic Botany
- BIOL 428 Ethnographic Field Techniques (capstone)
- BIOL 460 Field Experiences in Forestry

**3. Botany and Plant Ecology (24 hours)**

- BIOL 313 Plant Evolution and Diversity
- BIOL 340 General Ecology
- BIOL 403 Plant Physiology
- BIOL 405 Dendrology
- BIOL 409 Plant Taxonomy
- BIOL 425 Forest Ecology and Conservation
- GEOG 445 Biogeography

**4. Cultural Perspectives (9 hours)**

- GEOG 104 Human Geography (GEP Group D or F)  
or GEOG 110 World Regional Geography (GEP Group D or F)
- SOCI 224 Cultural Anthropology (GEP Group F)
- SOCI 350 Folklore in Appalachia

## Requirements for Minor in Ethnobotany

### 1. Scientific Foundations (4 hours)

BIOL 149 General Biology I (GEP Group C)

### 2. Ethnobotany Core (7 hours)

BIOL 128 Introduction to Ethnobotany

Select one additional course from:

BIOL 328 Economic Botany

BIOL 428 Ethnographic Field Techniques

BIOL 460 Field Experiences in Forestry

### 3. Botany and Plant Ecology (3 hours)

GEOG 445 Biogeography

### 4. Cultural Perspectives (3 hours)

SOCI 224 Cultural Anthropology (GEP Group F)

### 5. Electives (3-4 hours)

Select one additional course from:

BIOL 313 Plant Evolution and Diversity

BIOL 340 General Ecology

BIOL 403 Plant Physiology

BIOL 405 Dendrology

BIOL 409 Plant Taxonomy

BIOL 425 Forest Ecology and Conservation

GEOG 104 Human Geography (GEP Group D or F)

or GEOG 110 World Regional Geography (GEP Group F)

SOCI 350 Folklore in Appalachia

## Film Studies

### MINOR

**Coordinator:** Dr. Kevin Kehrwald, Professor, Department of English

**Participating Faculty:** John Lombardi (Communication)

**Professors:** A. Duncan (English), Kehrwald (English), R. Smith (English)

**Associate Professors:** Knott (English), Raucci (English)

**Assistant Professor:** Danzi (Communication)

- The minor is open to students majoring in any field.
- You cannot major in film studies.

The goal of the film minor is to help you develop visual literacy. You will acquire the essential skills of critical thinking by learning to “read texts” in the most pervasive medium of contemporary culture – film.

You will:

1. Become a more critical viewer of film as a medium by learning to read, analyze, and interpret films

2. Recognize how cinematic techniques, such as camera movement, editing, and cinematography contribute to a film’s impressions
3. Become familiar with film language and terminology
4. Recognize film as a global medium of diverse cultural styles and voices
5. Become acquainted with a variety of aesthetic and cinematic movements
6. Recognize film as a vehicle for forming cultural values
7. Understand how cultural events and technologies have shaped (and continue to shape) film styles, genres, and narrative techniques
8. Understand the historical development of film as an art form

## Program Requirements

	MINOR
Total Hours Required:	18

## Requirements for Minor in Film Studies

### 1. Required Core Courses: (9 hours)

ENGL 207\* Introduction to Film Studies (Fall)

ENGL 208\* Film and American Culture  
(Spring, even-numbered years)

ENGL 344\* Film Theory (Spring, odd-numbered years)

\*Must have C or better to count toward minor.

### 2. Elective Courses: (9 hours)

ENGL 281 Literature into Film (variable)

ENGL 282 Shakespeare on Film (Fall, odd-numbered years)

ENGL 345 Film Genre (Fall, even-numbered years)

MCOM 205 Mobile Media Production (every semester)

MCOM 287 Intro to Video Production (every semester)

MCOM 387 Multi-Camera Studio Production (Fall)

*Relevant Special Topics courses will be welcomed as electives as approved by the Coordinator.*

## Fine Arts

### MINOR

**Professors:** Brown, Davis, Dieruf

**Associate Professors:** English (Chair), Hein, Herzfeld, Hodges, Odone

- Minors are also offered in art history and graphic design. A major is offered in Art & Design. See separate listings in this catalog.
- Only courses in which a grade of C or better is earned may count towards satisfaction of major and minor requirements.

## Program Requirements

	MINOR
Hours Required in Art:	18
Hours Required in Other Departments:	0
Total Hours Required:	18

## Requirements for Minor in Fine Arts

### 1. Basic Courses: (6 hours)

ART 104 Two-Dimensional Design  
ART 105 Three-Dimensional Design

### 2. Art History and Critical Studies: (3 hours)

Choose 3 credits from:

ART 301 Artistic Traditions: Asia (GEP Group F)  
or ART 302 Artistic Traditions: Africa and the Americas  
(GEP Group F)  
ART 360 Western Art History  
ART 380 19th Century Art History  
ART 408 20th Century Art History  
ART 460 Renaissance and Baroque Art History

### 3. Introductory Studio: (9 hours)

Choose three courses from among:

ART 202 Ceramics  
ART 209 Crafts Workshop  
ART 212 Drawing  
ART 216 Illustration  
ART 221 Painting  
ART 232 Printmaking  
ART 235 Photography  
ART 240 Sculpture  
ART 336 Digital Imaging for the Fine Arts

### 4. Advanced Studio Focus: (3 hours)

Choose 3 hours from:

ART 402 Advanced Ceramics  
ART 416 Advanced Illustration  
ART 421 Advanced Painting  
ART 432 Advanced Printmaking  
ART 435 Advanced Photography  
ART 440 Advanced Sculpture

# Foreign Languages & Literature

## MAJOR

## CONCENTRATION IN SPANISH

## MINOR

**Associate Professor:** Sanchez

**Assistant Professor:** Cisneros

**Lecturer:** Hayatou

- At least half of the credit hours required in your major language (Spanish) must be taken at FSU.
- Foreign language majors who have courses transferred from a foreign institution at the 300 or 400 level must take at least one 300 or 400 level course at FSU after they return and prior to graduation.
- Only courses in which a grade of C or better is earned will count towards satisfaction of major or minor requirements.
- A minor in French is also offered.
- The department also offers course work in intercultural studies, literature in translation, and linguistics.
- Courses in Italian, Chinese and Japanese are offered as MDFL courses on an irregular basis.

*If you have no experience in French or Spanish, you will have to begin your language study at the elementary level (FREN 101 or SPAN 101)*

*If you have studied French or Spanish previously, you must take the online placement exam. Please go to the departmental web page to take the online exam.*

## Accelerated Placement

If the results of the placement exam determine that you are eligible for accelerated placement, and you complete a course above the 101-level with a grade of C or better, you may apply to the department for academic credit for the courses waived, as summarized below.

- at the 102 level, you will be eligible to receive 3 additional credits.
- at the 211 level, you will be eligible to receive 6 additional credits.
- at the 212 level, you will be eligible to receive 9 additional credits.
- at the 250 level, you will be eligible to receive 12 additional credits.
- at the 300 level, you will be eligible to receive 15 additional credits.

There is a \$10.00 fee for each hour of credit received through accelerated placement.

## Program Requirements

	MAJOR	MINOR
Hours Required in Foreign Languages:	36	18
Hours Required in Other Departments:	0	0
Total Hours Required:	36	18

Students are strongly encouraged to keep work from all their courses in anticipation of the senior seminar.

## Requirements for Major in Foreign Languages & Literature with a Concentration in Spanish

### 1. Core Curriculum (9 hours)

SPAN 211 Spanish Grammar, Composition & Conversation I\*  
 SPAN 212 Spanish Grammar, Composition & Conversation II  
 SPAN 250 Overview of Spanish Language & Culture (GEP Group B)

### 2. Advanced Courses (27 hours)

SPAN 489 Capstone in Spanish  
*Eight upper-level Spanish courses, four of which must be at the 400 level*

## Requirements for Minor in Foreign Languages & Literature with a Concentration in Spanish

### 1. Core Curriculum (9 hours)

SPAN 211 Spanish Grammar, Composition & Conversation I\*  
 SPAN 212 Spanish Grammar, Composition & Conversation II  
 SPAN 250 Overview of Spanish Language & Culture (GEP Group B)

### 2. Advanced Courses (9 hours)

*Any three 300 or 400-level courses in Spanish*

## Requirements for Minor in Foreign Languages & Literature with a Concentration in French

### 1. Core Curriculum (9 hours)

FREN 211 French Grammar, Composition & Conversation I\*  
 FREN 212 French Grammar, Composition & Conversation II  
 FREN 250 Overview of French Language & Culture (GEP Group B)

### 2. Advanced Courses (9 hours)

*Any three 300 or 400-level courses in French*

If you wish to complete a Maryland State approved program in teaching secondary Spanish, you must:

- Complete the BA in Foreign Languages & Literature with the Spanish concentration.
- See the Secondary Teacher Education Program Coordinator for details.

# Forestry

## MINOR

### SEE RELATED PROGRAMS:

- BIOLOGY
- BIOTECHNOLOGY
- ENVIRONMENTAL ANALYSIS & PLANNING
- ENVIRONMENTAL SCIENCE
- ETHNOBOTANY
- FORESTRY
- INTERPRETIVE BIOLOGY & NATURAL HISTORY
- SUSTAINABILITY STUDIES
- WILDLIFE & FISHERIES

**Coordinator:** Sunshine L. Brosi, Associate Professor, Department of Biology

- You cannot major in forestry.

## Program Requirements

	MINOR
Total Hours Required:	23

## Requirements for Minor in Forestry

### 1. Required Courses: (17 hours)

BIOL 149 General Biology I (GEP Group C)  
 BIOL 161 General Botany  
 BIOL 405 Dendrology  
 BIOL 425 Forest Ecology and Conservation  
 BIOL 460 Forestry Field Practice

### 2. Electives: (6 hours)

*At least 6 credits selected from two of the following groups:  
 (Some of the following courses may have prerequisites.)*

#### Geography

GEOG 317 Principles of Geographic Information Systems  
 GEOG 340 Soils: Genesis, Nature and Characterization  
 GEOG 406 Management and Conservation of Natural Resources  
 GEOG 413 Remote Sensing - Image Interpretation  
 GEOG 430 Surface Water Hydrology  
 GEOG 433 Surveying  
 GEOG 445 Biogeography

#### Biology

BIOL 230 Wildlife Techniques  
 BIOL 410 Plant Diseases  
 BIOL 421 Sample Design and Plant Community Analysis  
 BIOL 494 Field Experiences in Biology\*  
 BIOL 499 Special Problems in Biology\*

**Other electives**

- RECR 342 Park and Facility Design
- RECR 440 Organization & Administration of Recreation & Parks
- POSC 450 Environmental Public Policy
- POSC 498 Readings in Political Science\*
- ECON 410 Resource & Energy Economics

\* Independent studies courses **MUST** address a **Forestry** topic.

# Geography

**MAJOR**

**MINOR**

**CONCENTRATIONS IN:**

- **global systems analysis**
- **mapping & geospatial sciences**

**See related programs:**

- **earth science**
- **environmental analysis and planning**

**Professors:** Precht, Saku

**Associate Professors:** Allen, Ramspott, Russo (Chair)

**Assistant Professors:** Bogart, Flood, Wetherholt

**Lecturers:** T. Edwards, A. Lewis

- You may elect to complete the major without specialized concentration or choose a concentration in global systems analysis or mapping science.
- An internship is optional.

## Program Requirements

	MAJOR	MINOR	MAPPING/ GEOSPAT.	GLOBAL SYSTEMS
Hours Required in Geography:	41-44	22	42-42	38-39
Hours Required in Other Depts:	3	0	12-13	9
Total Hours Required:	44-47	22	54-56	47-48

## Requirements for Major in Geography

(without specialized concentration)

**1. Required Core Courses: (20 hours)**

- GEOG 103 Physical Geography (*GEP Group C*)
- GEOG 104 Human Geography (*GEP Group D or F*)  
or GEOG 110 World Regional Geography: Cultural Diversity (*GEP Group D or F*)
- GEOG 275 Fundamentals of Geographic Data Handling (*Tech. Fluency*)
- GEOG 310 Fundamentals of Cartography
- GEOG 380 Research Methods in Geography
- GEOG 480 The Geographic Perspective
- GEOG 481 Geography Capstone

**2. Advanced Physical Geography: (3-4 hours)**

- GEOG 335 Oceanography
- GEOG 340 Soils: Genesis, Nature and Characterization
- GEOG 405 Physical Climatology
- GEOG 430 Surface Water Hydrology
- GEOG 431 Quaternary Environments
- GEOG 445 Biogeography

**3. Advanced Human Geography: (3 hours)**

- GEOG 300 Economic Geography
- GEOG 324 Urban Geography
- GEOG 407 Political Geography
- GEOG 410 Locational Analysis
- GEOG 425 Geography of Transportation
- GEOG 427 Geography of Languages & Religions (*GEP Group F*)
- GEOG 452 Rural Geography
- GEOG 454 Geography of Tourism

**4. Advanced Regional Geography: (3 hours)**

*Select from:*

- GEOG 301 Geography of North America
- GEOG 302 Geography of Maryland
- GEOG 320 Geography of Latin America
- GEOG 400 Geography of Asia
- GEOG 401 Geography of Europe
- GEOG 402 Geography of Northern Eurasia
- GEOG 403 Geography of Sub-Saharan Africa
- GEOG 404 Geography of the Middle East and Central Asia

**5. Geographic Techniques: (3 hours)**

*Select from:*

- GEOG 317 Principles of Geographic Information Systems
- GEOG 413 Remote Sensing - Image Interpretation
- GEOG 420 Topics in the Mapping and Geospatial Sciences
- GEOG 433 Surveying and Field Techniques

**6. Human-Earth Relationships: (3 hours)**

*Select from:*

- GEOG 360 Food Systems
- GEOG 406 Mgmt. & Conservation of Natural Resources
- GEOG 450 Urban Planning
- GEOG 460 Natural Hazards in the Physical Environment
- GEOG 472 Environmental Planning
- GEOG 473 Environmental Law

**7. Electives (6-8 hours)**

Any two additional geography courses at or above the 200-level or equivalent except GEOG 495

### 8. Required Courses in Other Departments:

(3 hours)

MATH 109 Elements of Applied Probability & Statistics (Core Skill 3)

\*Three or more credits earned in GEOG 499 Research in Geography, may count as one course.

## Requirements for Minor in Geography

### 1. Required Core Courses: (7 hours)

GEOG 103 Physical Geography (GEP Group C)

GEOG 104 Human Geography (GEP Group D or F)

or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)

### 2. Electives (15 hours)

Select any from GEOG courses at or above the 200-level or equivalent except GEOG 492 and 495

## Requirements for Global Systems Analysis Concentration

### 1. Required Core Courses: (20 hours)

GEOG 103 Physical Geography (GEP Group C)

GEOG 104 Human Geography (GEP Group D or F)

or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group F)

GEOG 275 Fundamentals of Geographic Data Handling (Tech. Fluency)

GEOG 310 Fundamentals of Cartography

GEOG 380 Research Methods in Geography

GEOG 480 The Geographic Perspective

GEOG 481 Geography Capstone

### 2. Specialized Advanced Courses: (15 hours)

#### Group I Human Geography: (9 hours)

GEOG 300 Economic Geography

GEOG 407 Political Geography

Select one from:

GEOG 222 Introduction to Cities

GEOG 410 Locational Analysis

GEOG 425 Geography of Transportation

GEOG 427 Geography of Languages and Religions (GEP Group F)

GEOG 452 Rural Geography

GEOG 454 Geography of Tourism

#### Group II Regional Geography: (6 hours)

Select two from:

GEOG 320 Geography of Latin America

GEOG 400 Geography of Asia

GEOG 401 Geography of Europe

GEOG 402 Geography of Northern Eurasia

GEOG 403 Geography of Sub-Saharan Africa

GEOG 404 Geography of the Middle East and Central Asia

### 3. Complementary Advanced Courses:

(3-4 hours)

Select one course from one of the three groups:

#### Group I Physical Geography: (0-4 hours)

GEOG 335 Oceanography

GEOG 340 Soils: Genesis, Nature and Characterization

GEOG 405 Physical Climatology

GEOG 430 Surface Water Hydrology

GEOG 431 Quaternary Environments

GEOG 445 Biogeography

#### Group II Geographic Techniques: (0-3 hours)

GEOG 317 Principles of Geographic Information Science (GIS)

GEOG 413 Remote Sensing - Image Interpretation

GEOG 420 Topics in the Mapping and Geospatial Sciences

GEOG 433 Surveying and Field Techniques

#### Group III Human-Earth Relationships: (0-3 hours)

GEOG 360 Food Systems

GEOG 406 Management and Conservation of Natural Resources

GEOG 450 Urban Planning

GEOG 460 Natural Hazards in the Physical Environment

GEOG 472 Environmental Planning

GEOG 473 Environmental Law

### 4. Required Courses in Other Departments:\*

(9 hours)

MATH 109 Elements of Applied Probability and Statistics (Core Skill 3)

and select two from:

ECON 309 Comparative Economic Systems

ECON 400 International Trade

ECON 401 International Finance

ECON 405 Econ. Growth & Develop.: Developing Economies

HIST 304 History of Latin America

HIST 341 Modern & Contemporary Middle East

HIST 353 Contemporary Africa

HIST 376 Modern Europe

HIST 404 Revolutionary and Soviet Russia

HIST 409 World Environmental History

HIST 437 History of Korea

HIST 450 History of Mexico

HIST 455 Latin American Revolutions

HIST 457 India

HIST 458 History of China

HIST 459 History of Japan

PHIL 311 Asian and African Philosophy (GEP Group F)

PHIL 315 Philosophy and the Environment

POSC 330 Politics of Africa

POSC 331 Politics of Latin America

POSC 332 Politics of the Middle East

POSC 333 Politics of Europe

POSC 341 International Organization

POSC 431 Russian Politics

POSC 435 Model Organization of American States

POSC 441 International Relations: Theory and Practice

Foreign language courses at the 200 level or higher may fulfill this requirement.

