

# College of Sciences

**Mary Anne Hanner**, *Dean*

**Godson Obia**, *Associate Dean*

**Amy Lynch**, *Assistant to the Dean - Student Academic Services*

**Sandra Durain**, *Assistant to the Dean – Administrative Services*

**George Lesica**, *Assistant to the Dean - Academic Technology Services*

## General Mission

The College of Sciences offers high quality undergraduate and graduate education in mathematics, the natural sciences and the social sciences. Students gain knowledge, skills and values that enable them to become productive and responsible citizens with a capacity for reasoned judgment and effective communication. Guided by a faculty known for its commitment to teaching, students are offered outstanding educational opportunities through the disciplines represented in the College of Sciences. The College contributes to the sciences through research and scholarly activities, and is committed to academic, professional and community service.

The College of Sciences provides programs leading to the Bachelor of Arts degree in six majors, one of which is offered with a teacher certification option. The College provides programs leading to the Bachelor of Science degree in ten majors. The B.S. in Science with Teacher Certification major offers specializations in Biological Sciences, Chemistry, Earth Sciences and Physics. The College of Sciences' departments of Geology/Geography, Political Science, Psychology and Sociology/Anthropology offer designations in the B.A. in Social Science Teaching major. International studies options are available in economics and political science. Physics offers options in applied physics, astronomy, computational physics and radiation physics and Biological Sciences offers an environmental biology option. The B.S. in Nursing program offers degree completion for Registered Nurses. Cooperative Bachelor of Science degrees are provided in engineering, physics with engineering physics option and clinical laboratory science. In addition to interdisciplinary minors in anthropology, Asian studies, broadcast meteorology, criminology, earth science, environmental studies, geographic information sciences, neuroscience, pre-law studies, and religious studies. The College also offers minors in ten disciplines. The College has Honors Programs in biological sciences, chemistry, communication disorders and sciences, economics, geography, geology, mathematics, mathematics and computer science, physics, political science, psychology and sociology.

At the graduate level, the College offers four programs which lead to the Master of Arts degree and four programs which lead to the Master of Science degree, including a Master of Sciences degree for Natural Science teachers. The College also offers a Specialist Degree in school psychology and participates in the interdisciplinary program in gerontology. See the EIU *Graduate Catalog* for further information about graduate programs .

## Department of Biological Sciences

### Department Faculty

**Gary Bulla**, *Interim Chairperson*

**Stephen Mullin**, *Interim Associate Chairperson*

Abbott, R.; Bollinger, E.; Bulla, G.; Carlswald, B.; Chestnut, R.; Colombo, R.; Coons, J.; Coutant, N.; Daniel, S.; Dust, H.; Effert, E.; Enstrom, P.; Fritz, A.; Fritz, G.; Gaines, K.; Hung, K.; Johnson, D.; Knotts, B.; Laursen, C.; Laursen, J.; Liu, Z.; Marjanovic, M.; McGilliard, K.; Meiners, S.; Menze, M.; Methven, A.; Miller, B.G.; Mounce, S.; Mullin, S.; Nathan, B.; Novak, J.; Owen, H.; Pederson, C.; Sehweil-Elmuti, N.; Switzer, P.; Tucker, G.

**Department Telephone:** 217.581.3126

## **Biological Sciences (B.S.)**

### **Major**

#### **Core Requirements:**

- BIO 1100 - General Biology. Credits: 4
- BIO 1150 - Biology Forum Credits: 1
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3510 - Plant Physiology. Credits: 4  
or
- BIO 3520 - Animal Physiology. Credits: 4
- BIO 3800 - Ecology. Credits: 4
- BIO 4984 - Organic Evolution. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5  
(See footnote \*)
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

#### **AND**

- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1

#### **OR**

- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1

#### **AND**

- BIO 4750 - Biometrics. Credits: 3  
OR
- MAT 2250G - Elementary Statistics. Credits: 4

#### **Electives:**

Biological Sciences majors must also complete 21 sh of elective course work in Biological Sciences (with the exception of BIO 3400, BIO 4275, workshops, and courses designed for General Education with the exception of BIO 3888G) or Mathematics or Physical Sciences courses above 2000 (with the exception of general education and CHM 2310). A minimum of 15 sh must be taken in the Biological Sciences.

#### **Footnotes:**

\*Students not prepared for this course will be required to take additional prerequisite math classes.