\* some courses may have prerequisites



## Requirements for Mapping and Geospatial Sciences Concentration

### 1. Required Core Courses: (20 hours)

- GEOG 103 Physical Geography (GEP Group C)
- GEOG 104 Human Geography (GEP Group D or F)
  - or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)
- GEOG 275 Fundamentals of Geographic Data Handling (Tech. Fluency)
- GEOG 310 Fundamentals of Cartography
- GEOG 380 Research Methods in Geography
- GEOG 480 The Geographic Perspective
- GEOG 481 Geography Capstone

### 2. Specialized Advanced Courses:

#### Geographic Techniques: (12 hours)

- GEOG 317 Principles of Geographic Information Science (GIS)
- GEOG 413 Remote Sensing - Image Interpretation
- GEOG 420 Topics in Mapping and Geospatial Sciences
- GEOG 433 Surveying and Field Techniques

### 3. Complementary Advanced Courses:

(9-10 hours)

Select one course from three of the four groups:

#### Group I Physical Geography: (0-4 hours)

- GEOG 335 Oceanography
- GEOG 340 Soils: Genesis, Nature and Characterization
- GEOG 405 Physical Climatology
- GEOG 430 Surface Water Hydrology
- GEOG 431 Quaternary Environments
- GEOG 445 Biogeography

#### Group II Human Geography: (0-3 hours)

- GEOG 222 Introduction to Cities
- GEOG 300 Economic Geography
- GEOG 324 Urban Geography
- GEOG 407 Political Geography
- GEOG 410 Locational Analysis
- GEOG 425 Geography of Transportation
- GEOG 427 Geography of Languages and Religions (GEP Group F)
- GEOG 452 Rural Geography
- GEOG 454 Geography of Tourism

#### Group III Regional Geography: (0-3 hours)

- GEOG 301 Geography of North America
- GEOG 302 Geography of Maryland
- GEOG 320 Geography of Latin America
- GEOG 400 Geography of Asia
- GEOG 401 Geography of Europe
- GEOG 402 Geography of Northern Eurasia
- GEOG 403 Geography of Sub-Saharan Africa
- GEOG 404 Geography of the Middle East and Central Asia

#### Group IV Human-Earth Relationships:

(0-3 hours)

- GEOG 360 Food Systems
- GEOG 406 Management and Conservation of Natural Resources
- GEOG 450 Urban Planning
- GEOG 460 Natural Hazards in the Physical Environment
- GEOG 472 Environmental Planning

GEOG 473 Environmental Law

### 4. Required Courses in Other Departments:\*

(12 hours)

- MATH 109 Elements of Applied Probability & Statistics (Core Skill 3)
  - MATH 119 College Algebra (Core Skill 3)
    - or MATH 220 Calculus for Applications I
    - or any MATH level III class (3 hours)
  - COSC 130 Introduction to Programming (3 hours)
- Select one additional COSC or ITEC course not to include COSC 101 or ITEC 312 (3-4 hours).

### 5. Recommendations:\*

Students are encouraged to select additional course work depending on their specific area of interest such as:

- MATH 220 & 221 Calculus I and II
- COSC 240 Computer Science I (4 hours)
- COSC 241 Computer Science II (4 hours)
- COSC 330 Web Design and Development (3 hours)
- ITEC 315 Programming (3 hours)
- ITEC 345 Database Systems I (3 hours)

\*Some of these courses may have prerequisites.

## If you are interested in teaching geography ...

- Students wishing to teach geography at the secondary level (middle and high school) must first obtain a degree in geography and then complete the Master of Arts in Teaching (MAT) program in the College of Education. Refer to the Graduate Catalog for information on the MAT program and the application process.

## Graphic Design

### MINOR

**Professors:** Brown, Davis, Dieruf

**Associate Professors:** English (Chair), Hein, Herzfeld, Hodges, Odone

- Minors are also offered in fine arts and art history. A major is offered in Art & Design. See separate listings in this catalog.
- Only courses in which a grade of C or better is earned may count towards satisfaction of major and minor requirements.

## Program Requirements

	MINOR
Hours Required in Art:	21
Hours Required in Other Departments:	0
Total Hours Required:	21

## Requirements for Minor in Graphic Design

### 1. Basic Courses: (9 hours)

ART 104 Two-Dimensional Design  
 ART 207 Graphic Design (*Tech. Fluency*)  
 ART 212 Drawing

### 2. Introductory Studio: (3 hours)

Choose from:

ART 216 Illustration  
 ART 221 Painting  
 ART 232 Printmaking  
 ART 235 Photography

### 3. Advanced Studio Focus: (9 hours)

ART 307 Computer Graphics  
 ART 407 Advanced Graphic Design: Print  
 ART 414 Advanced Graphic Design: Interactive Multimedia Design

# Health Science

## MAJOR

**Coordinator:** Karen L. Keller, Associate Professor, Department of Biology

- The interdisciplinary B.S. in Health Science provides an alternative to traditional bachelor degrees for students interested in a health-related field and will prepare students that are qualified to enter a variety of graduate and professional programs in the health sciences.
- Completion of the program will provide students with a strong background in the natural, social and health sciences while allowing a wide choice of elective courses to suit individual career and graduate/professional school requirements.

### Participating Departments:

Biology  
 Chemistry  
 Kinesiology and Recreation  
 Mathematics  
 Nursing  
 Philosophy  
 Psychology  
 Physics and Engineering  
 Sociology

*Health Science majors should continually examine the catalog of the institution(s) they plan to attend to complete the courses required by the professional school(s), to fulfill additional entrance expectations and be aware of any changes in the requirements. The student should also communicate this information to his or her adviser.*

## Program Requirements

	MAJOR
Hours Required in HSCI:	4
Hours Required in Other Departments:	68
Total Hours Required:	72

## Requirements for Major in Health Science

### 1. Required GEP Courses

BIOL 149 General Biology I (*GEP Group C*)  
 CHEM 201 General Chemistry I (*GEP Group C*)  
 ENGL 101 Freshman Composition (*Core Skill*)  
 MATH 119 College Algebra (or higher) (*Core Skill*)  
 PSYC 150 General Psychology (*GEP Group D*)  
 SOCI 100 Introduction to Sociology (*GEP Group D*)

### 2. Health Science Required Courses

(34 credits)

BIOL 160 General Zoology  
 BIOL 321/322 Anatomy and Physiology I/II  
 or BIOL 302 Animal Physiology  
 and BIOL 427 Comparative Anatomy<sup>1</sup>  
 CHEM 202 General Chemistry II  
 HSCI 101 Medical Terminology  
 MATH 109 Statistics  
 PHIL 313 Biomedical Ethics  
 PHYS 215 General Physics I  
 PHYS 216 General Physics II  
 HSCI 491 Health Science Capstone

<sup>1</sup>*Veterinary and some medical schools*

### 3. Health and Natural Science Electives

(32 credits)

BIOL 304 Microbiology  
 BIOL 310 Cell Biology  
 BIOL 334 General Animal Behavior  
 BIOL 350 Genetics  
 BIOL 360 Virology  
 BIOL 401 Genetics Laboratory  
 BIOL 404 Histology  
 BIOL 412 General Parasitology  
 BIOL 435 Molecular Biology  
 BIOL 440 Developmental Biology  
 BIOL 445 Immunology  
 CHEM 305 Research Methods in Chemistry  
 CHEM 311/312 Organic Chemistry I  
 CHEM 321/322 Organic Chemistry II  
 CHEM 455 Biochemistry I  
 CHEM 456 Biochemistry Laboratory  
 CHEM 457 Biochemistry II  
 EXSS 200 Nutrition  
 EXSS 300 Advanced Nutrition  
 EXSS 303 Biomechanics for Exercise and Sport Science  
 EXSS 305 Care and Prevention of Athletic Injuries  
 EXSS 315 Nutrition for the Physically Active  
 EXSS 330 Exercise Epidemiology

- EXSS 341 Psychology of Physical Activity
- EXSS 401 Physiology of Exercise
- EXSS 435 Lifespan Health and Fitness

**4. Social Science Electives (6 credits)**

- PSYC 208 Introduction to Lifespan Development
- PSYC 210 Child Development
- PSYC 212 Adolescent and Adult Development
- PSYC 214 Introduction to Geropsychology
- PSYC 220 Psychology of Women
- PSYC 250 Death and Dying
- PSYC 317 Abnormal Psychology
- PSYC 345 Animal Learning and Cognition
- PSYC 386 Drugs and Human Behavior
- PSYC 409 Human Learning and Cognition
- PSYC 420 Physiological Psychology
- PSYC 430 Health and Psychology
- PSYC 489 Abnormal Child Psychology
- SOCI 367 Sociology of Medicine
- SOCI 420 Animals in Human Society
- SOCI 466 Women, Health and Healing
- SOCI 468 Sociology of Later Life

# History

**MAJOR**

**MINOR**

**CONCENTRATIONS IN:**

- INTERNATIONAL HISTORY
- HISTORY OF THE AMERICAS

**Professors:** Abbay, Boniece (Chair)

**Associate Professors:** Ma, McConnell, Wood

- Only courses in which you earn a grade of C or better will count toward satisfaction of major requirements.
- The Department strongly encourages majors to consider the internship option.
- HIST 492 counts as elective credit toward the HIST major; HIST 495 counts as general elective credit.

**Program Requirements**

	MAJOR	MINOR
Hours Required in History:	39	24
Hours Required in Other Departments:	6	0
Total Hours Required:	45	24

**Requirements for Major in History**

**1. Core Introductory Level Courses: (6 hours)**

Select from:

- HIST 103 History of the United States to 1876
- HIST 104 History of the United States, 1876 to the Present
- HIST 113 World History to 1500
- HIST 114 World History, 1500-1900

*(The Master of Arts in Teaching (MAT) program and Secondary Teacher Education require completion of one of the following sequences:*

- HIST 103 and HIST 104 or HIST 113 and HIST 114)

**2. Research Core: (6 hours)**

- HIST 299 Writing and Research in History

*Completion of HIST 299 with a C or better is required for admission to the history major. Students may file a declaration of major BEFORE completing HIST 299.*

- HIST 485 Seminar in History

*Must be completed during the senior year with a grade of C or better. Fulfills Capstone Experience in the major requirement.*

**3. Concentrations: (27 hours)**

*Majors must choose one of the following concentrations:*

- International History
- History of the Americas

**4. Electives (6 hours)**

*Any two 300/400-level HIST courses except HIST 495.*

**Requirements for Minor in History**

**1. Core Introductory Level Courses: (12 hours)**

- HIST 103 History of the United States to 1876
- HIST 104 History of the United States, 1876 to the Present
- HIST 113 World History to 1500
- HIST 114 World History, 1500 to the Present

**2. Electives (12 hours)**

*Any four 300/400-level HIST courses except HIST 495.*

**Requirements for International History Concentration**

**1. Select five courses from the following:**

- HIST 301 Traditional Africa
- HIST 303 History of Latin America to 1825
- HIST 304 History of Latin America, 1825 to the Present
- HIST 306 Medieval Europe
- HIST 307 Renaissance and Reformation Europe
- HIST 308 Europe, 1600-1815
- HIST 310 Ancient Greece and Rome
- HIST 341 Modern and Contemporary Middle East
- HIST 353 Contemporary Africa
- HIST 360 Modern and Contemporary Asia
- HIST 376 Modern Europe

HIST 403	Imperial Russia
HIST 404	Revolutionary and Soviet Russia
HIST 409	World Environmental History
HIST 418	Native Peoples of the Americas (GEP Group F)
HIST 419	A History of Terrorism
HIST 433	Public History
HIST 436	Women's Issues in World History (GEP Group F)
HIST 437	History of Korea
HIST 450	History of Mexico
HIST 455	Latin American Revolutions
HIST 457	India
HIST 458	History of China
HIST 459	History of Japan
HIST 475	Genocide and Mass Violence
HIST 481	Experiential History/International
HIST 489	Special Topics in International History

2. Select two history courses from the History of the Americas concentration.

3. Select two complementary courses from the following areas (some of these courses may require additional pre-requisite course work):

ART 301	Artistic Traditions: Asia (GEP Group F)
ART 302	Artistic Traditions: Africa & the Americas (GEP Group F)
ART 360	Western Art History
ECON 309	Comparative Economic Systems
ECON 405	Economic Growth and Development
ENGL 270	European and Non-European Literature
ENGL 271	Asian and African Literature
ENGL 332	The Age of Johnson
ENGL 340	Shakespeare
ENGL 371	The Middle Ages in Literature
ENGL 372	Early Modern Literature
ENGL 373	Literature of the Enlightenment
ENGL 374	Age of Revolution
ENGL 375	Romanticism
ENGL 376	Realism and Naturalism
ENGL 377	Modernism
ENGL 378	Postmodernism
ENGL 379	Postcolonial Literature
GEOG 320	Geography of Latin America
GEOG 401	Geography of Europe
GEOG 402	Geography of Northern Eurasia
GEOG 403	Geography of Sub-Saharan Africa
POSC 330	Politics of Africa
POSC 331	Politics of Latin America
POSC 332	Politics of the Middle East
POSC 333	Politics of Europe
POSC 431	Russian Politics
FREN 250 or above	(250 – GEP Group B)
SPAN 250 or above	(250 – GEP Group B)

HIST 434	Women in the United States
HIST 436	Women's Issues in World History (GEP Group F)
HIST 445	History of Maryland
HIST 450	History of Mexico
HIST 455	Latin American Revolutions
HIST 461	Colonial America, 1607-1763
HIST 462	Revolutionary America, 1763-89
HIST 463	The Age of Jefferson and Jackson, 1789-1848
HIST 464	The Civil War and Reconstruction, 1849-77
HIST 465	Gilded Age America, 1877-1913
HIST 466	The U.S. in the 20th Century, 1914-45
HIST 467	The U.S. in the 20th Century, 1945-Present
HIST 470	America and the Vietnam War
HIST 480	The American West
HIST 482	Experiential History/Americas
HIST 490	Special Topics in History of the Americas

2. Select two history courses from the International History concentration.

3. Select two complementary courses from the following areas (some of these courses may require additional pre-requisite course work):

ART 302	Artistic Traditions: Africa & the Americas (GEP Group F)
ECON 303	American Economic Development
ECON 405	Economic Growth and Development
ENGL 231	African American Literature
ENGL 261	American Literature: Colonial to Present
ENGL 372	Early Modern Literature
ENGL 373	Literature of the Enlightenment
ENGL 374	Age of Revolution
ENGL 375	Romanticism
ENGL 376	Realism and Naturalism
ENGL 377	Modernism
ENGL 378	Postmodernism
ENGL 379	Postcolonial Literature
GEOG 301	Geography of North America
GEOG 320	Geography of Latin America
GEOG 324	Urban Geography: Internal City Patterns
POSC 321	American State and Local Politics
POSC 331	Politics of Latin America
POSC 363	Media and Politics
POSC 421	American Legislative Politics
POSC 427	The American Presidency
POSC 471	American Political Thought
SOCI 307	African Americans in Appalachia
FREN 250 or above	(250 – GEP Group B)
SPAN 250 or above	(250 – GEP Group B)

## Requirements for History of the Americas Concentration

1. Select five courses from the following:

HIST 303	History of Latin America to 1825
HIST 304	History of Latin America, 1825 to the Present
HIST 409	World Environmental History
HIST 418	Native Peoples of the Americas (GEP Group F)
HIST 420	Green: Environment and Economy in U.S. History
HIST 433	Public History

# Industrial and Organizational Psychology

## MINOR

**Coordinator:** Paul C. Bernhardt, Associate Professor, Department of Psychology

**Participating Faculty:**

**Professors:** Monahan (Management), Peterson (Psychology)

**Associate Professors:** Bernhardt (Psychology), McClellan (Management), Shore (Management)

**Assistant Professors:** Chory (Management)

- Industrial and Organizational Psychology is an interdisciplinary minor.
- You cannot major in Industrial and Organizational Psychology
- This minor is available to students in all majors at the University. It may be of particular interest for students who intend to work in business management or human resources areas of their field of study, or for students who intend to go to graduate school in Industrial and Organizational Psychology or related fields.
- Only courses in which a grade of C or better is earned may count towards satisfaction of the requirements of the minor.

## Program Requirements

	MINOR
Hours Required in Psychology:	9-12
Hours Required in Management:	6-9
Total Hours Required:	18

## Requirements for Minor in Industrial and Organizational Psychology

### 1. Required Courses in Psychology: (6 hours)

PSYC 150/151 General Psychology  
 PSYC 360 Industrial/Organizational Psychology

### 2. Required Courses in Management: (6 hours)

MGMT 251 Management of Organizations  
 MGMT 357 Human Resources Management

### 3. Elective Courses: (6+ hours, variable credit course must be 3 hours minimum)

Choose two courses from the following:

- PSYC 318 Social Psychology
- PSYC 385 Group Processes
- MGMT 356 Leadership and Human Behavior
- PSYC 408 Tests & Measurements

One (and only one) of PSYC 490, 491, 492/495, 497, 498, 499 if course topic is approved by the Minor Coordinator in advance, see coordinator for details.

# Information Technology

## MAJOR

## MINOR

### TRACKS IN

- ACCOUNTING
- BUSINESS INFORMATION TECHNOLOGY
- COMPUTER SECURITY
- GRAPHIC ARTS
- MASS COMMUNICATION

### SEE RELATED PROGRAMS:

COMPUTER INFORMATION SYSTEMS MAJOR & MINOR

COMPUTER SCIENCE MAJOR & MINOR

- CONCENTRATION IN NETWORKS

**Professors:** Chitsaz, Rinard (Chair)

**Associate Professors:** M. Flinn, Zheng

**Assistant Professors:** Pan, Xiao, Xu

**Lecturers:** Gbenro, S. Kennedy

- Computer science and information technology courses must have a grade of C or better to be applied towards major or minor requirements.
- You may receive credit by examination for the following courses: COSC 100, 101.

## Program Requirements

	MAJOR	MINOR
Hours Required in Computer Science:	43-52	18
Hours Required in Other Departments:	15-25	0
Total Hours Required:	67-68	18

## Requirements for Major in Information Technology

### 1. Core Courses: (15 hours)

COSC 100/110	Introduction to Computer Science (Tech. Fluency)
or COSC 101 The Discipline of Computer Science (Tech. Fluency)	
COSC 102	Foundations of Computer Science
COSC 130	Introduction to Programming
COSC 305	Computer Ethics
ITEC 315	Programming

### 2. Required Advanced Courses: (22 hours)

COSC 300	Structured Systems Analysis and Design
ITEC 312	Human-Computer Interaction
ITEC 345	Database Systems I
ITEC 355	Network Implementation
ITEC 360	Operating Systems
ITEC 470	Security and Risk Management
ITEC 480	Project Management
ITEC 489	Capstone Course

### 3. Other Required Courses: (12-13 hours)

CMST 102/112	Introduction to Human Communication
ENGL 338	Technical Writing (Core Skill 2)
MATH 109/110	Elements of Applied Probability & Statistics (Core Skill 3)
or MATH 380 Intro. To Probability & Statistics	
MATH 220	Calculus for Applications I
or MATH 236 Calculus I (Core Skill 3)	

### 4. Electives: (6 hours):

Choose a minimum of 6 hours in at least two courses:

ITEC 363	PC Module Installation and Maintenance
ITEC 364	PC Software Installation and Maintenance
ITEC 410	Diversity in the Global Information Technology
ITEC 414	Knowledge Management
ITEC 442	Electronic Commerce
ITEC 445	Database Systems II
ITEC 452	Network Administration and Security
ITEC 462	Emerging Issues and Technologies
ITEC 475	Computer and Cyber Forensics
ITEC 491	Seminar in Information Technology
ITEC 494	Field Experience in Information Technology
ITEC 499	Individual Problems in Information Technology

### 5. Tracks/Application Areas (12 hours):

Choose one of the following tracks/application areas:

#### Accounting

ACCT 211	Financial Accounting
ACCT 212	Managerial Accounting
ACCT 305	Accounting Systems
ACCT 311	Intermediate Accounting I

#### Business Information Technology

BUAD 100	Introduction to Business
MGMT 251	Management of Organizations

MGMT 356	Leadership and Human Behavior
MGMT 405	Business Ethics and Social Responsibility

#### Computer Security

IDIS 150	First Year FSU Colloquium: Personal Security and Privacy in the Age of Information or SCIA 120 Introduction to Secure Computing and Information Assurance
ITEC 452	Network Administration and Security
ITEC 472	Ethical Hacking
ITEC 475	Computer and Cyber Forensics

#### Graphic Arts

ART 104	Two-Dimensional Design
ART 105	Three-Dimensional Design
ART 207	Graphic Design
ART 307	Computer Graphics

#### Mass Communication

MCOM 105	Introduction to Mass Communication
MCOM 246	Intro to Mass Communication Research Methods
MCOM 287	Intro to Video Production
MCOM 346	Mass Communication Theory

## Requirements for Minor in Information Technology

COSC 101	The Discipline of Computer Science (Tech. Fluency) or COSC 100 Introduction to Computer Science (Tech. Fluency)
COSC 130	Introduction to Programming
COSC 300	Structured Systems Analysis and Design
ITEC 345	Database Systems I
ITEC 442	Electronic Commerce

and select one course from the following:

ITEC 312	Human-Computer Interaction
ITEC 410	Diversity in Global Information Technology

# International Studies

## MAJOR

## MINOR

### CONCENTRATION IN

- INTERNATIONAL BUSINESS
- INTERNATIONAL POLITICS
- INTERNATIONAL ECONOMICS
- INTERNATIONAL DEVELOPMENT

**Coordinator:** Suzanne McCoskey, Associate Professor, Department of Economics

#### Departmental Contacts:

**Professors:** Abbay (History), Andorfer (Political Science), Boniece (History), Twing (Political Science)

**Associate Professors:** Russo (Geography), Sanchez (English and Foreign Languages)

**Assistant Professor:** Cisneros (English & Foreign Languages)

**Lecturer:** Hayatou (English & Foreign Languages)

- The International Studies major is interdisciplinary in nature and allows you to choose among four concentrations: International Business, International Politics, International Development and International Economics. The required core courses emphasize the interconnections among these four specializations and provide the solid foundation in history, politics, economics, and geography necessary both for the concentration and future employment.
- You are strongly encouraged to combine this major with a second major or minor, particularly in foreign languages.
- An internship is optional but INST 492 may be used for elective credits.
- Only courses in which a grade of C or better is earned will count toward satisfaction of major requirements.

## Program Requirements

	MAJOR	INT'L POLITICS	INT'L BUSINESS	INT'L ECON	INT'L DEVEL	MINOR
Total Hours Required:	57	63	63	66-67	63	21

## Requirements for Major in International Studies

### 1. Required Core Courses: (24 hours)

- INST 150 Intro. to World Religions (GEP Group F)  
 INST 200 Intro. to International Studies (GEP Group F)  
 INST 491 Seminar in International Studies (Capstone)  
 ECON 201/211 Principles of Economics (Macro) (GEP Group D)  
 GEOG 104/114 Human Geography (GEP Group D or F)  
 or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)  
 HIST 100/111 The Contemporary World in Historical Perspective (GEP Group B or F)  
 or HIST 114 World History  
 MATH 109/110 Elements of Applied Probability and Statistics (Core Skill)  
 POSC 113/114 Introduction to World Politics (GEP Group D)  
 or POSC 131 Intro. to Comparative Politics (GEP Group D or F)

### 2. Foreign Language: (12 hours)

Students must complete 12 hours (or receive credit by exam) in one modern foreign language. For languages not offered at FSU, the language requirement may be met by transferring in 12 credits in one language from another institution or by passing a proficiency exam at the intermediate level. A minor in Spanish or French can be earned with 18 credits at the 200-level and above.

### 3. Additional Courses: (21 hours)

Choose seven courses from at least three disciplines in consultation with your advisor. [For those completing a concentration, go to the concentration requirements.]

- AAST 300 Traditional Africa  
 AAST 400 Africans of the Diaspora  
 ART 301 Artistic Traditions: Asia  
 ART 302 Artistic Traditions: Africa and the Americas  
 ART 360 Western Art History  
 ECON 309 Comparative Economic Systems  
 ECON 400 International Trade  
 ECON 401 International Finance

- ECON 405 Economics of Developing Countries  
 ECON 410 Resource and Energy Economics  
 ENGL 270 European & Neo-European Literature  
 ENGL 271 Asian & African Literature  
 ENGL 379 Postcolonial Literature  
 ENGL 418 Second Language Acquisition: Theory & App  
 GEOG 300 Economic Geography  
 GEOG 320 Geography of Latin America  
 GEOG 360 Food Systems  
 GEOG 400 Geography of Asia  
 GEOG 401 Geography of Europe  
 GEOG 402 Geography Northern Eurasia  
 GEOG 403 The Geography of Sub-Saharan Africa  
 GEOG 404 Geography of the Middle East  
 GEOG 406 Mgmt. and Conserv. of Natural Res.  
 GEOG 407 Political Geography  
 GEOG 427 Geog. of Languages and Religions (GEP Group F)  
 GEOG 454 Geography of Tourism  
 HIST 301 Traditional Africa  
 HIST 303 History of Latin America  
 HIST 304 History of Latin America  
 HIST 308 Europe, 1600-1815  
 HIST 341 Modern and Contemporary Middle East  
 HIST 353 Contemporary Africa  
 HIST 360 Modern and Contemporary Asia  
 HIST 376 Modern Europe  
 HIST 403 Imperial Russia  
 HIST 404 Revolutionary and Soviet Russia  
 HIST 409 World Environmental History  
 HIST 418 Native Peoples of the Americas  
 HIST 419 A History of Terrorism  
 HIST 436 Women's Issues in World History (GEP Group F)  
 HIST 437 History of Korea  
 HIST 450 The History of Mexico  
 HIST 455 Latin American Revolutions  
 HIST 457 India  
 HIST 458 History of China  
 HIST 459 History of Japan  
 HIST 475 Genocide and Mass Violence  
 HIST 481 Experiential History/International  
 HIST 482 Experiential History/Americas  
 HIST 489 Special Topics in International History  
 HIST 490 Special Topics in History of the Americas  
 INST 490 Special Topics in International Studies  
 INST 492 Internship Seminar (up to 6 hours)  
 INST 495 Internship in International Studies  
 INTR 330 International Business  
 INTR 490 Special Topics in Global Business  
 LING 301 Introduction to Language  
 MDL 111 Intercultural Understanding (GEP Group F)  
 MDL 211 Introduction to World Literature I  
 MDL 212 Introduction to World Literature II  
 MDL 301 Latin American Women's Issues  
 MDL 407 Latin American and Spanish Film  
 MDL 417 World Film  
 PHIL 311 Asian and African Philosophy  
 POSC 330 Politics of Africa  
 POSC 331 Politics of Latin America  
 POSC 332 Politics of Middle East  
 POSC 333 Politics of Europe  
 POSC 341 International Organization  
 POSC 342 Foreign Policy of the United States  
 POSC 336 Politics of Food  
 POSC 370 Introduction to Political Thought

POSC 341	International Organization
POSC 435	Model Organization of American States
POSC 434	Comparative Legal Systems
POSC 441	International Relations: Theory and Practice
POSC 443	Transnational Terrorism and Counter-Terrorism
SOCI 224	Cultural Anthropology (GEP Group F)

## Requirements for Minor in International Studies

### 1. Required Core Courses: (3 hours)

INST 200	Intro. to International Studies (GEP Group F)
----------	-----------------------------------------------

### 2. Foreign Language: (0 hours)

### 3. Elective Courses: (18 hours)

A minimum of 9 hours must be taken from Group I and 9 hours from Group II. You must select courses from at least three different disciplines in fulfilling the 18 hours for this requirement. Many courses in Group II require specific courses in Group I as prerequisites.

#### Group I (9 hours)

ECON 201/211	Principles of Economics – Macro (GEP Group D)
ECON 202/212	Principles of Economics – Micro
GEOG 104/114	Human Geography (GEP Group D or F)
	or GEOG 110 World Regional Geography: Cultural Diversity (GEP Group D or F)
HIST 100/111	The Contemp. World in Historical Perspective (GEP Group B or F)
	or HIST 114 World History
INST 150	Introduction to World Religions (GEP Group F)
INTR 330	International Business
MDFL 111	Intercultural Understanding (GEP Group F)
POSC 113/114	Introduction to World Politics (GEP Group D)
	or POSC 131 Introduction to Comparative Politics (GEP Group D or Group F)
SOCI 224	Cultural Anthropology (GEP Group F)

#### Group II (9 hours)

ECON 309	Comparative Economic Systems
ECON 400	International Trade
ECON 401	International Finance
ECON 405	Economics of Developing Countries
FINA 470	International Financial Management
GEOG 300	Economic Geography
GEOG 360	Food Systems
GEOG 406	Mgmt. and Conservation of Natural Res.
GEOG 407	Political Geography
GEOG 427	Geography of Languages & Religions (GEP Group F)
HIST 409	World Environmental History
HIST 419	A History of Terrorism
HIST 436	Women's Issues in World History (GEP Group F)
HIST 475	Genocide and Mass Violence
INST 491	Seminar in International Studies
LING 301	Introduction to Language
MGMT 450	International Management
MKTG 460	International Marketing
PHIL 308	Political Philosophy (GEP Group F)
POSC 336	Politics of Food
POSC 341	International Organization
POSC 342	Foreign Policy of the United States
POSC 370	Introduction to Political Thought
POSC 441	International Relations: Theory and Practice
POSC 443	Transnational Terrorism and Counter-Terrorism
POSC 488	Comparative Legal Systems

## Requirements for International Business Concentration

### 1. Required Core Courses:

(24 hours – listed above)

### 2. Foreign Language:

(12 hours – listed above)

### 3. Additional Courses: (27 hours)

#### A. Required Courses: (18 hours)

ACCT 211	Financial Accounting
BLAW 291	Legal Environment of Business
INTR 330	International Business

and one of the following pairs of courses:

FINA 370	Corporate Finance*
FINA 477	International Financial Management

or

MGMT 251	Management of Organizations
MGMT 450	International Management

or

MKTG 361	Principles of Marketing
MKTG 460	International Marketing

and one of the following courses:

ECON 309	Comparative Economic Systems
ECON 400	International Trade
ECON 401	International Finance

#### B. Elective Courses: (9 hours)

ECON 405	Economics of Developing Countries
FINA 303	Principles of Finance
GEOG 300	Economic Geography
GEOG 360	Food Systems
GEOG 407	Political Geography
GEOG 427	Geography of Languages and Religions (GEP Group F)
HIST 409	World Environmental History
INST 490	Special Topics in International Studies
INST 492	Internship Seminar (if internship is relevant to International Business)
PHIL 308	Political Philosophy (GEP Group F)
POSC 336	Politics of Food
POSC 341	International Organization
POSC 370	Introduction to Political Thought
POSC 441	International Relations: Theory and Practice
POSC 488	Comparative Legal Systems

\*Students should be aware that there are additional MATH and ACCT prerequisites for FINA 370; also, students are advised to complete FINA 303 before enrolling in FINA 370.

## Requirements for International Development Concentration

### 1. Required Core Courses:

(24 hours – listed above)

### 2. Foreign Language:

(12 hours – listed above)



**3. Additional Courses: (27 hours)****A. Required Courses: (15 hours)**

ECON	202/212	Principles of Economics (Micro)
ECON	309	Comparative Economic Systems
ECON	405	Economics of Developing Countries
GEOG	300	Economic Geography
POSC	341	International Organization

**B. Elective Courses: (12 hours)**

Four courses (chosen from at least three different disciplines) from among the following:

ECON	400	International Trade
ECON	401	International Finance
GEOG	320	Geography of Latin America
GEOG	360	Food Systems
GEOG	400	Geography of Asia
GEOG	403	The Geography of Sub-Saharan Africa
GEOG	404	Geography of the Middle East
GEOG	407	Political Geography
HIST	301	Traditional Africa
HIST	304	History of Latin America
HIST	341	Modern and Contemporary Middle East
HIST	353	Contemporary Africa
HIST	360	Modern and Contemporary Asia
HIST	455	Latin American Revolutions
HIST	457	India
INST	490	Special Topics in International Studies
INST	492	Internship Seminar (if internship is relevant to International Development)
PHIL	311	Asian and African Philosophy (GEP Group F)
POSC	330	Politics of Africa
POSC	331	Politics of Latin America
POSC	332	Politics of the Middle East
POSC	336	Politics of Food

**Requirements for International Economics Concentration****1. Required Core Courses: (24 hours – listed above)****2. Foreign Language: (12 hours – listed above)****3. Additional Courses: (30-31 hours)****A. Required Courses: (21-22 hours)**

ECON	202/212	Principles of Economics (Micro)
ECON	400	International Trade
ECON	401	International Finance
ECON	405	Economics of Developing Countries
ECON	450	Quantitative Economics
		or ECON 460 Introduction to Econometrics
GEOG	300	Economic Geography
MATH	118	Algebra With Calculus for Business
		or MATH 220 Calculus for Applications I
		or MATH 236 Calculus I (Core Skill 3)

**B. Elective Courses: (6 hours)**

Two from among the following:

ECON	309	Comparative Economic Systems
ECON	410	Resource and Energy Economics
GEOG	407	Political Geography
INST	490	Special Topics in International Studies
INST	492	Internship Seminar (if internship is relevant to International Economics)
POSC	341	International Organization

**Requirements for International Politics Concentration****1. Required Core Courses:**

(24 hours – listed above)

**2. Foreign Language:**

(12 hours – listed above)

**3. Additional Courses: (27 hours)****A. Required Courses: (18 hours):**

ECON	309	Comparative Economic Systems
GEOG	407	Political Geography
POSC	250	Research Methods
POSC	341	International Organization
POSC	342	Foreign Policy of the United States
POSC	441	International Relations: Theory and Practice

**B. Elective Courses: (9 hours)**

Three from among the following:

ECON	400	International Trade
HIST	409	World Environmental History
HIST	419	A History of Terrorism
INST	490	Special Topics in International Studies
INST	492	Internship Seminar (if internship is relevant to International Politics)
POSC	330	Politics of Africa
POSC	331	Politics of Latin America
POSC	332	Politics of Middle East
POSC	333	Politics of Europe
POSC	336	Politics of Food
POSC	370	Introduction to Political Thought
POSC	431	Russian Politics
POSC	435	Model Organization of American States
POSC	442	National Security Policy
POSC	443	Transnational Terrorism and Counter-Terrorism
POSC	488	Comparative Legal Systems

# Jazz Studies

## MINOR

**Program Coordinator:** Brent Weber, Associate Professor, Department of Music

- The Jazz Studies Minor is open to music majors looking for a broader musical experience or students wanting to explore jazz instruction and performance while pursuing another major.
- Course of study includes:
  - Jazz and Vocal Jazz Ensembles
  - Private Applied Instruction
  - Music Theory and Jazz Theory and Analysis
  - Jazz History
- Student must demonstrate prior study of an instrument or voice.
- Only courses in which you earn a grade of C or better will count toward satisfaction of the minor requirements.

### Program Requirements

	MINOR
Hours Required in Music:	24
Hours Required in Other Departments:	0
Total Hours Required:	24

### Requirements for Jazz Studies Minor

#### 1. Music Theory and History: (16 hours)

- MUSC 102 Tonal Analysis I
- MUSC 103 Tonal Analysis II (*Tech. Fluency*)
- MUSC 104 Aural Musicianship I
- MUSC 105 Aural Musicianship II
- MUSC 214 Jazz Theory and Analysis
- MUSC 311 Jazz History (*GEP Group F*)

#### 2. Ensemble: (4 hours)

4 hours selected from:

- MUSC 327 Jazz Orchestra (for instrumentalists)
- MUSC 370 Vocal Jazz Ensemble (for vocalists)

#### 3. Private Instruction: (4 hours)

- MUSA 122 Jazz Private Instruction
- and/or MUSA 362 Jazz Private Instruction

# Journalism

## MINOR

**Coordinator:** Andy Duncan, Professor, Department of English

### Participating Faculty:

**Professors:** Abbay (History), Boniece (History), A. Duncan (English)

**Associate Professors:** Ma (History), McConnell (History), Morris (English), Whalen (Communication), Wood (History)

The minor in journalism will help you develop:

- Improved communication skills
- Familiarity with the roles that journalists perform in different environments
- Understanding of cultural differences, political matters, and global issues facing the practicing journalist today
- Enhanced problem-solving skills
- Ability to perform specific tasks related to print and media journalism
- Awareness of legal and ethical restrictions on journalists

You cannot major in journalism.

### Program Requirements

	MINOR
Total Hours Required:	21

### Requirements for Minor in Journalism

#### 1. Required Courses: (18 hours)

- ENGL 336 Journalistic Writing
- ENGL 402 Editing and Production
- ENGL 436 Advanced News and Feature Writing
- ENGL 494 Field Experience
- MCOM 326 Writing for the Electronic Media
- MCOM 447 Telecommunications Law

#### 2. Electives: (3 hours)

Choose one from the following:

- ENGL 355 Socially Networked Journalism
- ENGL 360 Creative Nonfiction
- Any 300- or 400-level HIST or POSC course

# Law

## BACHELORS/JURIS DOCTOR PROGRAM DUAL-DEGREE PROGRAM

**Coordinator:** Scott Johnson, Professor, Department of Political Science

- Frostburg State University students may earn the last 29 of the 120 credit hours required by Frostburg State University for graduation at the University of Baltimore School of Law. The result of this Bachelors/Juris Doctor Program is that students may attain an undergraduate and a law degree in six years instead of the normal seven years.

### Program Requirements

Hours Required at Frostburg State University:	91
Hours Required at University of Baltimore School of Law:	29
Total Hours Required:	120

### Requirements at FSU for the Bachelor's/ Juris Doctor Program

- Complete 91 credit hours with Frostburg State University.
- Complete all of Frostburg State University's general education requirements.
- Maintain cumulative grade point averages as required at FSU for the academic major and overall course work.
- Complete all requirements for an academic major at Frostburg State University.
- Be accepted by the University of Baltimore School of Law into its early admission program. Students can apply for early admission by simply checking the appropriate box on the regular application form.
- Attain the Bachelor's degree from Frostburg State University upon transferring 29 credits from the University of Baltimore School of Law.

In addition it is recommended that students meet the following criteria:

- Maintain a grade point average of 3.3 or above at Frostburg State University to enhance the chances for acceptance by the University of Baltimore School of Law.
- Complete one of the following majors at Frostburg State University: economics, French, geography, history, law and society, philosophy, political science, psychology, sociology, or Spanish. Other majors are possible, but may require the completion of more than 91 credit hours.

# Law and Society

## MAJOR

### CONCENTRATIONS IN:

- CRIMINAL JUSTICE
- LEGAL STUDIES

**Coordinator:** Scott Johnson, Professor, Department of Political Science

### Coordinating Committee:

**Professors:** S. Johnson (Political Science), D. Lewis (Political Science)

**Associate Professors:** Brill (Philosophy), McMullen (Sociology)

- Law and Society is an interdisciplinary major that offers concentrations in criminal justice and legal studies.
- An internship is optional but strongly encouraged.
- You cannot minor in Law and Society.