(Major GPA based on all biological sciences courses taken at EIU)

## **Biological Sciences: Environmental Biology Option (B.S.)**

### **Core Requirements**

Biological Sciences majors with an Environmental Biology Option must complete a core which includes the following courses and a 15-semester hours of electives selected from the Option Electives list below.

- BIO 1100 - General Biology. Credits: 4
- BIO 1150 - Biology Forum Credits: 1
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3510 - Plant Physiology. Credits: 4  
or
- BIO 3520 - Animal Physiology. Credits: 4
- BIO 3800 - Ecology. Credits: 4
- BIO 3850 - Environmental Biology. Credits: 3
- BIO 4275 - Internship. Credits: 12
- BIO 4984 - Organic Evolution. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- ECN 2800G - Economics of Social Issues. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5  
(See footnote 1)
- PLS 3763 - Environmental Politics and Policy. Credits: 3

### **AND**

- BIO 4750 - Biometrics. Credits: 3  
or
- MAT 2250G - Elementary Statistics. Credits: 4

### **Option Electives**

Option electives to choose from (15 semester hours required):

- BIO 3300 - General Microbiology. Credits: 4
- BIO 3322 - Dendrology. Credits: 3
- BIO 3450 - Independent Study. Credits: 1 to 3
- BIO 3451 - Undergraduate Research. Credits: 1 to 3
- BIO 3700 - Parasitology. Credits: 3
- BIO 3710 - Plant – Animal Interactions. Credits: 3
- BIO 3810 - Freshwater Ecology. Credits: 3
- BIO 3950 - Vertebrate Natural History. Credits: 3
- BIO 3952 - Invertebrate Natural History. Credits: 3
- BIO 4400 - Teaching in the Lab. Credits: 1
- BIO 4810 - Plant Ecology. Credits: 3
- BIO 4812 - Fisheries Ecology and Management. Credits: 3
- BIO 4814 - Conservation Biology. Credits: 3
- BIO 4816 - Study of Biotic Communities. Credits: 3
- BIO 4818 - Environmental Microbiology. Credits: 4
- BIO 4820 - Spatial Analysis for Environmental Sciences. Credits: 4
- BIO 4832 - Animal Behavior. Credits: 4
- BIO 4840 - Resource Management and Environmental Assessment Credits: 3
- BIO 4940 - Phycology. Credits: 3

- BIO 4942 - Mycology. Credits: 3
- BIO 4944 - Lichens. Credits: 3
- BIO 4946 - Bryology. Credits: 3
- BIO 4948 - Plant Taxonomy. Credits: 3
- BIO 4950 - Ichthyology. Credits: 3
- BIO 4952 - Herpetology. Credits: 3
- BIO 4954 - Ornithology. Credits: 3
- BIO 4956 - Mammalogy. Credits: 3
- BIO 4960 - Wetland and Vascular Aquatic Plants. Credits: 3
- BIO 4964 - Entomology. Credits: 4
- ECN 3810 - Economics of Natural Resources. Credits: 3
- ESC 3300 - Soils. Credits: 3
- ESC 3550 - Surface Water Processes and Resources. Credits: 3
- GEG 3780 - Land Use Planning. Credits: 3
- GEG 3810 - Geographic Information Systems I. Credits: 3
- GEG 3860 - Geographic Information Systems II. Credits: 3
- GEL 4335 - Environmental Geology. Credits: 3
- REC 3860 - Environmental Interpretation. Credits: 2
- REC 3900 - Operation of Leisure Facilities. Credits: 3
- REC 4600 - Planning and Design of Leisure Facilities. Credits: 4

**AND**

- CMN 3920 - Public Relations in Society Credits: 3  
or
- JOU 3920 - Public Relations in Society. Credits: 3

**Footnotes:**

(Major GPA based on all biological sciences courses taken at EIU)

<sup>1</sup> Students not prepared for this course will be required to take additional prerequisite math classes.

**Biological Sciences Teacher Certification**

See the Science with Teacher Certification Major program (Biological Sciences Specialization).

## **Biological Sciences Honors Program**

To be admitted to the Departmental Honors Program, students must have completed a minimum of 60 semester hours of course work (including transfer credit) with a 3.50/4.00 cumulative grade point average. Students admitted to the program must maintain a cumulative grade point average of 3.50. Students dismissed from the program because their cumulative grade point average has fallen below 3.50 may petition for readmission. Students must raise their cumulative grade point average to 3.50 by the end of the term immediately following dismissal for reinstatement.

### **Total Semester Hours 12**

Students must take at least three credit hours in Honors Thesis, nine additional credits in Biological Sciences Honors courses, and complete all other requirements for the major. Honors Thesis supervision will be undertaken by a faculty member and must be approved by the Departmental Honors Coordinator. Credits in honors courses will replace 12 credit hours of electives in the major.

- BIO 4444 - Honors Independent Study. Credits: 1 to 3  
(Course may be repeated for up to 6 hours)
- BIO 4555 - Honors Research. Credits: 1 to 3  
(Course may be repeated for up to 6 hours)
- BIO 4644 - Honors Thesis. Credits: 3
- BIO 4666 - Honors Seminar. Credits: 1

## **Biological Sciences Minor**

### **Total Semester Hours: 21**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4

### **Electives in Biological Sciences. Credits: 9 (See footnotes 1 and 2)**

#### **Footnotes:**

<sup>1</sup> With the exception of BIO 3400, 4275, workshops, and courses designed for General Education.

<sup>2</sup> A minimum of 6 sh must be at or above the 3000 level.



## **Pre-Health Professions**

Pre-Medicine – Allopathic/Osteopathic, Pre-Dentistry, Pre-Veterinary Medicine, Pre-Optometry, Pre-Podiatry, Pre-Physician's Assistant, Pre-Physical Therapy, and Pre-Occupational Therapy

Admission into any of the health professions is very competitive. Students should maintain a high grade point average, obtain leadership skills and exposure to the health profession of interest and make a strong showing on their test scores (MCAT, DAT, PCAT, OAT, or GRE). Although it is not necessary to obtain a baccalaureate degree to gain entrance into some of the health professions, it is highly recommended. Programs leading to the BA or the BS degree in a variety of majors are suitable although most students select a major in biological sciences or chemistry. When registering, such students must indicate their choice of degree-granting major, and declare Pre- (identify health profession) as a second major. It is recommended that the program be enriched with electives in social and behavioral sciences, humanities, and fine arts. All students interested in a career in a health profession should consult with the Pre-Health Professions Advisor for information regarding specific admission requirements. More information concerning these programs at EIU is available at <http://www.eiu.edu/~premed/>.

Most of the health professions will expect one year of each of the following: English, Biology, Chemistry, Organic Chemistry, and Physics. Many will also expect Anatomy, Physiology, Psychology, Statistics, Microbiology, and Biochemistry. Be sure to check the health profession of choice for their specific requirements.

### **Minimum Requirements:**

- BIO 1100 - General Biology. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1
- CHM 2840 - Organic Chemistry II. Credits: 3
- CHM 2845 - Organic Chemistry Laboratory II. Credits: 1
- ENG 1001G - Composition and Language. Credits: 3
- ENG 1002G - Composition and Literature. Credits: 3

### **AND**

- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

### **OR**

- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

### **Recommended Electives (may be required by some programs)**

- BIO 2200 - Human Anatomy. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3300 - General Microbiology. Credits: 4
- BIO 3520 - Animal Physiology. Credits: 4
- CHM 3450 - Biochemistry I. Credits: 3

**Pre-Nursing**

Eastern Illinois University has a cooperative Baccalaureate in Nursing program with Lakeview College of Nursing, Danville, IL, in which students who wish to complete a BSN can remain on the EIU campus while enrolled in the Lakeview College of Nursing Program. Students must apply to and meet the admission criteria for Lakeview and EIU. When enrolled in the Lakeview program, students pay tuition to Lakeview. The degree is awarded from Lakeview College of Nursing. More information concerning this program at EIU is available at <http://www.eiu.edu/~premed/>.

**Chiropractic Medicine**

Eastern Illinois University has entered into a "3+3" affiliation agreement with Logan College of Chiropractic and Palmer College of Chiropractic. Both programs offer guaranteed admissions for qualified students to attend after 3 years (90 credits) at Eastern and finish a doctor of Chiropractic degree after 3 additional years at Logan or Palmer. Students who successfully complete the Pre-Chiropractic Program at EIU with a cumulative GPA of 3.25 or higher and meet all other criteria for admission shall be accepted at Palmer or Logan Colleges. Upon completion of the first year of studies at Logan and Palmer, a maximum of 34 credits may be transferred back to EIU toward completion of credits required for the Bachelor of Science in Biological Sciences degree at Eastern. More information concerning this program at EIU is available at <http://www.eiu.edu/~premed/>.