### Program Requirements

	MAJOR	CRIMINAL JUSTICE CONC.	LEGAL STUDIES CONC.
Total Hours Required:	46-49	49	46

### Requirements for Major in Law and Society

#### 1. Required Core Courses: (19 hours)

PHIL 102 Contemporary Ethical Problems (*GEP Group B*)  
or PHIL 112 Honors Contemporary Ethical Problems (*GEP Group B*)

POSC 110 Intro. to American Politics (*GEP Group D*)  
or POSC 112 Honors Intro. to American Politics (*GEP Group D*)

POSC 250 Research Methods  
or SOCI 311 Basic Research Methods

POSC 422 American Constitutional Law I

POSC 423 American Constitutional Law II

POSC 489 Law & Society Capstone

SOCI 100 Intro. to Sociology (*GEP Group D*)  
or SOCI 111 Honors Intro. to Sociology (*GEP Group D*)

#### 2. Concentrations: (27-30 hours) Complete one of the following concentrations:

### Concentration in Legal Studies

(27 hours)

#### A. Required Course (3 hours)

PHIL 410 Philosophy of Law

#### B. Elective Courses (24 hours)

Select a total of eight courses, with at least three from Group 1 and at least four from Group 2:

#### Group 1

BLAW 291 Legal Environment of Business

GEOG 473 Environmental Law

MCOM 447 Telecommunications Law

MGMT 457 Labor Relations

PHED 420 Sport Law and Ethics

POSC 324 Criminal Justice Systems

SCIA 210 Introduction to Cyber Law

#### Group 2

CMST 302 Argumentation and Advocacy

PHIL 100 Critical Thinking

PHIL 301	Ethics
PHIL 304	Social Philosophy
PHIL 305	Criminal Justice Ethics
POSC 321	State and Local Politics
POSC 323	Public Administration
POSC 358	American Public Policy
SOCI 340	Criminology
SOCI 442	Juvenile Delinquency
SOCI 443	The American Correctional System

## Concentration in Criminal Justice

(30 hours)

### A. Required Courses (30 hours)

CMST 102	Introduction to Human Communication
or CMST 122 Introduction to Public Speaking	
PHIL 305	Criminal Justice Ethics
or PHIL 410 Philosophy of Law	
POSC 324	Criminal Justice Systems
SOCI 200	Social Problems
or SOCI 203 Deviant Behavior	
SOCI 340	Criminology
SOCI 443	The American Correctional System

### B. Elective Courses (12 hours)

Select any four of the following courses:

PHIL 301	Ethics
PHIL 304	Social Philosophy
POSC 321	American State & Local Politics
POSC 323	Public Administration
POSC 353	Public Program Evaluation
POSC 355	Public Budgeting
POSC 358	American Public Policy
PSYC 340	Forensic Psychology
PSYC 386	Drugs & Human Behavior
SCIA 120	Intro. to Secure Computing & Info. Assurance
SOCI 305	Racial & Cultural Minorities
SOCI 442	Juvenile Delinquency
SPAN 101	Basic Elements of Spanish I
SPAN 211	Spanish Grammar & Composition

### 3. Internship: (optional; 9 or 15 hours)

POSC 492	Internship Seminar
POSC 495	Internship in Political Science

# Law School Preparation

## PRE-PROFESSIONAL PROGRAM

**Pre-law Advisor:** Scott Johnson, Professor, Department of Political Science

- While you cannot major or minor in law school preparation, there are law-related courses offered at Frostburg State University.
- Prospective law students should carefully examine the catalog of the law school they wish to attend in order to determine the test requirements for that school.

The traditional preparatory majors for entering law schools have been political science, history, English, philosophy, or sociology. Most law schools prefer that undergraduates interested in admission to law school *not* follow a prescribed “pre-law” curriculum. Rather, they prefer that students pursue a broad, *liberal* education.

Almost all professional law schools require applicants to take the Law School Aptitude Test. In some cases, the Graduate Record Exam may also be required. Information regarding the L.S.A.T. may be obtained from this university’s pre-law advisor. Information regarding the G.R.E. may be obtained from University Counseling and Psychological Services.

Prospective law students should strive to acquire exceptional ability in communication; gain critical understanding of human values and institutions; and develop understanding in the use of various types of reasoning: deductive, inductive, and analogous. Students should develop the ability to think creatively and to analyze critically. They should also learn how to recognize, differentiate, and organize facts according to their relevance to particular issues.

## Suggested Elective Courses for Law School Preparation

The following courses may be especially helpful in achieving the qualities stated above. Students are advised to choose elective courses from this list:

BLAW 291	Legal Environment of Business
CMST 122	Intro. to Public Speaking
CMST 225	Interviewing
CMST 302	Argumentation & Advocacy
CMST 322	Presentational Communication
CMST 451	Seminar in Communication Theory
ECON 307	Govt. and Business
ECON 404	Public Finance
ENGL 330	Business Writing
ENGL 334	Creative Writing
ENGL 336	Journalistic Writing
ENGL 338	Technical Writing
GEOG 450	Urban Planning
GEOG 473	Environmental Law
HIST 103,104	History of U.S. I, II
PHIL 100	Critical Thinking
PHIL 102/112	Contemporary Ethical Problems
PHIL 410	Philosophy of Law
POSC 324	Criminal Justice Systems
POSC 422,423	American Constitutional Law I, II
SOCI 200	Social Problems
SOCI 443	The Amer. Correctional System

## Law School Admission Test (LSAT) Preparation Course

This non-credit course is designed to help students prepare for the Law School Admission Test (LSAT), a prerequisite for all students seeking admission to law school. The course is offered twice during the academic year in preparation for the October and June tests. There is a fee for the course that covers the costs of instruction and a textbook that contains more than 500 questions and problems, including analytical exercises, practice tests, and a full-length home-study exam. The course covers each of the main sections of the LSAT in depth: application of rules, reading comprehension, logical games, logical reasoning, and essay writing. For each section, students are exposed to a wide variety of sample questions, which are analyzed in class, and various suggestions and methods are presented in lectures for approaching the types of questions in each section.

Graduates of the LSAT prep course have gained admission to such law schools as The Georgetown University Law Center, Duquesne University School of Law, The University of Baltimore School of Law, The West Virginia University College of Law, Appalachian School of Law, Ohio Northern University College of Law, The Thomas M. Cooley Law School, and Liberty College of Law.

For further information, contact Dr. Scott Johnson, pre-law advisor and instructor of the course.

# Leadership Studies

## MINOR

**Coordinator:** Elesha Ruminski, Department of Communication

- The Leadership Studies Minor is open to any student seeking theoretical and experiential leadership development. It is not necessary to be in a leadership role on or off campus to minor in Leadership Studies.
- The minor entails a substantial number of experiential learning activities.
- Only courses in which a grade of C or better is earned will count towards satisfaction of the minor requirements.
- You cannot major in Leadership Studies.

### Program Requirements

	MINOR
Total Hours Required:	19

### Requirements for Minor in Leadership Studies

#### 1. Required Core Courses: (13 credits)

- CMST 102 Introduction to Human Communication
- LEAD 101 Introduction to Leadership Studies
- LEAD 201 Leadership Theories and Practices
- LEAD 401 Citizen Leader

#### 2. Leadership Values and Skills: (3 credits)

Select one of the following courses:

- CMST 215 Small Group Communication
- CMST 300 Interpersonal Communication
- CMST 322 Presentational Communication
- CMST 335 Organizational Communication
- CMST 345 Conflict Management
- MGMT 356 Leadership and Human Behavior
- MGMT 405 Business Ethics and Social Responsibility
- PHIL 301 Ethics
- PHIL 304 Social Philosophy
- PHIL 314 Business Ethics
- POSC 462 Personality and Politics
- PSYC 385 Group Processes

- PSYC 414 Theories of Personality
- PSYC 418 Social Psychology
- SOWK 375 Human Behavior and the Social Environment I
- SOWK 473 Generalist Practice with Groups

### 3. Leadership Environments: (3 credits)

Select one of the following courses:

- LEAD 499 Independent Study (3 cr.)
- MGMT 251 Management of Organizations
- MGMT 357 Human Resources Management
- MGMT 359 Quality Management
- POSC 321 State and Local Politics
- POSC 323 Public Administration
- POSC 352 Interest Groups
- POSC 358 American Public Policy
- POSC 427 The American Presidency
- RECR 380 Recreation Leadership
- RECR 382 Program Planning
- SOCI 325 Community Analysis
- SOWK 370 Introduction to Social Welfare and Social Work

# Liberal Studies

## MAJOR

**Coordinator:** TBD

- The Liberal Studies major may be completed on the Frostburg campus or at the University System of Maryland in Hagerstown.
- You cannot earn a minor in Liberal Studies.

The Liberal Studies major is an interdisciplinary program providing breadth in the arts, humanities, natural and social science disciplines, and depth in an area of specialization (the focus of study). The major is adaptable to student interest in combining more than one field of study as well as preparation for technical and/or professional studies and provides a desirable preparation and pathway for graduate studies or for entry and advancement opportunities in a wide array of employment fields requiring a baccalaureate degree.

### Program Requirements

	MAJOR
Total Hours Required:	52

### Requirements for Major in Liberal Studies

#### I. Liberal Core: (21 hours)

A minimum of 21 hours of course work in addition to courses satisfying General Education Program requirements, and distributed as follows:

- A. 3 hours in a communication arts course that focuses on writing or speaking.
- B. 18 hours in arts and sciences, including a minimum of 3 hours each in arts, humanities, natural sciences, and social sciences.

**II. Focus Area Requirements**

*(approval of LBST Coordinator required): (30 hours)*

- A. A minimum of 27 hours in a discipline or disciplines (including current minors or emphases) related to the student’s area of technical or professional training or other specialized interest, including a minimum of 15 hours at the 300/400 level.
- B. A minimum of 3 hours in a capstone course (seminar, individual research, special topics, practicum, field experience or internship).

**III. Capstone Seminar (1 hour)**

LBST 450 Senior Self-assessment (Capstone)

# Mass Communication

**MAJOR**

**MINOR**

**Professor:** J. Lombardi, Terry (Chair)

**Associate Professor:** Whalen

**Assistant Professor:** Danzi

- Only courses in which you earn a grade of C or better may count towards satisfaction of major or minor requirements.
- All grades earned in courses completed for the major in Mass Communication count in determining whether you meet the graduation requirement of a 2.0 cumulative grade point average in the major.
- All courses completed for the Mass Communication major count in determining whether one-half of the major is completed at FSU.

**Program Requirements**

	MAJOR	MINOR
Hours Required in Mass Comm.:	30-42	24
Hours Required in Other Departments:	3-15	0
Total Hours Required:	45	24

**Requirements for Major in Mass Communication**

**1. Introductory/Prerequisite Course: (3 hours)**

MCOM 105 Introduction to Mass Communication

**2. Mass Communication Practice Courses:**

*(9 hours)*

ART 207 Graphic Design *(Tech. Fluency)*

MCOM 205 Mobile Media Production

MCOM 246\* Introduction to Mass Communication Research Methods

**3. Advanced Mass Communication Courses:**

*(18 hours)*

MCOM 326\* Writing for Electronic Media

MCOM 346\* Mass Communication Theory

MCOM 447\* Telecommunications Law

MCOM 485\* Electronic Media Aesthetics & Criticism

MCOM 486\* Current Issues and New Technology in Mass Communication

MCOM 498\* Senior Seminar in Mass Communication *(Capstone)*

**4. Internship: (Minimum of 3 hours)**

MCOM 492 and 495 Internship Project/Extended Internship

or MCOM 494 Internship

or One 3-credit Mass Communication Elective

**5. Professional Focus: (12 hours)**

*All MCOM majors must complete one of the focus groupings listed below OR one of the following minors: Communication Studies, Graphic Design, Journalism, Leadership Studies, Marketing or Public Relations. Students wishing to substitute a course for one of the courses in the listed focus groupings may petition the Chair, in writing, prior to earning 90 credit hours. Many of these courses have prerequisites and students should plan their earlier studies accordingly.*

**Video Production**

MCOM 287\* Introduction to Video Production

MCOM 387\* Multi-Camera Studio Production

MCOM 487\* Advanced Video Production

MCOM 488\* Multi-Camera Field Production

MCOM 499\* Directed Study

**Audio/Video Production**

*Choose two from each group:*

**Group 1**

MCOM 213 Audio Production

MCOM 250 Announcing and Performance

MCOM 313\* Advanced Audio Production

MCOM 465\* Music Promotion and Production

MCOM 499\* Directed Study

MUSC 358 The Business of Music and Arts Management

**Group 2**

MCOM 287\* Introduction to Video Production

MCOM 387\* Multi-Camera Studio Production

MCOM 487\* Advanced Video Production

MCOM 488\* Multi-Camera Field Production

MCOM 499\* Directed Study

**Audio Industry**

*Choose four from:*

MCOM 150 Introduction to Radio

MCOM 213 Audio Production

MCOM 250 Announcing and Performance

MCOM 313\* Advanced Audio Production

MCOM 316\* Electronic Media Management

MCOM 336\* Broadcast-Cable Programming

MCOM 465\* Music Promotion and Production

MCOM 499\* Directed Study

MUSC 358 The Business of Music and Arts Management

**Media Management†**

*Choose four from:*

CMST 225 Interviewing

CMST 335	Organizational Communication
CMST 345	Conflict Communication
MCOM 316*	Electronic Media Management
MCOM 336*	Broadcast-Cable Programming
MGMT 251*	Management of Organizations
MGMT 356*	Leadership and Human Behavior
MGMT 357*	Human Resource Management
MUSC 358	The Business of Music and Arts Management

### Events Planning

Choose four from:

CMST 102	Introduction to Human Communication
	or CMST 122 Introduction to Public Speaking
LEAD 101	Introduction to Leadership Studies
MCOM 465*	Music Promotion and Production
MCOM 499*	Directed Study
MUSC 358	The Business of Music and Arts Mgmt.
RECR 382	Program Planning
RECR 384	Special Events Management

### Media Promotions<sup>†</sup>

Choose four from:

CMST 322	Presentational Communication
MCOM 456*	Creative Strategies in Adver. & Media Buying
MCOM 465*	Music Promotion and Production
MCOM 499*	Directed Study
MKTG 361*	Principles of Marketing
MKTG 366*	Consumer Behavior
MUSC 358	The Business of Music and Arts Management

## Requirements for Minor in Mass Communication

### 1. Required Courses (18 hours)

MCOM 105	Introduction to Mass Communication
MCOM 246*	Intro. to Mass Communication Research Methods
MCOM 346*	Mass Communication Theory
MCOM 447*	Telecommunications Law
MCOM 485*	Electronic Media Aesthetics and Criticism
MCOM 486*	Current Issues & New Technologies in Mass Communication

### 2. Electives (6 hours)

Select six additional credits of MCOM courses (excluding MCOM 100 and MCOM 101)

\*Course has prerequisites; consult the course description section of this catalog

† This program is intended to give a foundational background in some business aspects of MCOM, but is not intended as preparation for a professional career in business.

# Mathematics

## MAJOR

## MINOR

**Professors:** Hegde, Hughes, Lemmert, Michael, Revenaugh

**Associate Professors:** Barnet, Dunmyre (Chair), Wojnar

**Assistant Professors:** Forsythe, Horacek, N. Tootoonchi

**Lecturer:** Devlin

- You may major or minor in Mathematics
- Elementary Education students may elect a specialization in Mathematics.
- You may elect to focus in Mathematical Sciences (see next section). The Mathematical Sciences Focus is designed for mathematics, chemistry, and physics majors.
- The department offers an honors program.

## Program Requirements

	MAJOR	MINOR
Hours Required in Mathematics:	42	21
Hours Required in Other Departments:	0	0
Total Hours Required:	42	21

## Requirements for Major in Mathematics

### 1. Basic Courses (39 hours)

MATH 236	Calculus I (Core Skill 3)
MATH 237	Calculus II
MATH 238	Calculus III
MATH 280	Introductory Applied Statistics and Data Analysis
MATH 315	Foundations of Mathematics
MATH 350	Linear Algebra I
MATH 380	Introduction to Probability and Statistics
MATH 432	Differential Equations
MATH 440	Modern College Geometry
MATH 451	Modern College Algebra
MATH 470	Mathematical Models and Applications
MATH 491	Seminar in Mathematics (Capstone)

### 2. Electives (6 hours)

Select from courses at the 400 level, except MATH 495 Internship in Mathematics.

Most students will fulfill the elective requirements with the following courses

MATH 425	Introduction to Real Analysis
MATH 452	Linear Algebra II
MATH 461	History of Mathematics
MATH 465	Theory of Numbers

## Requirements for Minor in Mathematics

### 1. Basic Courses (11-12 hours)

MATH 236	Calculus I (Core Skill 3)
MATH 237	Calculus II
AND ONE of the following:	
a) MATH 238	Calculus III OR
b) MATH 280	Introductory Applied Statistics and Data Analysis

### 2. Electives (9 hours)

Select from courses at the 300 or 400 level, except MATH 340 Fundamental Concepts of Geometry or MATH 495 Internship in Mathematics

If you wish to complete a Maryland State-approved program in teaching secondary Mathematics, you must:

- Complete the BA/BS in Mathematics.
- See the Secondary Teacher Education Program Coordinator for details.
- Within the electives portion of the Mathematics major, you must select certain courses in order to qualify for Maryland State certification and to meet NCATE accreditation standards. These courses are listed below.

**1. Basic Core Curriculum (39 hours)**

- MATH 236 Calculus I (*Core Skill 3*)
- MATH 237 Calculus II
- MATH 238 Calculus III
- MATH 280 Introductory Applied Statistics and Data Analysis
- MATH 315 Foundations of Mathematics
- MATH 350 Linear Algebra I
- MATH 380 Introduction to Probability and Statistics
- MATH 432 Differential Equations
- MATH 440 Modern College Geometry
- MATH 451 Modern College Algebra
- MATH 470 Mathematical Models and Applications
- MATH 491 Seminar in Mathematics (*Capstone*)

**2. Mathematics Teaching Certification Option Requirements**

(6 hours)

- MATH 461 History of Mathematics
- MATH 465 Theory of Numbers

# Mathematical Sciences

**FOCUS**

**Coordinator:** Marc Michael Chair), Department of Mathematics

- You may elect to focus in Mathematical Sciences.
- The Mathematical Sciences Focus is designed for Mathematics, Chemistry, and Physics majors.
- You cannot major or minor in Mathematical Sciences.

**Program Requirements**

	FOCUS
Hours Required in Mathematics:	12
Hours Required in Other Departments:	10-12
Total Hours Required:	22-24

**Requirements for Focus in Mathematical Sciences**

**1. Core Mathematics Courses: (3 hours)**

*From among:*

- MATH 315 Foundations of Mathematics
- MATH 425 Introduction to Real Analysis
- MATH 440 Modern College Geometry
- MATH 451 Modern Higher Algebra
- MATH 452 Linear Algebra II
- MATH 460 Introductory Topology
- MATH 465 Theory of Numbers

**2. Applied Mathematics: (9 hours)**

*From among:*

- MATH 380 Introduction to Probability and Statistics
- MATH 426 Introduction to Complex Analysis
- MATH 432 Differential Equations
- MATH 436 Mathematical Physics
- MATH 437 Combinatorics and Graph Theory
- MATH 470 Mathematical Models and Applications
- MATH 480 Probability and Statistics
- MATH 492 Internship Seminar

**3. Required Courses in Other Departments:**

**Computer Science (7-8 hours)**

*From among:*

- COSC 240 Computer Science I
- COSC 241 Computer Science II
- COSC 350 Low-Level Programming Concepts
- COSC 450 Programming Language Principles and Paradigms

**Science (3-4 hours)**

- PHYS 261 Principles of Physics I (*GEP Group C*) or
- CHEM 441 Physical Chemistry I



	OPTIONS		MAJOR CONCENTRATIONS		MAJOR TRACKS		
	TEACHING CERTIFICATION	MUSIC EDUCATION	VOCAL PERFORMANCE	MUSIC INDUSTRY	INSTRUMENTAL PERFORMANCE	MUSIC STUDIES	MINOR
Hours Required in Music:	88.5	78.5	66	66-69	65	65	18-19
Hours Required in Other Depts:	12	6	15-18	15-18	15-18	15-18	0
<b>Total Hours Required:</b>	<b>100.5</b>	<b>84.5</b>	<b>81-84</b>	<b>81-87</b>	<b>80-83</b>	<b>80-83</b>	<b>18-19</b>

# Music

## MAJOR

## MINOR

### CONCENTRATIONS IN:

- VOCAL PERFORMANCE
- MUSIC INDUSTRY

### TRACKS IN:

- INSTRUMENTAL PERFORMANCE
- MUSIC STUDIES

### OPTIONS:

- MUSIC EDUCATION
- TEACHER CERTIFICATION

**Associate Professors:** M. Gallagher, Weber

**Assistant Professor:** DeWire

- All students entering or re-entering the major are required to pass an audition in their primary performance area before being accepted as a music major. Students changing their primary performance area must re-audition before being re-accepted as a music major.
- You must choose a concentration, a track, the teaching certification option or the option in music education.
- Only courses in which you earn a C or better will count towards satisfaction of requirements for the major and the minor.
- MUSC/MUSA courses in which you earn a grade of C or better will count toward satisfaction of requirements for the major and minor. Concentrations for the major involving minors or coursework in other departments shall abide by the grade requirements for those programs.

## Requirements for Major in Music

**Core Requirements:** (48-49 hours)

### 1. Music Theory: (20 hours)

- MUSC 102 Tonal Analysis I  
 MUSC 103 Tonal Analysis II (Tech. Fluency)  
 MUSC 104 Aural Musicianship I

- MUSC 105 Aural Musicianship II  
 MUSC 204 Tonal Analysis III  
 MUSC 205 Tonal Analysis IV  
 MUSC 206 Aural Musicianship III  
 MUSC 207 Aural Musicianship IV

### 2. Music History & Literature: (9 hours)

- MUSC 110 Music Appreciation (GEP Group A)  
 MUSC 308 Music History I  
 MUSC 309 Music History II  
 MUSC 313 Music History III

### 3. Ensemble:

(8 hours for performance concentrations, music studies and option in Music Education; 7 hours for music industry and teaching certification option)

Select from:

- MUSC 319 University Chorale  
 MUSC 330 Wind Ensemble  
 MUSC 335 String Ensemble  
 MUSC 336 Guitar Ensemble  
 MUSC 340 Chamber Singers

### 4. Piano Proficiency and Sophomore Evaluation

Students must successfully pass the Department of Music Piano Proficiency Exam and Sophomore Evaluation.

### 5. Private Instruction: (12 hours)

- MUSA 116-123 Private Instruction  
 and/or MUSA 356-363 Private Instruction

## Requirements for Minor in Music

**Core Requirements:** (18-19 hours)

### 1. Foundation Courses (7 hours)

- MUSC 102 Tonal Analysis I (3 cr.)  
 MUSC 104 Aural Musicianship I (2 cr.)  
 MUSC 308 Music History I (2 cr.)

### 2. Core Areas (4-5 hours)

Select One Core Area

### Group A – Music History (4 hours)

- MUSC 309 Music History II  
 MUSC 313 Music History III

**Group B – Music Theory (5 hours)**

MUSC 103 Tonal Analysis II

MUSC 105 Aural Musicianship II

**3. Ensemble: (3 hours)***Select from:*

MUSC 319 University Chorale

MUSC 330 Wind Ensemble

MUSC 335 String Ensemble

MUSC 336 Chamber Guitar Ensemble

MUSC 340 Chamber Singers

**4. Private Instruction: (4 hours)**

MUSA 116-123 Private Instruction

and/or MUSA 356-363 Private Instruction

**Requirements for Option in Music Education**

This option is designed for students to complete a degree in Music with an Option in Music Education. It does not require completion of initial certification or the MAT. For students who wish to complete the MAT or pursue careers in music education that do not require certification, they should follow this Option. All students who complete this Undergraduate Option in Music Education will receive a Bachelor of Science in Music upon successful completion of the requirements outlined below.

**Entrance Requirements for those students opting to complete the Master of Arts in Teaching (MAT):**

After completion of the sophomore evaluation, apply for provisional admission to the MAT program. Students applying to the MAT must meet all entry requirements as set forth by the College of Education MAT program. A transcript review will be completed prior to entrance into the MAT after completion of the Undergraduate Degree. Any deficiencies must be complete before full admission to the MAT program. Students in this Option will complete the Bachelor of Science in Music and complete all of the prerequisites to enter the Master of Arts in Teaching to complete their certification.

Please note, students taking this option should work with their advisor to create a plan of study that allows these 9 credits of graduate courses to be taken through-out the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester. Please note that winter session and summer courses may affect your ability to meet these requirements.

**1. Core Courses: (49 hours)**

Required for all music majors; listed above.

**2. Recital Requirement: (1 hour)**

MUSA 490 Senior Recital (Capstone)

**3. Supplemental Requirements: (4 hours)**

MUSA 117 Private Instruction (Piano) (2 semesters required)

*And select 2 hours from:*

MUSA 116-123 Private Instruction

and/or MUSA 356-363 Private Instruction

**4. Other Requirements for Option in Music Education:****(19.5 hours)**

MUSA 108 Class Instruments: Strings

MUSA 208 Class Instruments: Woodwinds

MUSA 209 Class Instruments: Brass

MUSA 311 Class Instruments: Percussion

MUSC 413 Vocal Pedagogy

MUSC 125 Introduction to Music Education

MUSC 252 Early Music Experience

MUSC 310 Basic Principles of Conducting I – Choral

MUSC 359 Computer Music Technology (2 hours)

MUSC 410 Basic Principles of Conducting II – Instrumental

**Choral Emphasis**

MUSC 210 Diction I (1 hour)

MUSC 211 Diction II (1 hour)

**Instrumental Emphasis***Select 2 hours from:*

MUSC 329 Marching Bobcats (1 hour)

MUSC 411 March Band Techniques (2 hours)

**5. Supplemental ensemble requirement(s): (2 hours)**

*(Students whose primary instrument is Piano/Guitar should take each ensemble once. Students whose primary instrument is voice should enroll in two semesters of Wind Ensemble. Students whose primary instrument is woodwinds, brass, percussion, or strings should enroll in two semesters of University Chorale.)*

**Choral Emphasis**

MUSC 330 Wind Ensemble

**Instrumental Emphasis**

MUSC 319 University Chorale

**6. Other Course Requirements: (9 hours)**

Complete at least 9 credits outside of the music major.

Students who are admitted into the Option in Music Education must complete the following courses to meet this requirement.

Please note, students taking this option should work with their advisor to create a plan of study that allows these 9 credits of graduate courses to be taken through-out the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester. Please note that winter session and summer courses may affect your ability to meet these requirements.

EDUC 552 General Music Methods for Elementary School

EDUC 553 General Music Methods for Secondary School

*Choose one:*

MUSC 552 Choral Music Methods K-12

MUSC 553 Instrumental Music Methods K-12

**Requirements for the Teaching Certification Option in Music****1. Core Courses: (48 hours)**

Required for all music majors; listed above.

**2. Recital Requirement: (1 hour)**

MUSA 490 Senior Recital (Capstone)

**3. Other Required Courses for P-12 Teaching Certification:***(51.5 hours)*

If you wish to complete a Maryland State-approved program in teaching music, you must:

Complete the following additional courses in music:

- MUSA 108 Class Instruments I: Strings
  - MUSA 208 Class Instruments II: Woodwinds
  - MUSA 209 Class Instruments III: Brass
  - MUSA 311 Class Instruments IV: Percussion
  - MUSC 310 Basic Principles of Conducting I - Choral
  - MUSC 410 Basic Principles of Conducting II - Instrumental
- If your performing area is instrumental, you must complete 2 credit hours of MUSC 319 University Chorale.
  - If your performing area is guitar, you must complete 2 credit hours of MUSC 319 University Chorale and 2 credit hours of MUSC 330 Wind Ensemble.
  - If your performing area is vocal, you must complete MUSA 210 Diction I and MUSC 211 Diction II.
  - Meet the phase admissions requirements summarized in the Educational Professions section.
  - Complete the professional education sequence described in the Education: P-12 Programs.

## Summary of Requirements for the Music Industry Concentration

**1. Core Courses: (48 hours)**

Required for all music majors; listed above.

**2. Advanced Courses: (18-21 hours)**

- MUSC 356 Computer Music Technology
  - MUSA 390 Junior Recital
  - MUSC 358 The Business of Music and Arts Management
  - MUSC 494 Practicum in Music Industry
- (MUSC 494: 3 hours must be begun after Sophomore Evaluation is completed prior to taking MUSC 494)*
- MUSC 495 Internship in Music Industry (9 or 12 hours) (Capstone)

**3. Required Courses in Other Departments:***(15-18 hours)*

- BUAD 100 Introduction to Business
  - MCOM 213 Audio Production
  - MCOM 465 Music Promotion and Production
- And select 6-9 hours from the following courses*
- MKTG 361 Principles of Marketing
  - ECON 200 Introduction to Economics
  - COSC 120 Introduction to Cyberspace
  - MCOM 313 Advanced Audio Production
  - RECR 384 Special Event Management

## Requirements for the Instrumental Performance Track

**1. Core Courses: (49 hours)**

Required for all music majors; listed above.

**2. Recital Requirements: (2 hours)**

- MUSA 390 Junior Recital
- MUSA 490 Senior Recital (Capstone)

**3. Supplementary Requirements: (3 hours)**

- MUSA 116-123 Private Instruction
- MUSA 356-363 Private Instruction
- MUSC 315, 319, 327, 331, 337, 339 Ensembles

**4. Other Requirements: (11 hours)**

- MUSC 310 Basic Principles of Conducting I - Choral
- MUSC 401 Post-Tonal Analysis

*And select five hours from:*

- MUSA 213 Piano Pedagogy
- MUSC 305 Orchestration
- MUSC 360 Special Topics in Music (up to 4 credits)
- MUSC 499 Individual Research in Music (up to 4 credits)

**5. Minor or Other Course Requirements: (15 hours)**

*Complete a minor of the student's choosing or a minimum of at least 15 credits outside of the music major.*

## Requirements for the Music Studies Track

**1. Core Courses: (49 hours)**

Required of all music majors; listed above.

**2. Supplementary Course Requirements: (11 hours)**

- MUSC 310 Basic Principles of Conducting I - Choral
- MUSC 401 Post-Tonal Analysis

*And select 5 hours from:*

- MUSA 213 Piano Pedagogy
- MUSC 305 Orchestration
- MUSC 360 Special Topics in Music (up to 2 cr.)
- MUSC 412 History of Musical Theatre

**3. Supplementary Lesson Requirements: (2 hours)**

- MUSA 116-123 Private Instruction
- MUSA 356-363 Private Instruction

**4. Supplementary Ensemble Requirements: (2 hours)**

Selected from: MUSC 315, 319, 321, 327, 331, 335, 336, 337, 339, 340, 370 Ensembles

**5. Capstone Experience: (1 hour)**

- MUSC 493 Senior Research

**6. Minor or Other Course Requirements: (15 hours)**

*Complete a minor of the student's choosing or a minimum of at least 15 credits outside of the music major.*

## Requirements for the Vocal Performance Concentration

### 1. Core Courses: (49 hours)

Required for all music majors; listed above

### 2. Recital Requirements: (2 hours)

MUSA 390 Junior Recital

MUSA 490 Senior Recital (*Capstone*)

### 3. Supplementary Requirements: (3 hours)

MUSA 116-123 Private Instruction

MUSA 356-363 Private Instruction

MUSC 315, 327, 331, 337, 339, 340 Ensembles

### 4. Other Requirements for Vocal

#### Performance Majors: (12 hours)

MUSC 210 Diction I

MUSC 211 Diction II

MUSC 310 Basic Principles of Conducting I - Choral

MUSC 346 Opera and Art Song Repertoire

MUSC 401 Post-Tonal Analysis

MUSC 413 Vocal Pedagogy

And select two hours from the following:

MUSC 305 Orchestration

MUSC 346 Opera and Art Song Repertoire

MUSC 360 Special Topics in Music

MUSC 499 Individual Research in Music

### 5. Minor or Other Course Requirements:

(15 hours)

Complete a minor of the student's choosing or a minimum of at least 15 credits outside of the music major.

# Musical Theatre

## MINOR

**Contact:** Nicole Mattis (Chair), Department of Theatre and Dance

**Professor:** Yost-Rushton

**Associate Professors:** M. Gallagher, Mattis, Rushton, Weber

**Assistant Professor:** DeWire

- Only courses in which a grade of C or better is earned will count toward satisfaction of minor requirements.
- Departmental permission required for admission to the minor.

## Program Requirements

	MINOR
Hours Required in Music:	9-11
Hours Required in Theatre:	12-14
Hours Required in Dance:	5
Total Hours Required:	28

## Requirements for Minor in Musical Theatre

### 1. Music Courses: (9 hours)

MUSC 104 Aural Musicianship I 2 cr.

MUSC 412/THEA 412 History of Musical Theatre 3 cr.

MUSC 169 Music Theory for Musical Theatre 2 cr.

MUSA 125 or 325 Private Instruction in Musical Theatre Voice 2 cr.

### 2. Theatre Arts: (12 hours)

THEA 110 Introduction to Acting 3 cr.

THEA 208 Acting: Basic Principles and Application 3 cr.

THEA 210 Voice and Movement I 3 cr.

THEA 211 Voice and Movement II 3 cr.

### 3. Dance: (5 hours)

DANC 154 Jazz I 2 cr.

DANC 361 Dance for Musical Theatre 3 cr.

### 4. Ensemble/Experiential Learning Requirement: (2 hours)

Choose from:

MUSC 321 Opera Workshop 1 cr.

THEA 105 Performance Practicum 1 cr.

(only musical productions will be counted)

Both courses are repeatable for credit.

Students may not fulfill their MUSC 321 and THEA 105 (musical) requirements during the same semester.

# Nursing

## RN TO BSN COMPLETION PROGRAM COLLABORATIVE TRANSFER PROGRAM MAJOR

**Coordinator:** Heather A. Gable (Chair), Department of Nursing

- The RN to BSN Completion Program does not lead to licensure as a registered nurse.
- If you are interested in a career in nursing but are not licensed as a registered nurse, or enrolled in a program leading to licensure, you should follow the pre-professional program in Nursing Preparation described with the Health Science Pre-Professional programs in this catalog to earn admission to an initial licensure program.
- You cannot minor in nursing.
- You must meet all requirements for the Bachelor of Science listed in this catalog.

The RN to BSN Program is based on the American Association of Colleges of Nursing's proposed *Essentials of Baccalaureate Nursing Education*. The program is approved by the Maryland Board of Nursing, the Maryland Higher Education Commission and the Commission on Collegiate Nursing Education (CCNE), and meets the requirements of the Maryland statewide nursing education articulation agreement.

The RN to BSN curriculum is designed to increase the registered nurse's knowledge and skills in the areas of leadership, quality improvement, evidence-based nursing practice, nursing informatics, population-focused health promotion and disease prevention, interdisciplinary collaboration and professionalism. The program will prepare nurses to assume roles in leadership, complex clinical care coordination and community/public health, and serves as the academic foundation for graduate study.

The program is open to all registered nurses who meet the program admissions criteria, including an active, unencumbered RN license from within the United States. The program builds on the elements of Associate Degree nursing education. Nursing students concurrently enrolled in an Associate Degree in Nursing (ADN) program at a community college who meet the admission criteria (with the exception of RN licensure) are eligible to take RN-BSN courses at the discretion of the assigned advisor prior to licensure. Courses are delivered in a part-time, online format to maximize scheduling flexibility and maintain the student-faculty connection that is essential to academic success. Once the student begins the RN-BSN program, he or she will have five years to complete the degree requirements.

### Program Goal

The RN to BSN Program prepares the registered nurse to be a professional health care practitioner who provides compassionate care that is based on scientific evidence and who serves as the link between the patient (individual, family, community or population) and the health care environment across the lifespan.

### Program Objectives

The RN to BSN Program prepares the graduate to:

- Utilize critical thinking and creativity to address professional practice and patient care issues.
- Apply leadership concepts and collaborative strategies to the process of nursing care delivery.
- Utilize quality improvement and safety management principles in clinical nursing practice.
- Identify and understand basic elements of nursing research.

- Integrate scientific evidence with clinical judgment and patient preference to improve patient outcomes.
- Safely use information technology to improve patient care.
- Describe the ethical, legal, political and financial influences on the delivery of patient care.
- Demonstrate interpersonal communication skills and collaborative strategies that support the delivery of interdisciplinary, patient-centered care.
- Provide evidenced-based, preventative health care to families, communities and vulnerable populations in community-based settings.
- Demonstrate the knowledge, skills and attributes of professional nursing practice.

## Program Requirements

	MAJOR
Hours transferred from community college:	30-55
Hours earned with unencumbered RN license	30
Hours required at Frostburg State University	35-60
Total Hours Required:	120

## Requirements for Major in Nursing

### Required Courses From GEP

BIOL 321	Anatomy and Physiology I	4 hours
CHEM 100	Chemistry and Society or CHEM 150 General, Organic and Biochemistry or CHEM 201 General Chemistry I	4 hours
ENGL 308	Social Sciences Advanced Composition or ENGL 338 Technical Writing or ENGL 339 Scientific Writing	3 hours
MATH 109	Elements of Applied Probability and Statistics/110 Honors: Elements of Appl. Probability & Statistics	3 hours
PSYC 150	General Psychology	3 hours
SOCI 100	Introduction to Sociology	3 hours

### Additional Required Courses

Courses may be completed at ACM, FSU or another institution. FSU course number specified below.

BIOL 322	Anatomy and Physiology II (1)	4 hours
BIOL 304	Microbiology (1)	4 hours
EXSS 200	Nutrition	3 hours
PSYC 208	Intro to Lifespan Development	3 hours

*A Human Growth and Development course approved by the Program Coordinator. (1)*

### Total Additional Hours

**14 hours**

(1) Course completed as part of Associate Degree in Nursing.