## Department of Chemistry

### Department Faculty

**Dan Sheeran**, *Chairperson*

Blitz, J.; Klarup, D.; Konkle, M.; Lawrence, B.; Marquart, J.; McGuire, M.; Mitrovski, S.; Peebles, R.; Peebles, S.; Periyannan, G.; Semeniuc, R.; Sheeran, D.; Treadwell, E.; Wheeler, K.; Yan, Z.

**Department Telephone:** 217.581.3322

## **Chemistry (B.A.)**

### **Major**

The Bachelor of Arts in Chemistry is comprised of the following:

Students who have completed college-level, algebra-based physics courses (e.g., PHY 1151G, 1152G, 1161, 1162) should consult the department chair.

### **Total Semester Hours: 54**

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 2840 - Organic Chemistry II. Credits: 3
- CHM 2845 - Organic Chemistry Laboratory II. Credits: 1
- CHM 3000 - Undergraduate Seminar. Credits: 0
- CHM 3001 - Undergraduate Seminar. Credits: 1
- CHM 3500 - Introduction to Chemical Research. Credits: 1
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

### **AND**

- CHM 3300 - Survey of Biochemistry. Credits: 3
- OR
- CHM 3450 - Biochemistry I. Credits: 3

### **AND**

- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- OR
- CHM 3920 - Quantum Chemistry. Credits: 3

### **AND Six Semester Hours of Chemistry Electives in Chemistry (See Footnotes 1, 2 and 3)**

### **Footnotes:**

(Major GPA based on all chemistry courses taken at EIU.)

<sup>1</sup> The following may not be used as electives: Chemistry 1040G, 2040G, 3100, 3200 and 4001.

<sup>2</sup> A maximum of 3 semester hours of CHM 4400 may be used toward satisfying the requirements for a chemistry degree.

<sup>3</sup> Prerequisite requirements must be met for all relevant chemistry courses.

## **Chemistry (B.S.)**

### **Major**

The Chemistry Major is comprised of the following courses and one of the Chemistry Concentrations listed below.

Students who have completed college-level, algebra-based physics courses (e.g., PHY 1151G, 1152G, 1161, 1162) should consult the department chair.

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 2840 - Organic Chemistry II. Credits: 3
- CHM 2845 - Organic Chemistry Laboratory II. Credits: 1
- CHM 3000 - Undergraduate Seminar. Credits: 0
- CHM 3001 - Undergraduate Seminar. Credits: 1
- CHM 3500 - Introduction to Chemical Research. Credits: 1
- CHM 3780 - Instrumental Analysis. Credits: 3
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

### **Chemistry Concentrations:**

#### **1. Chemistry (See Footnote 1)**

Total Semester Hours: 20

- Five semester hours of electives in Chemistry (See footnotes 2 and 3)
- CHM 3450 - Biochemistry I. Credits: 3
- CHM 3915 - Physical Chemistry Laboratory. Credits: 2
- CHM 3920 - Quantum Chemistry. Credits: 3
- CHM 4000 - Undergraduate Seminar. Credits: 0
- CHM 4001 - Undergraduate Seminar. Credits: 1
- CHM 4900 - Inorganic Chemistry II. Credits: 3
- CHM 4915 - Advanced Laboratory. Credits: 3

#### **2. Biochemistry (See Footnote 1)**

Total Semester Hours: 30

- BIO 1100 - General Biology. Credits: 4
- CHM 3450 - Biochemistry I. Credits: 3
- CHM 3455 - Biochemistry Laboratory. Credits: 2
- CHM 3460 - Biochemistry II. Credits: 3
- CHM 3915 - Physical Chemistry Laboratory. Credits: 2
- CHM 3920 - Quantum Chemistry. Credits: 3
- CHM 4000 - Undergraduate Seminar. Credits: 0
- CHM 4001 - Undergraduate Seminar. Credits: 1
- CHM 4860 - Advanced Biochemistry. Credits: 3

**AND (See Footnote 4)**

- BIO 3200 - Genetics. Credits: 4  
OR
- BIO 3300 - General Microbiology. Credits: 4