**Upper-Division Credits****Total Hours for Unencumbered RN License****30 hours****Courses that must be completed at FSU\*\*(4)****1. Discipline core courses:**

NURS 401	Health Assessment	3 hours
NURS 402	Nursing Research and Evidence-Based Practice	3 hours
NURS 403	Elements of the Professional Nursing Role	3 hours
NURS 404	Nursing Informatics ( <i>Tech. Fluency</i> )	3 hours
NURS 405	Ethics in Contemporary Nursing Practice	3 hours
NURS 406	Leadership for Quality and Safety	3 hours
NURS 491	Population-Focused Nursing Practice	3 hours
NURS 495	Population-Focused Nursing Practice Practicum	3 hours
NURS 496	Capstone Project	2 hours

**2. Courses outside the discipline:****a. Required:**

MGMT 356	Leadership and Human Behavior	3 hours
----------	-------------------------------	---------

**b. Electives:***(choose one of the following):* 3 hours

CMST 300	Interpersonal Communication
HEED 418	Current Issues in Health
HLTH 330	Epidemiology of Health
HLTH 430	Methods and Materials for Health Promotion
HLTH 435	Health Promotion Programming
MGMT 359	Quality Management
MGMT 405	Business Ethics and Social Responsibility
NURS 407	Healthcare Finance
NURS 410	Contemporary Psychiatric Nursing Practice
NURS 412	Women's Health in Global Perspectives
PSYC 386	Drugs and Human Behavior
PSYC 387	Addictions and Treatment Delivery
PSYC 388	Treatment Issues and Theory in Addictions
PSYC 409	Human Learning and Cognition
PSYC 430	Health Psychology
PSYC 485	Behavioral Approaches to Human Problems
SOCI 305	Racial and Cultural Minorities (GEP Group F)
SOCI 367	Sociology of Medicine
SOWK 468/SOCI 468	Sociology of Later Life

**Total Hours in Major:****32 hours***(4) All upper-division credits are subject to the Nursing Department Course Repeat Policy.**\*\* Only courses in which a grade of C or better is earned may count toward satisfaction of upper-level major requirements.*

# Nursing

**COLLABORATIVE BACHELOR OF SCIENCE****Coordinator:** Kara Platt, Assistant Professor, Department of Nursing

- This is a dual enrollment option between FSU and Allegany College of Maryland (ACM).

- This option is for students that are not local to Allegany County or surrounding counties. Local students can apply through ACM and then enter dual enrollment through an Associate to Bachelor's agreement.
- A cohort of 10 students will be accepted every spring semester into ACM's Nursing Program.
- This program will result in completion of an associate degree in nursing from ACM and a Bachelor of Science in Nursing from FSU.
- Students must attend classes on both FSU and ACM campuses.
- Students can gain nursing licensure after graduation from ACM and a successful passing score on the NCLEX exam.

The Collaborative Bachelor of Science in Nursing Option is a pathway for current FSU students who do not have permanent residence within Allegany County or surrounding counties. This is a dual enrollment pathway that gives FSU students the opportunity to earn a Bachelor of Science in Nursing degree. Students will take prerequisite and general education courses at FSU for two years then apply for and enter a dual enrollment with ACM for two years. After successful completion, students will graduate with an associate degree in nursing from ACM and then the following semester graduate with their Bachelor of Science in Nursing from FSU.

**Program Requirements**

	PATHWAY
General Education Credits at FSU:	26
General Education Credits/ACM Prerequisites:	33
Nursing Credits Completed at ACM:	37
Nursing Credits Completed at FSU:	32
<b>Total Hours Required:</b>	<b>128</b>

**Prerequisites for ACM Nursing Program****(33 Credits)**

Biology 321	Anatomy and Physiology I
Biology 322	Anatomy and Physiology II
Biology 304	Microbiology
Math 109	Elements of Applied Probability and Statistics
English 101	Freshman Composition
Psychology 150	General Psychology
Sociology 100	Introduction to Sociology
Psychology 208	Introduction to Lifespan Development
Humanities (6 credits)	

**Allegany College of Maryland Nursing****(37 Credits)**

- These credits taken at ACM campus and clinical requirements within local health settings.

*Follow ACM catalog for more details.*

## FSU Nursing Courses and Additional Prerequisites

(32 Credits with Major courses)

- Meet all requirements within the Nursing Program details on page 119-120 of the Undergraduate catalog.

# Philosophy

**MAJOR**

**MINOR**

**Professor:** Makang

**Associate Professors:** Brassfield, Brill (Chair), Mathias

### Program Requirements

	MAJOR	MINOR
Hours Required in Philosophy:	30	18
Hours Required in Other Departments:	0	0
Total Hours Required:	30	18

### Requirements for Major in Philosophy

#### 1. Required Courses: (12 hours)

- PHIL 100 Critical Thinking
- PHIL 301 Ethics
- PHIL 310 Classics of Western Philosophy
- PHIL 452 Seminar in Contemporary Metaphysics (*Capstone*)  
or PHIL 455 Seminar in Philosophy (*Capstone*)

#### 2. Elective Courses: (18 hours)

##### A. Introductory Level (3 hours)

Select one from:

- PHIL 101 Introduction to Philosophy (*GEP Group B*)  
or PHIL 111 Honors: Introduction to Philosophy (*GEP Group B*)
- PHIL 102 Contemporary Ethical Problems (*GEP Group B*)  
or PHIL 112 Honors: Contemporary Ethical Problems (*GEP Group B*)

##### B. Advanced Level (15 hours)

Select 15 hours from among courses at the 300 or 400 level, with the exception of PHIL 495, which may not be used to satisfy the requirements for the major.

### Requirements for Minor in Philosophy

#### 1. Required Course: (3 hours)

- PHIL 310 Classics of Western Philosophy

#### 2. Elective Courses: (15 hours)

##### A. Introductory Level (3 hours)

Select one from:

- PHIL 100 Critical Thinking
- PHIL 101 Introduction to Philosophy (*GEP Group B*)  
or PHIL 111 Honors: Introduction to Philosophy (*GEP Group B*)
- PHIL 102 Contemporary Ethical Problems (*GEP Group B*)  
or PHIL 112 Honors: Contemporary Ethical Problems (*GEP Group B*)

##### B. Advanced Level (12 hours)

Select 12 hours from among courses at the 300 or 400 level, with the exception of PHIL 495, which may not be used to satisfy the requirements for the minor.

# Physics

**MAJOR**

**MINOR**

### TRACKS IN:

- TRADITIONAL PHYSICS
- ENGINEERING PHYSICS

**Professors:** Deng-Luzader, J. Hoffman, Latta, Plitnik, O. Soysal, Wang

**Associate Professors:** Doyle, Eltayeb, E. Moore (Chair), Tidrow

**Assistant Professors:** Norouzi, Speights, Wondmagegn

- You may not use courses listed under the heading Physical Science to satisfy the requirements of a major or minor in Physics.
- For engineering programs offered by the Dept. of Physics and Engineering, see the Engineering section of this catalog.
- The Traditional Physics track is recommended if you plan to attend graduate school.

### Program Requirements

	MAJOR	MINOR
Hours Required in Physics:	38	17
Hours Required in Other Departments:	18	8
Total Hours Required:	56	25

### Requirements for Major in Physics

#### 1. Introductory Level Courses: (12 hours)

- PHYS 261 Principles of Physics I: Mechanics, Waves and Oscillations (*GEP Group C*)
- PHYS 262 Principles of Physics II: Thermodynamics, Electricity and Magnetism
- PHYS 263 Principles of Physics III: Light and Modern Physics

#### 2. Advanced Courses: (17 hours)

- PHYS 310 Classical Mechanics
- PHYS 312 Electricity & Magnetism
- PHYS 320 Experimental Physics

PHYS 420	Introduction to Computational Physics
PHYS 491	Seminar
PHYS 492	Capstone Senior Research and Seminar

### 3. Required Courses in Other Departments:

(18 hours)

ENES 100	Intro. to Engineering Design
MATH 236	Calculus I ( <i>Core Skill 3</i> )
MATH 237	Calculus II
MATH 238	Calculus III
MATH 432	Differential Equations

### 4. Choice of Track: (9 hours)

Majors must choose a track in: Traditional Physics or Engineering Physics (requirements listed below)

#### Traditional Physics Track

##### 1. Courses required for all majors: (47 hours)

Listed above.

##### 2. Advanced Courses in the Department: (9 hours)

Choose three of the following:

PHYS 300	Introductory Astrophysics
PHYS 311	Thermodynamics
PHYS 313	Optics
PHYS 410	Theoretical Mechanics
PHYS 412	Theoretical Electromagnetism
PHYS 417	Quantum Physics
PHYS 436	Mathematical Physics
PHYS 440	Acoustics
PHYS 490	Special Topics
PHYS 495	Physics Internship
PHYS 499	Special Projects

#### Engineering Physics Track

##### 1. Courses required for all majors: (47 hours)

Listed above.

##### 2. Elective Hours in the Department: (9 hours)

With permission of the Department Chair, as many as 6 credits of mechanical engineering or electrical engineering at the 200 level or above may be applied.

#### Requirements for Minor in Physics

##### 1. Introductory Level Courses: (12 hours)

PHYS 261	Principles of Physics I: Mechanics, Waves and Oscillations ( <i>GEP Group C</i> )
PHYS 262	Principles of Physics II: Thermodynamics, Electricity and Magnetism
PHYS 263	Principles of Physics III: Light and Modern Physics

##### 2. Advanced Courses: (5 hours)

PHYS 320	Experimental Physics
----------	----------------------

One additional 300-400 level physics or engineering course

### 3. Required Courses in Other Departments:

(8 hours)

MATH 236	Calculus I ( <i>Core Skill 3</i> )
MATH 237	Calculus II

## If you are interested in teaching physics ...

Students wishing to teach physics at the secondary school level (middle and high school) can obtain both a Bachelor of Science in Physics and a Master of Arts in Teaching – Secondary (MATS) in five years through the following pathway offered by the MATS program. This pathway allows students to take up to nine credits of required graduate courses while completing their undergraduate program in physics. These nine graduate credits will be used as electives toward their undergraduate degree as well as the requirements of the MATS.

Students interested in this pathway should:

1. Discuss the MATS pathway option with their first-year advisor.
2. Meet with the MATS Coordinator as a first-year or sophomore.
3. Apply to the MATS program in the Spring of their sophomore year (February 1 application deadline).
4. Once conditionally admitted (a requirement for the following graduate courses to count as electives in the undergraduate program as well as in the MATS program) take:
  - a. REED 517 Reading in the Content Area (Fall or Spring of Junior or Senior year).
  - b. SPED 551 Adapting Instruction in Diverse Classrooms (Fall Senior year).
  - c. SCED 510 Secondary Methods in Curriculum (Spring Senior year).

Please note that students who are considering this pathway should work with their advisor to create a plan of study that allows these nine credits of graduate courses to be taken in the Junior and Senior years in addition to a minimum of 12 undergraduate credits per semester.

## Political Science

### MAJOR

### MINOR

**Professors:** Andorfer, Hartlaub, S. Johnson, D. Lewis, O'Rorke, Simpson, Twing (Chair)

**Lecturer:** Magrath

- Only courses in which you earn a grade of C or better will count towards satisfaction of major or minor requirements.
- The Department strongly encourages majors to consider the internship option.
- POSC 492 counts as elective credit toward POSC major; POSC 495 counts as general elective credit.
- The Department considers it essential that majors take POSC 250 Research Methods before enrolling in 300 and 400 level POSC courses.
- Upon the completion of 75 credit hours, all majors must enroll in POSC 490 Capstone Seminar.



## Program Requirements

	MAJOR	MINOR
Hours Required in Political Science:	36-37	21
Hours Required in Other Departments:	0	0
Total Hours Required:	37	21

## Requirements for Major in Political Science

### 1. Introductory Level Courses: (6 hours)

POSC 110/112 Introduction to American Politics (GEP Group D)

and one of the following:

POSC 113/114 Introduction to World Politics (GEP Group D) or

POSC 131 Introduction to Comparative Politics (GEP Group D or F)

### 2. Research Methods: (3 hours)

POSC 250 Research Methods

### 3. Capstone Experience (Students must choose one of the following):

POSC 435 Model Organization of American States (3 hours)

POSC 490 Capstone Seminar in Political Science (1 hour)

POSC 492 Internship Seminar (3 or 6 hours)

*POSC 435 can be used to satisfy both the capstone requirements and the Group II Comparative Politics distribution. POSC 492 can be used to fulfill the capstone requirement and up to 6 hours of Political Science electives.*

### 4. Distribution Within Department: (15 hours)

Select one course in each of the following five groups.\*

#### GROUP I American Politics

POSC 321 American State & Local Politics

POSC 323 Public Administration

POSC 324 Criminal Justice Systems in Action

POSC 352 Interest Groups

POSC 361 Public Opinion and Political Behavior

POSC 362 Political Parties and Elections

POSC 363 Media and Politics

POSC 365 Women and Politics

POSC 421 American Legislative Politics

POSC 422 American Constitutional Law I

POSC 423 American Constitutional Law II

POSC 427 The American Presidency

POSC 462 Personality and Politics

#### GROUP II Comparative Politics

POSC 330 Politics of Africa

POSC 331 Politics of Latin America

POSC 332 Politics of Middle East

POSC 333 Politics of Europe

POSC 336 Politics of Food

POSC 431 Russian Politics

POSC 435 Model Organization of American States

#### GROUP III International Relations

POSC 341 International Organization

POSC 342 Foreign Policy of the United States

POSC 441 Theory and Practice of International Relations

POSC 442 National Security Policy

POSC 443 Transnational Terrorism and Counter-Terrorism

#### GROUP IV Public Administration and Policy

POSC 353 Public Program Evaluation

POSC 355 Public Budgeting

POSC 358 American Public Policy

POSC 450 Environmental Public Policy

#### GROUP V Political Theory

POSC 370 Introduction to Political Thought

POSC 470 Seminar in Political Thought

POSC 471 American Political Thought

### 5. Free Elective Hours in Department:

(12 hours)

*Any courses from the above subfields not already taken and/or:*

POSC 492 Internship Seminar (3 or 6 credits)

POSC 498 Readings in Political Science

*\*Seminar courses may be applicable to the distribution requirements with the prior approval of the department chair.*

## Requirements for Minor in Political Science

### 1. Introductory Level Courses: (6 hours)

POSC 110/112 Introduction to American Politics (GEP Group D)

and one of the following:

POSC 113/114 Introduction to World Politics (GEP Group D) or

POSC 131 Introduction to Comparative Politics (GEP Group D or F)

### 2. Free Elective Hours in Department:

(15 hours)

*Any courses from the above subfields not already taken and/or:*

POSC 492 Internship Seminar (3 or 6 credits)

POSC 498 Readings in Political Science

# Psychology

**MAJOR**

**MINOR**

**INTERNSHIP OPTION**

**CHILD AND FAMILY PSYCHOLOGY EMPHASIS**

**LEADERSHIP IN PSYCHOLOGY EMPHASIS**

**Professors:** Bensley, Herzog, Murtagh (Chair), Nowczyk, Southerly

**Associate Professors:** Bernhardt, J. Flinn, E. Kennedy, Masciocchi, Morshead, Redmond-Matz

**Assistant Professors:** K. James

- Majors may elect an internship option and/or any of the following emphases: Addictions Counseling, Child & Family, Leadership in Psychology (invitation only for Leadership).
- Majors must earn a grade of C or better in ENGL 101, their math Core Skills course, ENGL 308/312, and BIOL 109/149 to satisfy major requirements.
- Only psychology courses in which you earn a grade of C or better will count towards satisfaction of major and minor requirements, with the exception that you must pass PSYC 197 and PSYC 397 to satisfy major requirements.
- The psychology major may be completed on the Frostburg campus or at the University System of Maryland - Hagerstown.

## Program Requirements

	MAJOR	MINOR
Hours Required in Psychology:	39	18
Hours Required in Other Departments:	7	0
Total Hours Required:	46	18

## Requirements for Major in Psychology

### 1. Foundation Courses: (9 hours)

- PSYC 150 General Psychology  
 or PSYC 151 Honors: General Psychology (GEP Group D)  
 PSYC 201 Research Methods in Psychology  
 PSYC 301 Statistical Methods in Psychology

### 2. Fundamental Courses: (6 hours)

- PSYC 155 Critical Thinking & Scientific Inquiry  
 PSYC 197 Introduction to the Profession of Psychology  
 PSYC 397 Career Planning in Psychology

### 3. Courses in Core Areas: (12 hours)

Select one course in each of four groups.

### GROUP A Biological Bases

- PSYC 306 Sensation and Perception  
 PSYC 386 Drugs and Human Behavior  
 PSYC 420 Physiological Psychology  
 PSYC 430 Health Psychology

### GROUP B Learning and Cognition

- PSYC 345 Animal Learning and Cognition  
 PSYC 409 Human Learning and Cognition  
 PSYC 485 Behavioral Approaches to Human Problems

### GROUP C Developmental Changes Across the Lifespan

- PSYC 208 Introduction to Lifespan Development  
 PSYC 210 Child Development  
 PSYC 212 Adolescent and Adult Development

### GROUP D Sociocultural

- PSYC 314 Theories of Personality  
 PSYC 317 Abnormal Psychology  
 PSYC 318 Social Psychology

### 4. Diverse Populations Courses: (3 hours)

Select one of the following:

- PSYC 214 Introduction to Geropsychology  
 PSYC 220 Psychology of Women (GEP Group F)  
 PSYC 270 Psychological Perspectives of Human Sexuality  
 PSYC 325 African American Psychology (GEP Group F)  
 PSYC 404 Psychology of the Exceptional Child  
 PSYC 489 Abnormal Child Psychology

### 5. Applied Courses: (3 hours)

Select one of the following:

- PSYC 340 Forensic Psychology  
 PSYC 360 Industrial/Organizational Psychology  
 PSYC 387 Addictions Treatment Delivery  
 PSYC 388 Treatment Issues and Theory in Addictions  
 PSYC 394 Learning Mentor in Psychology Field Experience  
 PSYC 408 Tests and Measurements  
 PSYC 410 Introduction to Counseling  
 PSYC 445 Research Applications in Animal Behavior and Cognition  
 PSYC 450 Multicultural Counseling Issues  
 PSYC 488 Environmental Psychology

### 6. Elective Hours in Department: (3 hours)

1 additional course in Psychology, including courses listed in the electives section or any additional course from Core Areas, Diverse Populations, or Applied Courses.

- PSYC 213 Psychology of Adjustment  
 PSYC 250 Death and Dying  
 PSYC 290 Psychological Issues and Practices  
 PSYC 303 Psychology of Couples  
 PSYC 385 Group Processes  
 PSYC 440 Survey of Family Psychology and Intervention Issues  
 PSYC 490 Special Topics in Psychology  
 PSYC 491 Seminar in Psychology  
 PSYC 498 Readings in Psychology  
 PSYC 499 Psychology Projects

### 7. Capstone/Senior Integrative Experience: (3 hours minimum)

Select one of the following:

- PSYC 470 Research Methods Applications  
 PSYC 481 History and Systems of Psychology  
 PSYC 492/495 Internship Option  
 PSYC 497 Senior Seminar

**8. Required Courses in Other Departments (7 hours)**

BIOL 109 Human Biology and the Environment or BIOL 149 General Biology I  
(GEP Group C)

ENGL 308 Social Sciences Advanced Composition or ENGL 312\* Advanced  
Composition (Core Skill 2)

**Requirements for Internship Option****1. Complete the Psychology major** - described above.

You must have a minimum 3.0 grade point average in the major; or if your psychology GPA is between 2.75 and 3.0, you must pass a comprehensive examination covering all areas of psychology.

**2. Required Background in Psychology:**

Pass a departmental ethics examination and complete specific courses required for different types of internships. (See the department guide.)

**3. Internship Orientation Meetings:**

Attend 2 internship orientation meetings: 1 at least 2 semesters before interning, and 1 in the semester preceding the internship.

**4. Complete a resumé and an internship proposal.**

**5. Complete PSYC 495 Internship in Psychology** with a grade of P and PSYC 492 Internship Seminar with a C or better (Capstone).

**Requirements for Child and Family Psychology Emphasis****1. Complete Psychology major** - described above.**2. Required Coursework in Psychology:**

Please be aware that many of the required courses have prerequisites. Additionally, PSYC 489 must be taken BEFORE PSYC 492/495 if you select the internship under "D" as your 400 level learning experience (12 hours minimum):

(May be used to satisfy group and elective requirements for the major above)

- A) PSYC 150/151 General Psychology
- B) PSYC 208 Introduction to Lifespan Development or PSYC 210 Child Development or PSYC 212 Adolescence and Adulthood
- C) PSYC 489 Abnormal Child Psychology
- D) **One of the following 400 level learning experiences:**
  - PSYC 404 Psychology of the Exceptional Child
  - PSYC 440 Survey of Family Psychology and Intervention Issues
  - PSYC 485 Behavioral Approaches to Human Problems
  - PSYC 490 Special Topics in Psychology involving children and/or adolescents
  - PSYC 492/495 Internship in Psychology involving children and/or adolescents
  - PSYC 498 Readings in Psychology involving children and/or adolescents
  - PSYC 499 Psychology Projects involving research concerning children and/or adolescents

**3. Attendance at a Child and Family Psychology Emphasis****Orientation Meeting**

Attend at least one child and family orientation meeting in a semester prior to taking PSYC 489 Child and Adolescent Disorders.

**4. Recommended Course:**

PSYC 303 Psychology of Couples

**Requirements for the Emphasis in Addictions Counseling and for state certification in Alcohol and Drug Counseling are listed under Addictions Counseling this catalog.**

**Requirements for Minor in Psychology****1. Foundation Courses: (6 hours)**

PSYC 150 General Psychology  
or PSYC 151 Honors: General Psychology (GEP Group D)

PSYC 201 Research Methods in Psychology or a departmentally approved research methods course substitution\*

**2. Courses in Core Areas: (12 hours.)**

Select one course in each of four groups.

**GROUP A Biological Bases**

- PSYC 306 Sensation and Perception
- PSYC 386 Drugs and Human Behavior
- PSYC 420 Physiological Psychology
- PSYC 430 Health Psychology

**GROUP B Learning and Cognition**

- PSYC 345 Animal Learning and Cognition
- PSYC 409 Human Learning and Cognition
- PSYC 485 Behavioral Approaches to Human Problems

**GROUP C Developmental Changes Across the Lifespan**

- PSYC 208 Introduction to Lifespan Development
- PSYC 210 Child Development
- PSYC 212 Adolescent and Adult Development

**GROUP D Sociocultural**

- PSYC 314 Theories of Personality
- PSYC 317 Abnormal Psychology
- PSYC 318 Social Psychology

\*If a research methods course from another department is substituted for PSYC 201, then you must complete an additional psychology course (15 hours total) from the list above. Thus, the completion of the minor requires you to take a minimum of 18 hours in PSYC.

**Public Administration****EMPHASIS**

**Coordinator:** John O'Rorke, Professor, Department of Political Science

The emphasis in public administration is open to:

- degree-seeking students in any major who would like to explore the public sector as a possible area of future employment and
- non-degree seeking members of the community who would like to obtain employment in the public sector or who already work in public administration and desire to upgrade their skills.

## Program Requirements

	EMPHASIS
Total Hours Required:	12

### Requirements for Emphasis in Public Administration

- POSC 110/112 Introduction to American Politics
- POSC 323 Public Administration
- POSC 353 Public Program Evaluation
- POSC 355 Public Budgeting

# Public Relations

## MINOR

**Coordinator:** Andy Duncan, Professor, Department of English

**Participating Faculty:**

**Professors:** A. Duncan (English), J. Lombardi (Communication)

**Associate Professors:** Dean (Marketing & Finance), Hein (Visual Arts), Herzfeld (Visual Arts), Ruminski (Communication), Ye (Marketing & Finance)

- You cannot major in Public Relations.

## Program Requirements

	MINOR
Total Hours Required:	24

### Requirements for Minor in Public Relations

#### 1. Courses in Communication Studies:

(6 hours)

- CMST 300 Interpersonal Communication  
or CMST 322 Presentational Communication
- CMST 335 Organizational Communication

#### 2. Courses in English: (6 hours)

- ENGL 336 Journalistic Writing
- ENGL 436 Advanced News and Feature Writing

#### 3. Courses in Other Departments: (12 hours)

- ART 207 Graphic Design (*Tech. Fluency*)

- ART 235 Photography
- MCOM 205 Mobile Media Production
- MCOM 325 Seminar in Public Relations  
or MKTG 361 Principles of Marketing

### Recommended Additional Courses:

The following courses are recommended but not required for the minor in Public Relations. These courses provide valuable background for the course work in the minor:

- ART 104 Two-dimensional Design
- BUAD 100 Introduction to Business
- CMST 122 Introduction to Public Speaking
- ECON 200 Basic Economics (*GEP Group D*)

# Secure Computing and Information Assurance

## MAJOR

## MINOR

### SEE RELATED PROGRAMS:

- COMPUTER INFORMATION SYSTEMS MAJOR & MINOR
- COMPUTER SCIENCE MAJOR & MINOR  
- CONCENTRATION IN NETWORKS
- INFORMATION TECHNOLOGY MAJOR & MINOR

**Professors:** Chitsaz, Rinard (Chair)

**Associate Professors:** M. Flinn, Zheng

**Assistant Professors:** Pan, Xiao, Xu

**Lecturers:** Gbenro, S. Kennedy

- You must earn a grade of C or better in all computer science, information technology, and secure computing courses to be applied towards major or minor requirements.
- You may receive credit by examination for the following courses: COSC 100, 101, 240.

### Program Objectives and Outcomes

**Problem Solving and Critical Thinking.** Solve problems by creating secure computing and information assurance environments, analyzing computing environments and implementing policies and practices to guarantee secure computing and information assurance environments. The student will be able to:

- Apply programming and system management techniques to address secure computing and information assurance problems
- Perform critical analyses of the impacts of decisions
- Participate in forensic analysis of hardware, software and systems

**Communication and Interpersonal Skills.** Use written, oral and electronic methods for effective communication. The student will be able to:

- Document all aspects of a system precisely and clearly

- Document and communicate organizational secure computing and information assurance strategies, practices and policies
- Use written, oral, and electronic communication to convey technical information effectively
- Work cooperatively in teams and with others

**Ethical and Professional Responsibilities.** Discern and articulate the impact of secure computing and information assurance on society. The student will be able to:

- Determine the economic and organizational effects of secure computing and information assurance on global society
- Recognize important legal issues and demonstrate appropriate social responsibilities in secure computing and information assurance
- Demonstrate an awareness of the codes of professional ethics in secure computing and information assurance
- Plan for and ensure the security, privacy and integrity of data
- Recognize the need for continuing professional development

## Program Requirements

	MAJOR	MINOR
Hours Required in Computer Science:	61	20
Hours Required in Other Departments:	12-13	0
Total Hours Required:	73-74	20

## Requirements for Major in Secure Computing & Information Assurance

### 1. Core Courses: (25 hours)

- COSC 101 The Discipline of Computer Science (*Tech. Fluency*)
- COSC 102 Foundations of Computer Science
- SCIA 120 Introduction to Secure Computing and Information Assurance
- SCIA 210 Introduction to Cyber Law
- COSC 240 Computer Science I
- COSC 241 Computer Science II
- SCIA 340 Secure Databases
- SCIA 489 Capstone Course

### 2. Required Advanced Courses: (27 hours)

- COSC 331 Fundamentals of Computer Networks
- SCIA 325 Software Security Engineering
- SCIA 335 Network Security
- SCIA 360 Operating System Security
- SCIA 370 Security Policy and Assessment
- SCIA 460 Cloud Computing and Security
- SCIA 470 Computer and Network Forensics I
- SCIA 471 Computer and Network Forensics II
- SCIA 472 Hacking Exposed and Incident Response

### 3. Other Required Courses: (12-13 hours)

- CMST 102/112 Introduction to Human Communication
- ENGL 338 Technical Writing (*Core Skill 2*)
- MATH 109/110 Elements of Applied Probability & Statistics (*Core Skill 3*)  
or MATH 380 Intro. To Probability & Statistics
- MATH 220 Calculus for Applications I  
or MATH 236 Calculus I (*Core Skill 3*)

## 4. Electives: (9 hours)

A minimum of 9 hours in at least three courses:

- COSC 305 Computer Ethics
- ITEC 442 Electronic Commerce
- SCIA 425 Software Testing and Assurance
- SCIA 435 Access Control
- SCIA 480 Applied Cryptography
- SCIA 485 Emerging Issues and Cyber Warfare
- SCIA 491 Seminar in Secure Computing and Information Assurance
- SCIA 494 Field Experience in Secure Computing and Information Assurance
- SCIA 499 Individual Problems in Secure Computing and Information Assurance

## Requirements for Minor in Secure Computing & Information Assurance

- COSC 101 The Discipline of Computer Science
- COSC 102 Foundations of Computer Science
- SCIA 120 Introduction to Secure Computing and Information Assurance
- COSC 240 Computer Science I
- SCIA 370 Security Policy and Assessment

One additional three-credit Secure Computing & Information Assurance course at the 300-level or above

# Social Science

## MAJOR

**Coordinator:** Jodi Eirich, Associate Professor, Department of Educational Professions; Linda Steele, Program Coordinator, College of Liberal Arts and Sciences

**Department Contacts:** Sally Boniece (Chair), Department of History; J. Flinn (Chair), Department of Psychology; David Kiriazis (Chair), Department of Economics; Robert Moore (Chair), Department of Sociology; Richard Russo (Chair), Department of Geography; Stephen Twing (Chair), Department of Political Science

- A major in Social Science requires a minimum of 63 hours; you cannot minor in Social Science.
- Only courses in which you earn a grade of C or better will count toward satisfaction of major requirements in Social Science.

## Program Requirements

	MAJOR
Hours Required in Social Science:	60-61
Hours Required in Other Fields:	3
Total Hours Required:	63-64

## Requirements for Major in Social Science

### 1. Introductory Level Courses: (36 hours)

#### Economics (6 hours)

ECON 201 Principles of Economics (Macro) (GEP Group D)  
or ECON 211 Honors: Principles of Macroeconomics  
(GEP Group D)

ECON 202 Principles of Economics (Micro)  
or ECON 212 Honors: Principles of Microeconomics

#### Geography (6 hours)

GEOG 104 Human Geography (GEP Group D or F)  
or GEOG 114 Honors Human Geography (GEP Group D or F)  
or GEOG 110 World Regional Geography: Cultural Diversity  
(GEP Group D or F)

GEOG 301 Geography of North America  
or GEOG 302 Geography of Maryland

#### History (6 hours)

Select one of the following sequences:

HIST 103, 104 History of the United States  
or HIST 113, 114 World History

(NOTE: Students pursuing secondary social studies certification are required to take both the US and World history sequences.)

#### Political Science (6 hours)

POSC 110 Introduction to American Politics (GEP Group D)  
or POSC 112 Honors Introduction to American Politics  
(GEP Group D)

POSC 113 Introduction to World Politics (GEP Group D)  
or POSC 114 Honors Introduction to World Politics  
(GEP Group D)  
or POSC 131 Introduction to Comparative Politics  
(GEP Group D or F)

#### Psychology (6 hours)

PSYC 150 General Psychology (GEP Group D)  
or PSYC 151 Honors General Psychology (GEP Group D)

and one from among:

PSYC 210 Child Development  
PSYC 212 Adolescence and Adulthood  
PSYC 220 Psychology of Women (GEP Group F)

#### Sociology (6 hours)

SOCI 100 Introduction to Sociology (GEP Group D)  
or SOCI 111 Honors Introduction to Sociology (GEP Group D)  
and 1 from among:

SOCI 200 Social Problems  
SOCI 224 Cultural Anthropology (GEP Group F)  
SOCI 305 Racial and Cultural Minorities (GEP Group F)  
SOCI 306 Sociology of African Americans

(NOTE: Students interested in pursuing secondary social studies certification at either the undergraduate or master's level should choose SOCI 224, SOCI 305, or SOCI 306.)

### 2. Tracks: (18 hours)

Select 2 of the following departmental patterns:

#### Economics (9 hours)

Select from:

ECON 300 History of Economic Thought  
ECON 303 American Economic History

ECON 306 Money and Banking  
ECON 307 Government, Business and Public Policy  
ECON 309 Comparative Economic Systems  
ECON 351 Intermediate Macroeconomics  
ECON 352 Intermediate Microeconomics  
ECON 400 International Trade  
ECON 401 International Finance  
ECON 405 Economics of Developing Countries  
ECON 407 Business Cycles and Forecasting  
ECON 408 Urban and Regional Economics  
ECON 490 Special Topics in Economics

#### Geography (9 hours)

Select from:

GEOG 300 Economic Geography  
GEOG 310 Fundamentals of Cartography  
GEOG 320 Geography of Latin America  
GEOG 324 Urban Geography  
GEOG 360 Food Systems  
GEOG 400 Geography of Asia  
GEOG 401 Geography of Europe  
GEOG 403 Geography of Sub-Saharan Africa  
GEOG 404 Geography of the Middle East and Central Asia  
GEOG 407 Political Geography  
GEOG 410 Locational Analysis  
GEOG 425 Geography of Transportation  
GEOG 427 Geography of Languages and Religions  
GEOG 452 Rural Geography (New course should be approved by Senate in December.)  
GEOG 454 Geography of Tourism

#### History (9 hours)

Select from 300- or 400-level history courses.

#### Political Science (9 hours)

Select one course from each of the three groups:

- a. POSC 352 Interest Groups  
POSC 361 Public Opinion and Political Behavior  
POSC 362 Political Parties and Elections  
POSC 363 Media and Politics  
POSC 365 Women and Politics  
POSC 462 Personality and Politics
- b. POSC 330 Politics of Africa  
POSC 331 Politics of Latin America  
POSC 332 Politics of Middle East  
POSC 333 Politics of Europe  
POSC 341 International Organization  
POSC 342 Foreign Policy of the United States  
POSC 431 Russian Politics
- c. POSC 321 American State and Local Politics  
POSC 323 Public Administration  
POSC 324 Criminal Justice Systems  
POSC 421 American Legislative Politics  
POSC 422 American Constitutional Law I  
POSC 423 American Constitutional Law II  
POSC 427 The American Presidency

#### Psychology (9-10 hours)

Select one course each from three of the four groups:

- a. PSYC 210 Child Development  
or PSYC 212 Adolescence and Adulthood  
Selection may not duplicate introductory courses.
- b. PSYC 213 Psychology of Adjustment

- or PSYC 301 Research Methods and Analysis II  
 or PSYC 303 Psychology of Couples  
 c. PSYC 318 Social Psychology  
 d. PSYC 314 Theories of Personality  
 or PSYC 317 Abnormal Psychology

### Sociology (9 hours)

Select one course from each of the three groups. If SOCI 224 or 305 was chosen as an introductory level course, a different course must be chosen to count for the track. Selections may not duplicate courses used elsewhere in the major.

#### a. Social Institutions and Structures

- SOCI 305 Racial and Cultural Minorities (GEP Group F)  
 SOCI 362 Sociology of Religion  
 SOCI 364 Marriage and Family Relationships  
 SOCI 366 Social Inequality  
 SOCI 367 Sociology of Medicine  
 SOCI 436 Social Aspects of Mass Communication

#### b. Social Behavior

- SOCI 203 Sociology of Deviant Behavior  
 SOCI 306 Sociology of African Americans  
 SOCI 332 Collective Behavior and Social Movements  
 SOCI 334 Gender and Social Life  
 SOCI 340 Criminology  
 SOCI 442 Juvenile Delinquency  
 SOCI 468 Sociology of Later Life

#### c. Community and Society

- SOCI 224 Cultural Anthropology (GEP Group F)  
 SOCI 322 Social Demography  
 SOCI 325 Community Analysis  
 SOCI 326 Sociology of Rural Life  
 SOCI 328 Sociology of Urban Life

### 3. Research Methods (3-4 hours)

Choose one of the following from a department selected as a track above:

- ECON 450 Quantitative Economics  
 GEOG 380 Geographic Research Methods and Field Techniques  
 HIST 299 Writing and Research in History  
 POSC 250 Research Methods  
 PSYC 201 Research Methods and Analysis I  
 SOCI 311 Basic Research Methods

### 4. Social Science Seminar (3 hours)

- SOSC 490 Topics in Social Science (Capstone)

### 5. Additional Requirement (3 hours – not required for education majors)

- CMST 102 Introduction to Human Communication\*

\*Note: you must receive a grade of C or better for this course to count toward major.

If you wish to complete a Maryland State-approved program in teaching secondary social studies, you must:

- Complete the BA/BS in social science.
- See the Secondary Teacher Education Program Coordinator for details.

# Social Work

## MAJOR

**Professors:** Russell (Chair)

**Associate Professor:** Hartsock

**Assistant Professor:** Lean

- Since the Social Work curriculum is highly sequential in design, you are encouraged to meet with the department chair as early as possible to discuss declaring your major in social work.
- Only courses in which a grade of C or better is earned will count toward satisfaction of major requirements.
- Academic credit is not given for life or work experiences.
- The Social Work program has a competitive admissions process. Department faculty reserve the right to select those candidates who demonstrate the greatest potential for developing as professional social workers.
- Students with a degree in social work are eligible to earn Maryland State certification as addiction counselors. Several social work courses count towards the requirements. See the Addictions Counselor Preparation section of this catalog.

The major in Social Work is designed to prepare you for generalist practice. It is built upon a liberal arts foundation and provides you with the knowledge, values, and skills needed to help individuals, families, groups, organizations and communities.

Content in the major forms the foundation for professional practice. The curriculum covers values and ethics, diversity, social and economic justice, populations-at-risk, human behavior and the social environment, social welfare policy and services, social work practice, research and field practicum. All students are required to complete a full-time internship which constitutes the last semester of the senior year.

Graduates with a major in Social Work may begin professional practice in a variety of fields including mental health, aging, family and children's services, health care, addictions, juvenile and adult corrections, developmental disabilities, and community planning and development.

The Social Work program is accredited by the Council on Social Work Education (CSWE). Graduates of the program are eligible to apply to take state social work licensure exams at the baccalaureate level and to compete for employment positions where such a license is required. In addition, qualified graduates may also apply for advanced standing in graduate schools of social work which allows for completion of a Master's degree in less time than it would otherwise take. Contact the Department Chair for further information.

### Requirements for Admission to the Social Work Program

Applicants must meet the following admissions requirements in order to be accepted into and complete the Social Work program.

Enrollment in the program is controlled by the number of slots available in the program at the time of admission. Admissions decisions are based on a competitive process. Application deadlines for all students, including transfer students, are established each semester by the program and publicly announced by the department.

### Admission Requirements

1. Completion of at least 30 credit hours.
2. Cumulative GPA of at least 2.3 (or recommendation of faculty member).
3. Completion of a declaration of major form.
4. Completion of an application to the Social Work program which includes a self statement and three letters of reference. Application packets are available from the department.
5. Completion of SOWK 370 with a grade of C or better.
6. Approval of the Social Work Department Admissions Committee (which may require a personal interview with the Social Work faculty). The Admissions Committee may award special provisional admission.