**AND Five Semester Hours of Electives in Chemistry (See Footnotes 3 and 5) or From the Following:**

- BIO 3200 - Genetics. Credits: 4
- BIO 3210 - Immunology. Credits: 3
- BIO 3300 - General Microbiology. Credits: 4
- BIO 3510 - Plant Physiology. Credits: 4
- BIO 3520 - Animal Physiology. Credits: 4
- BIO 3622 - Embryology. Credits: 4
- BIO 4830 - Comparative Vertebrate Physiology. Credits: 3
- BIO 4834 - Neurobiology. Credits: 3
- BIO 4836 - Pathogenic Microbiology. Credits: 4

**3. Management**

Total Semester Hours: 45

- Three semester hours of electives in Chemistry (See Footnote 6)
- BUS 1950 - Computer Concepts and Applications for Business. Credits: 3
- BUS 2101 - Financial Accounting. Credits: 3
- BUS 2102 - Managerial Accounting. Credits: 3
- BUS 2750 - Legal and Social Environment of Business. Credits: 3
- BUS 2810 - Business Statistics I. Credits: 3
- BUS 3010 - Management and Organizational Behavior. Credits: 3
- BUS 3470 - Principles of Marketing. Credits: 3
- BUS 3500 - Management Information Systems. Credits: 3
- BUS 3710 - Business Financial Management. Credits: 3
- BUS 3950 - Operations Management. Credits: 3
- CHM 3300 - Survey of Biochemistry. Credits: 3
- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- HIS 3600G - The U.S. Constitution and the Nation. Credits: 3

**Footnotes:**

(Major GPA based on all chemistry courses taken at EIU.)

<sup>1</sup> Satisfies certification requirements of the American Chemical Society.

<sup>2</sup> Electives in the Chemistry Concentration must include two semester hours of 4000 level chemistry laboratory work in addition to CHM 4915. Courses that may be used to satisfy this requirement include CHM 4400 (a maximum of three semester hours can be counted toward the degree), CHM 4555, or CHM 4770.

<sup>3</sup> The following may not be used as electives in the Chemistry or Biochemistry Concentrations: Chemistry 1040G, 2040G, 3100, 3200, and 3300.

<sup>4</sup> One course is required in concentration; the other may be used as an elective.

<sup>5</sup> Electives in the Biochemistry Concentration must include two semester hours of 4000 level chemistry laboratory work. Courses that may be used to satisfy this requirement include CHM 4400 (a maximum of three semester hours can be counted toward the degree), CHM 4555, CHM 4770, or CHM 4915.

<sup>6</sup> The following may not be used as electives in the Management Concentration: Chemistry 1040G, 2040G, 3100, 3200, and 4001.

## **Chemistry Teacher Certification**

See the Science with Teacher Certification Major program, (Chemistry Specialization).

## **Chemistry Honors Program**

To be admitted to the Departmental Honors Program, students must have at least a 3.50 GPA on a 4.0 point scale, permission of the Dean of the Honors College, and permission of the Departmental Honors Coordinator.

Students in the Chemistry Honors Program must maintain an *overall* GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their grade-point average to 3.50 and submit their petition to the Dean of the Honors College and Departmental Honors Coordinator.

### **Departmental Honors Requirements**

At least 12 semester hours in the following courses:

#### **Six Required Semester Hours From:**

- CHM 4555 - Honors Research. Credits: 1 to 3 (2 semester hours required)
- CHM 4644 - Honors Thesis. Credits: 3
- CHM 4666 - Honors Seminar. Credits: 1

#### **Six or More Semester Hours Elected From:**

- A Chemistry graduate course approved by the Departmental Honors Coordinator. Credits: 3
- CHM 4444 - Honors Independent Study. Credits: 1 to 3
- CHM 4555 - Honors Research. Credits: 1 to 3



## **Chemistry Minor**

**Total Semester Hours: 21**

### **Requirements**

The Chemistry Minor is comprised of the following courses as well as either Track I or Track II below.