### Graduation Requirements

1. Completion of SOWK 492 (Capstone) with a grade of C or better and SOWK 495 with a grade of P.
2. Cumulative GPA of at least 2.3 both overall and in courses required for the major.
3. Meet program performance standards set by the department as measured by a standardized exit exam. Students who do not successfully meet these standards will be given additional opportunities to repeat the exam but only at their own expense.
4. Completion of an exit interview with the Social Work faculty.

### Dismissal Policy

The following constitute grounds for dismissal from the Social Work program:

1. Inability to meet the academic requirements of the program
2. Failure to address and correct deficiencies in competencies cited at last assessment review
3. Violations of the National Association of Social Workers' Code of Ethics (Copies of the Code are available from the Department of Social Work.)
4. Violations of FSU's Student Code of Conduct as outlined in the *Pathfinder* which would result in a referral to the University's Judicial System

A grievance procedure for protecting students' rights to due process is outlined in the Social Work Student Handbook available from the Department of Social Work.

### Program Requirements

	MAJOR
Hours Required in Social Work:	48
Hours Required in Other Departments:	19
Total Hours Required:	67

### Requirements for Major in Social Work

#### 1. Social Work Courses: (48 hours)

- SOWK 305 Racial and Cultural Minorities (GEP Group F)
- SOWK 310 Statistics for Social Science
- SOWK 311 Basic Research Methods
- SOWK 370 Introduction to Social Welfare and Social Work
- SOWK 371 Social Policy
- SOWK 375 Human Behavior and the Social Environment I
- SOWK 377 Human Behavior and the Social Environment II
- SOWK 379 Foundations for Generalist Practice
- SOWK 470 Generalist Practice with Individuals and Families
- SOWK 471 Generalist Practice with Communities and Organizations
- SOWK 473 Generalist Practice with Groups

- SOWK 492 Social Work Seminar (Capstone)
- SOWK 495 Internship in Social Work

\*A seminar course (491) may be applicable to the Distribution Requirements with the prior approval of the department; only 1 seminar may be used in this manner.

#### 2. Courses in Other Departments: (19 hours)

- SOCI 100 or 111 Introduction to Sociology (GEP Group D)
- SOCI 200 Social Problems
- COSC 100 Introduction to Computer Science (Tech. Fluency)
- PSYC 150 or 151 General Psychology (GEP Group D)
- POSC 110 or 112 Introduction to American Politics (GEP Group D)
- BIOL 109 Human Biology and the Environment (GEP Group C)

# Sociology

## MAJOR

## MINOR

**Professors:** Moore (Chair), Rogers Thomas, Russell

**Associate Professors:** W. Li, McMullen, Moorehead

**Assistant Professor:** Earles

- For departmental courses above the 100 level in the Sociology major, only courses in which a grade of C or better is earned will count toward satisfaction of major requirements.
- The Sociology major may be completed on the Frostburg campus or at the University System of Maryland - Hagerstown.
- The department also offers a minor in cultural anthropology.
- Internship opportunities are available.

### Program Requirements

	MAJOR	MINOR
Hours Required in Sociology:	36	18
Hours Required in Other Departments:	3	0
Total Hours Required:	39	18

### Requirements for Major in Sociology

#### 1. Basic Courses: (6 hours)

- SOCI 100/111 Intro. to Sociology (GEP Group D)
- SOCI 200 Social Problems

#### 2. Methods and Theory (15 hours)

- SOCI 310 Statistics for Social Science
- SOCI 311 Basic Research Methods
- SOCI 450 Classical Sociological Theory
- SOCI 451 Contemporary Sociological Theory
- SOCI 491 Seminar in Sociology (Capstone)



**3. Distribution within Department: (15 hours)**

At least nine hours must be at the 300 or 400 level

**4. Internship Requirement: optional**

**5. Required Course in Other Departments: (3 hours)**

COSC 100 Intro. to Computer Science (Tech. Fluency)

**Requirements for Minor in Sociology**

**1. Basic Courses: (6 hours)**

SOCI 100/111 Intro. to Sociology (GEP Group D)

SOCI 200 Social Problems

or SOCI 203 Sociology of Deviant Behavior

**2. Methods and Theory (0 hours)**

**3. Distribution within Department: (12 hours)**

At least six hours must be at the 300 or 400 level

**4. Internship Requirement: (0 hours)**

**5. Required Courses in Other Departments:(0 hours)**

**Sustainability Studies**

**MINOR**

**Coordinator:** Tracy Edwards, Lecturer, Department of Geography

**Steering Committee:**

**Associate Professors:** Bernhardt (Psychology), Rogers Thomas (Sociology), Wood (History), Ye (Marketing & Finance)

**Assistant Professors:** Hocking (Biology), Wetherholt (Geography)

**Lecturers:** T. Edwards (Geography), J. Browne (English)

**Program Requirements**

	MINOR
Total Hours Required:	21-23

**Requirements for Minor in Sustainability Studies**

**1. Core Courses: (6 hours)**

IDIS/SUST 155 Introduction to Sustainability Studies

SUST 455 Seminar in Sustainability Studies

**2. Foundation Courses: (6-8 hours)**

Select two of the following courses:

BIOL 109 Human Biology and the Environment

GEOG 103 Physical Geography

GEOG 104 Human Geography

GEOG 205/PHSC 205 Descriptive Meteorology

HIST 100 The Contemporary World in Historical Perspective

IDIS 160 Science, Technology and Society

LEAD 101 Introduction to Leadership Studies

MDFL 111 Intercultural Understanding

PHIL 102 Contemporary Ethical Problems

POSC 113 Introduction to World Politics

SOCI 224 Cultural Anthropology

SUST 246 Sustainability in Action

**3. Elective Courses\*:( 9 hours)**

Select three courses from at least two departments:

BIOL 340 General Ecology

BIOL 425 Forest Ecology and Conservation

BIOL 450 Ecology and Management of Wildlife Populations

CHEM 420 Environmental Chemical Analysis

CHEM 460 Environmental Chemistry

CMST 345 Conflict Management

CMST 365 Environmental Communication

ECON 410 Resource and Energy Economics

ENGL 402 Editing and Production

ENGL 440 Literature of the Environment

GEOG 335 Oceanography

GEOG 360 Food Systems

GEOG 405 Physical Climatology

GEOG 406 Management and Conservation of Natural Resources

GEOG 421 Regional Planning

GEOG 445 Biogeography

GEOG 450 Urban Planning

GEOG 452 Rural Geography

GEOG 472 Environmental Planning

GEOG 473 Environmental Law

HIST 409 World Environmental History

HIST 420 Green: Environment and Economy in U.S. History

LEAD 401 Citizen Leader

MGMT 356 Leadership and Human Behavior

MGMT 405 Business Ethics and Social Responsibility

PHIL 315 Philosophy and the Environment

PHSC 350 Practical Solar Energy

POSC 336 Politics of Food

POSC 450 Environmental Public Policy

PSYC 488 Environmental Psychology

RECR 393 History and Philosophy of Outdoor Recreation

SOCI 345 Sociology of the Environment

SOCI 366 Social Inequality

SOCI 420 Animals in Human Society

SUST 350 Sustainable Agriculture

SUST 494 Field Experiences in Sustainability

*\*Special topics courses numbered 490 or 491 in participating departments when approved by the Program Coordinator. One 3-hour independent studies course numbered 499 when approved by the Program Coordinator. With prior approval, a study abroad experience of 3 credits or more with a sustainability focus can be used in place of an elective course.*

# Theatre

**MAJOR**

**MINOR**

**TRACKS IN:**

- ACTING
- DESIGN AND TECHNOLOGY
- THEATRICAL STUDIES

**Professor:** Yost-Rushton

**Associate Professors:** Mattis (Chair, Department of Theatre and Dance),  
Rushton

**Assistant Professor:** Georgeson, Schroeder

- You must earn a 2.7 cumulative GPA in all theatre courses to meet graduation requirements.
- Legal residents of Delaware may complete a theatre degree (design and technology) at Maryland resident tuition rates through the SREB Academic Common Market.
- All students who wish to enter or re-enter the major with a primary focus in the Acting Track are required to pass an audition/interview for admittance.
- All students who wish to enter or re-enter the major with a primary focus in the Design and Technology Track are required to pass a portfolio review/interview for admittance.
- Students changing their primary area of focus must re-audition/interview before being accepted into that area of focus.
- Students who wish to enter the major with a primary focus in Theatrical Studies may simply declare that track on admittance to Frostburg State University.
- An interview/audition is required for all students seeking departmental scholarship consideration.

## Program Requirements

	MAJOR	ACTING TRACK	DESIGN /TECH. TRACK	THEA, STUDIES TRACK	MINOR
Hours Required in Theatre:	60				24
Hours Req. in Core:		30	30	30	0
Hours Req. in Track:		30	30	30	0
Hours Required in Other Departments:	0	0	0	0	0
Total Hours Required:	60	60	60	60	24

## Requirements for Major in Theatre

### 1. Core Courses in Theatre: (30 hours)

- THEA 102 Shop Practicum
  - THEA 103 Front of House Practicum
  - THEA 104 Production Crew Practicum
- (For THEA 102, 103, 104: One hour must be completed within student's first two semesters as a theatre major. All 3 hours must be completed by the end of student's junior year.)*
- THEA 106 Introduction to Theatre (GEP Group A)
  - THEA 107 Introduction to Theatrical Vision (GEP Group A)
  - THEA 110 Introduction to Acting
  - THEA 204 Stagecraft
  - THEA 206 Modern American Drama (also offered as ENGL 206)
  - THEA 308 Directing
  - THEA 425 History of Theatre I
  - THEA 426 History of Theatre II
  - THEA 431 World Drama I (also offered as ENGL 431)

### 2. Theatre Tracks: (30 hours)

#### a. Acting

- THEA 208 Acting: Basic Principles and Application
- THEA 210 Voice and Movement
- THEA 211 Voice and Movement II
- THEA 310 Voice and Speech
- THEA 318 Acting: Analysis and Performance
- THEA 420 Marketing Yourself as an Actor
- THEA 421 Advanced Acting: Analysis and Performance of Shakespeare (*Acting Capstone*)

*And nine credits from the following:*

- DANC 154 Jazz I
- DANC 165 Tap I
- DANC 361 Dance for Musical Theatre
- THEA 360 Stage Combat
- THEA 460 Physical Comedy

#### b. Design and Technology

- THEA 202 Stage Management
- THEA 203 Costume Technologies
- THEA 207 TheatreCAD
- THEA 304 Sound Design
- THEA 305 Scene Design
- THEA 306 Stage Lighting Design
- THEA 307 Costume Design
- THEA 311 Stagecraft II
- THEA 409 Marketing Yourself as a Designer and/or Technician

*Choose one of the following:*

- THEA 400 Theatre Production (*Production Capstone – Technical*)
- THEA 465 Projects in Theatrical Design (*Production Capstone – Design*)

#### c. Theatrical Studies

- THEA 202 Stage Management
- THEA 208 Acting: Basic Principles and Application

*And select two from:*

- THEA 304 Sound Design
- THEA 305 Scene Design
- THEA 306 Stage Lighting
- THEA 307 Costume Design

And one of the following three options:

THEA 400 Theatre Production (Theatrical Studies Capstone) and 15 additional hours from any theatre courses not already used to fulfill core courses in theatre requirements

Or

THEA 499 Directed Study (Theatrical Studies Capstone) and 15 additional hours from any theatre courses not already used to fulfill core courses in theatre requirements

Or

THEA 466 Projects in Directing (Theatrical Studies Capstone) and 15 additional hours from any theatre courses not already used to fulfill core courses in theatre requirements

## Requirements for Minor in Theatre

### 1. Core Courses in Theatre: (15 hours)

- THEA 106 Introduction to Theatre (GEP Group A)
- THEA 107 Introduction to Theatrical Vision (GEP Group A)
- THEA 110 Introduction to Acting
- THEA 206 Modern American Drama
- THEA 308 Directing

### 2. Additional Theatre Electives: (9 hours)

You must select additional courses, for a total of 9 hours, from any Theatre courses not already used to fulfill a Theatre minor requirement.

# Wildlife & Fisheries

## MAJOR

### SEE RELATED PROGRAMS:

#### BIOLOGY

- PRE-HEALTH OPTION
- MOLECULAR BIOLOGY
- ENVIRONMENTAL SCIENCE

#### ENVIRONMENTAL ANALYSIS & PLANNING

#### ETHNOBOTANY

#### FORESTRY

#### INTERPRETIVE BIOLOGY & NATURAL HISTORY

**Contact:** Thomas Lambert, Associate Professor, Department of Biology

**Professors:** Li, Raesly, Seddon, Serfass

**Associate Professors:** Brosi, Keller, Lambert, Puthoff (chair), Taylor

**Assistant Professors:** Hocking, Hughes, Sheehan

- Students completing the professional programs as listed meet all educational requirements for their certification by The Wildlife Society or American Fisheries Society (depending upon the option chosen).
- Students can choose to add a fisheries option to either wildlife option.

- Students will meet educational requirements for scientific research positions in Wildlife Biology or Fisheries Biology for federal and state agencies.
- Students intending to further their education in graduate school are also encouraged to take one semester of organic chemistry.
- Minors are available in biology, forestry, ethnobotany, geography, and sustainability studies.

## Program Requirements

	WILDLIFE		PROFESS. FISHERIES
	PROFESS.	GENERAL	
Hours Required in Biology:	49-52	49-52	36-37
Hours Required in Other Departments:	30-32	20-23	29
Total Hours Required:	79-81	72-74	61-62

## Requirements for Major in Wildlife & Fisheries

### 1. Core Curriculum: (40 hours)

- BIOL 149 General Biology I (GEP Group C)
- BIOL 160 General Zoology
- BIOL 161 General Botany
- BIOL 200 Scientific Investigation and Communication
- BIOL 340 General Ecology
- BIOL 350 Genetics
- BIOL 492 Wildlife-Fisheries IBNH Seminar (Capstone)
- BIOL 494 Field Experience in Biology  
or BIOL 499 Special Problem in Biology (Minimum 3 cr.)
- CHEM 201 General Chemistry I (GEP Group C)
- CMST 102/112 Introduction to Human Communication
- ENGL 339 Scientific Writing (Core Skill 2)  
or ENGL 338 Technical Writing (Core Skill 2)
- GEOG 103/113 Physical Geography (GEP Group C)
- MATH 109/110 Elements of Applied Probability and Statistics (Core Skill 3)

### 2. Wildlife Core Requirements: (23-24 hours)

*Wildlife Management:*

- BIOL 450 Ecology and Management of Wildlife Populations

*Wildlife Techniques:*

- BIOL 230 Wildlife Techniques

*Wildlife Biology, take two of the following:*

- BIOL 406 Ornithology
- BIOL 422 Herpetology
- BIOL 423 Mammalogy

*Anatomy and Physiology, take one of the following:*

- BIOL 302 Animal Physiology
- BIOL 427 Comparative Anatomy

*Botany, take one of the following:*

- BIOL 405 Dendrology
- BIOL 409 Plant Taxonomy

*Policy, Administration, and Law, take one of the following:*

- BIOL 425 Forest Ecology and Conservation
- GEOG 472 Environmental Planning
- GEOG 473 Environmental Law

### 3. Requirements for Professional Wildlife Track:

1. Core Curriculum: (40 hours – listed above)
2. Wildlife Core Requirements: (23-24 hours – listed above)
3. Professional Certification Core Requirements (16-17 hours)

*Quantitative Sciences:*

BIOL 414 Quantitative Analysis of Vertebrate Populations  
 MATH 220 Calculus for Applications I  
 or MATH 236 Calculus I (Core Skill 3)  
 CHEM 202 General Chemistry II

*Botany, one additional course from:*

BIOL 313 Plant Evolution and Diversity  
 BIOL 403 Plant Physiology  
 BIOL 405 Dendrology  
 BIOL 409 Plant Taxonomy

*Policy, Administration and Law, one additional course from:*

BIOL 425 Forest Ecology and Conservation  
 GEOG 472 Environmental Planning  
 GEOG 473 Environmental Law

### 4. Requirements for General Wildlife Track

1. Core Curriculum: (40 hours – listed above)
2. Wildlife Core Requirements: (23-24 hours – listed above)
3. General Wildlife Track Requirements (9-11 hours)

MATH 119 College Algebra (Core Skill 3)  
 or MATH 120 Pre-Calculus (Core Skill 3)  
 or any math course above 219

*Plus two additional courses from:*

BIOL 302 Animal Physiology  
 BIOL 309 General Entomology  
 BIOL 334 General Animal Behavior  
 BIOL 402 Evolution  
 BIOL 406 Ornithology  
 BIOL 411 Invertebrate Zoology  
 BIOL 412 General Parasitology  
 BIOL 417 Ichthyology  
 BIOL 422 Herpetology  
 BIOL 423 Mammalogy  
 BIOL 426 Vertebrate Zoology  
 BIOL 427 Comparative Anatomy

### 5. Requirements for Professional Fisheries Track

1. Core Curriculum: (40 hours – listed above)
2. Professional Fisheries Track Requirements: (22 hours)

CHEM 202 General Chemistry II  
 BIOL 417 Ichthyology  
 BIOL 420 Fish Management and Culture  
 BIOL 430 Introductory Limnology  
 CHEM 420 Environmental Chemical Analysis  
 GEOG 430 Surface Water Hydrology  
 MATH 220 Calculus for Applications I  
 or MATH 236 Calculus I (Core Skill 3)

# Women's Studies

## MINOR

**Coordinator:** Jennifer Earles, Assistant Professor, Department of Sociology

**Participating Faculty:**

**Professors:** Boniece (History), Lutz (English)

**Associate Professors:** Armiento (English), Brassfield (Philosophy), English (Fine Arts), J. Flinn (Psychology), McCoskey (Economics), Morris (English)

**Assistant Professors:** Earles (Sociology), McConnell (History)

**Librarian:** Bena

- Women's Studies is a multicultural and multidisciplinary minor.
- You cannot major in Women's Studies.

## Program Requirements

	MINOR
Total Hours Required:	18

## Requirements for Minor in Women's Studies

### 1. Required Course: (3 hours)

WMST 201 Introduction to Women's Studies (GEP Group F)

### 2. Elective Courses: (15 hours)

*Select five from among the following:*

ART 370 Women/Gender and the Visual Arts  
 ENGL 290 Topics in Language & Literature (when content is appropriate)  
 ENGL 450 Women and Literature  
 HIST 436 Women's Issues in World History (GEP Group F)  
 MDPL 301 Latin American Women's Issues (GEP Group F)  
 MUSC 250 Gender and Sexuality in Music (GEP Group F)  
 NURS 412 Women's Health in Global Perspectives  
 PHIL 409 Philosophy and Women (GEP Group F)  
 POSC 365 Women and Politics  
 PSYC 220 Psychology of Women (GEP Group F)  
 PSYC 270 Psychological Perspectives of Human Sexuality  
 SOCI 332 Collective Behavior and Social Movements  
 SOCI 334 Gender and Social Life  
 SOCI 364 Marriage and Family Relationships  
 SOCI 366 Social Inequality  
 SOCI 466 Women, Health, and Healing  
 THEA 428 Women Through Theatre  
 WMST 490 Special Topics in Women's Studies  
 WMST 491 Seminar in Women's Studies  
 WMST 494 Practicum in Women's Studies (a maximum of 3 credits may be applied to the minor)  
 WMST 499 Independent Study