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3

### **Track I -- 10 Semester Hours**

#### **Four Semester Hours from the following courses:**

- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1

#### **And six semester hours of electives in Chemistry (See footnote 1) from the following:**

- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 3300 - Survey of Biochemistry. Credits: 3
- CHM 3780 - Instrumental Analysis. Credits: 3
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- CHM 3920 - Quantum Chemistry. Credits: 3
- CHM 4400 - Undergraduate Research. Credits: 1 to 6

### **Track II-- 10 Semester Hours**

#### **Seven Semester Hours from the following courses:**

- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1
- CHM 2840 - Organic Chemistry II. Credits: 3

#### **And three semester hours of electives in Chemistry (See footnote 1) from the following:**

- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 3300 - Survey of Biochemistry. Credits: 3
- CHM 3450 - Biochemistry I. Credits: 3
- CHM 3780 - Instrumental Analysis. Credits: 3
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- CHM 3920 - Quantum Chemistry. Credits: 3
- CHM 4400 - Undergraduate Research. Credits: 1 to 6
- CHM 4750 - Environmental Chemistry. Credits: 3
- CHM 4790 - Medicinal Chemistry. Credits: 3
- CHM 4800 - Selected Topics in Chemistry. Credits: 1 to 3

### **Footnote:**

<sup>1</sup> Check course prerequisites.

## Department of Clinical Laboratory Science

### Clinical Laboratory Science (B.S.)

This cooperative degree program, administered by the Pre-Health Professions Advisor, leads to the Bachelor of Science degree. It is a four-year program including three years of college work followed by one year of work in an affiliated hospital. The degree requires 120 semester hours of credit including 90 semester hours at EIU (or a combination of transfer credits and credits earned at Eastern totaling 90 semester hours) and 32 semester hours credit for successful completion of a one-year program in clinical laboratory science at an affiliated hospital. The clinical hours taken at the affiliated hospital will be treated as courses taken at EIU counting in residency hours and will be included in EIU grade point average. EIU cannot guarantee admission to any of its affiliated hospitals.

#### Major

The Clinical Laboratory Science Major comprises:

#### Biology Requirements

- BIO 1100 - General Biology. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4  
OR
- BIO 3200 - Genetics. Credits: 4
- BIO 3210 - Immunology. Credits: 3
- BIO 3300 - General Microbiology. Credits: 4

#### AND

- BIO 2001G - Human Physiology. Credits: 4  
OR
- BIO 3520 - Animal Physiology. Credits: 4

#### Chemistry Requirements

16 Credits of Chemistry through Organic with lab to include:

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1

#### Then Either

- CHM 2440 - Organic Chemistry I. Credits: 3
- CHM 2445 - Organic Chemistry Laboratory I. Credits: 1
- CHM 2840 - Organic Chemistry II. Credits: 3
- CHM 2845 - Organic Chemistry Laboratory II. Credits: 1

#### OR

- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3300 - Survey of Biochemistry. Credits: 3

#### Mathematics Requirements

- MAT 1271 - College Algebra. Credits: 3  
or Equivalent Math Placement Test Level
- MAT 2250G - Elementary Statistics. Credits: 4

**Clinical Laboratory Science Electives**

Choose two electives (a minimum of 6 s.h. required) from:

- BIO 2200 - Human Anatomy. Credits: 4
- BIO 3624 - Histology. Credits: 3
- BIO 3700 - Parasitology. Credits: 3
- BIO 4836 - Pathogenic Microbiology. Credits: 4
- BUS 1950 - Computer Concepts and Applications for Business. Credits: 3
- BUS 3010 - Management and Organizational Behavior. Credits: 3
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

**Clinical Laboratory Science Requirements**

These courses are to be taken at affiliated hospital.

- CLS 4000 - Clinical Chemistry I. Credits: 4 to 6
- CLS 4005 - Clinical Chemistry II. Credits: 3 to 5
- CLS 4010 - Clinical Hematology. Credits: 4 to 6
- CLS 4020 - Clinical Hemostasis. Credits: 1 to 2
- CLS 4030 - Clinical Immunohematology. Credits: 3 to 5
- CLS 4040 - Clinical Immunology. Credits: 2 to 3
- CLS 4050 - Clinical Microbiology I. Credits: 5 to 6
- CLS 4055 - Clinical Microbiology II. Credits: 2 to 3
- CLS 4060 - Special Topics in Clinical Laboratory Science. Credits: 1
- CLS 4070 - Clinical Management and Education. Credits: 1

**Footnotes:**

(Major GPA based on all courses listed as appropriate for meeting major requirements)

- Student must have completed 90 hours before beginning clinicals; must average 15 credits/semester.
- Molecular and Cell Biology (BIO 3120) and Genetics (BIO 3200) recommended before taking Immunology (BIO 3210).
- CLS students must meet foreign language requirements.
- CLS students must meet math requirement (MAT 1271 or equiv).
- CLS students will not be required to take a senior seminar or to submit the fourth sample to the Electronic Writing Portfolio because the terminal year is taken off-campus.

## Department of Communication Disorders & Sciences

### Department Faculty

**Gail Richard**, *Chairperson*

Anthony, A.; Becker, T.; Bergstrom, B.; Calvert, L.; Chambers, C.; Dell, C.; Fahy, J.; Goldacker, F.; McNamara, T.; Smitley, J.; Throneburg, R.; Veale, T.; Wilson, B.

**Department Telephone:** 217.581.2712

## **Communication Disorders and Sciences (B.S.)**

### **Admission to the Major**

#### **I. Probational Admission**

Students entering EIU as freshmen or transfers seeking a CDS major will be classified as probational CDS majors. Probational majors may register for all lower division (2999 or lower) courses in the CDS major.

#### **II. Admission to the CDS Major**

Access to all upper division CDS courses (3000 or higher) requires admission to the CDS Major. The Department Chair reviews the applications of all probational CDS majors seeking admission to the major. The chair determines if the student's academic achievement supports admission to the major and access to upper division (3000 or higher) courses.

#### **III. Criteria for Degree Admission**

1. Admission to the University
2. Classification as a probational CDS major.
3. Achievement of a cumulative GPA of 2.5 or higher for all EIU course work.
4. For native EIU students, completion of at least 45 semester hours of course work at EIU.
5. For transfers, completion of at least 15 semester hours of course work at EIU.
6. Completion of at least three of the five lower division core CDS courses in the major, with one of the three being either CDS 2500 or CDS 2800, and achievement of a minimum 2.75 GPA for all lower division core CDS courses completed at the time of application.\* Lower division core courses are:
  - CDS 2000 - Introduction to Communication Disorders & Sciences. Credits: 1
  - CDS 2100 - Phonetics and Phonological Development. Credits: 3
  - CDS 2200 - Language Acquisition. Credits: 3
  - CDS 2500 - Anatomy and Physiology of the Speech, Language, Swallowing, and Hearing Mechanism. Credits: 3
  - CDS 2800 - Speech Science. Credits: 3

#### **Footnote:**

\*In lieu of items 2-6, students who transfer to EIU with a minimum grade point average of 2.75 in at least 7 semester hours of equivalent CDS course work (as specified in item #6) will be allowed access to upper division course work.

#### **IV. Registration for Upper Division Courses**

Only students admitted to the CDS major will be approved to register for upper division (3000 or higher) CDS courses. Students must maintain a 2.5 overall GPA and a 2.75 GPA in Communication Disorders and Sciences to register for subsequent upper-division CDS courses.

#### **V. Probational Majors Who Do Not Meet Admission to the CDS Major Criteria**

Probational CDS majors who do not meet the requirements for admission to the CDS major will remain classified as probational. Probational majors may continue to take lower division CDS courses; however, probational majors may not register for upper division CDS courses. Probational majors may reapply for admission to the major when they meet the admission requirements or they may seek advisement in changing majors.

#### **VI. Application Deadlines**

Applications are available in the Department Office, Room 2105, Human Services Center. Probational majors must return completed applications to the Department Office on or before the following deadlines in order to be admitted to the major and register for upper-division courses:

<u>Admission</u>	<u>Application Deadline</u>	<u>Notification Date</u>
Fall	February 1	March 1
Fall (Entering Summer)	May 15	June 1

**Major (toward professional credentials)\***

The major in Communication Disorders and Sciences comprises:

- BIO 2001G - Human Physiology. Credits: 4
- CDS 2000 - Introduction to Communication Disorders & Sciences. Credits: 1
- CDS 2100 - Phonetics and Phonological Development. Credits: 3
- CDS 2200 - Language Acquisition. Credits: 3
- CDS 2500 - Anatomy and Physiology of the Speech, Language, Swallowing, and Hearing Mechanism. Credits: 3
- CDS 2800 - Speech Science. Credits: 3
- CDS 3100 - Phonological Assessment and Remediation. Credits: 3
- CDS 3200 - Developmental Language Disorders. Credits: 3
- CDS 3500 - Neurological/Embryological Aspects of Communication. Credits: 3
- CDS 3700 - Diagnosis and Treatment of Communication Disorders. Credits: 3
- CDS 3900 - Introduction to Clinical Techniques in Communication Disorders and Sciences. Credits: 2
- CDS 4300 - Introduction to Audiology. Credits: 3
- CDS 4350 - Aural Rehabilitation. Credits: 3
- CDS 4600 - Seminar in Communication Disorders and Sciences. Credits: 3  
OR CDS 4690 - Honors Seminar in Communication Disorders and Sciences. Credits: 3
- CDS 4760 - Voice Production and Disorders. Credits: 3
- CDS 4800 - Communication Modalities. Credits: 3
- CDS 4820 - Language and Literacy. Credits: 2
- CDS 4900 - Clinical Practice. Credits: 1
- PHY 1071 - Physics of Sound and Music. Credits: 3
- PHY 1072 - Physics of Sound and Music Laboratory. Credits: 1
- PSY 1879G - Introductory Psychology. Credits: 3

**AND**

- ELE 2320 - Childhood and Early Adolescent Development. Credits: 3  
or
- PSY 3515 - Child Psychology. Credits: 3

**Footnotes:**

\**Note:* The Master's Degree is the required level of training for Certification by the American Speech-Language-Hearing Association, the Illinois State Board of Education, and the Illinois Department of Financial and Professional Regulation. At least a 3.00 GPA (A=4.0) in the undergraduate Communication Disorders and Sciences major, two letters of recommendation, GRE scores, and completion of Communication Disorders and Sciences and Graduate School application procedures are required for admission consideration to the graduate program at EIU. Admission is competitive. All applicants are ranked by a Graduate Admissions Committee according to major GPA, Clinical Criteria, and Professional Criteria. Students who have a baccalaureate degree in a major other than CDS must complete all 2000 level CDS courses and CDS 3100, 3200, 3300, and 3700 or their equivalent prior to being considered for admission to the CDS graduate program.

\*\* A 2.5 overall GPA and a 2.75 GPA in the Communication Disorders and Sciences major are required for admission to CDS 4900. Major GPA based on all Communication Disorders and Sciences courses taken at EIU.

## **Communication Disorders and Sciences Honors Program**

Admission to the Department Honors Program in Communication Disorders and Science requires a minimum 3.50 (4.0 scale) cumulative GPA and approval of the Department Honors Admission Committee. Students must maintain a cumulative GPA of 3.5 (4.0 scale) to continue in the Honors Program. Honors courses will replace required and elective courses in the CDS curriculum. Admission will be limited to availability of program resources.

### **Departmental Honors Requirements**

CDS Honors students will complete all of the requirements for the major with the following substitutions:

- CDS 4644 - Honors Thesis. Credits: 3  
(Honors Thesis replaces elective in the program. Six hours are required.)
- CDS 4666 - Honors Seminar. Credits: 3  
(Honors Seminar replaces electives in the program)
- CDS 4690 - Honors Seminar in Communication Disorders and Sciences. Credits: 3  
(Honors Seminar in CDS is substituted for CDS 4600)

### **Footnotes**

\*\* CDS 4760 and CDS 4800 are part of the regular undergraduate curriculum in CDS. Honors students may substitute honors courses for one of these courses in their undergraduate program. CDS 4760 or CDS 4800 may be taken for graduate credit during graduate school.

## Department of Economics

### Department Faculty

**Linda Ghent**, *Chairperson*

Abebe, T.; Abou-Zaid, A.; Adom, A.D.; Alabdulwahab, S; Brodsky, N.; Bruehler, J.; Chiritescu, A.; Dao, M.; Harris, J.; Hickman, D.; Leonce, T.; Li, H.; Mason, T.; Moshtagh, A.; Upadhyay, M.

**Department Telephone:** 217.581.2719



## **Economics (B.A.)**

### **Major (See footnote 1)**

Admission to the program requires a 2.25 GPA in Economics course work with at least six semester hours of Economics earned. Graduation from this program requires at least a "C" in each of Economics 3971 (or Mathematics 3701 or Business 2810 or other equivalent courses subject to Economics Department approval), 3972 (or Mathematics 3702), 4689, 4801, and 4802, whether the course or its equivalent is taken at Eastern or at another school. ECN 2800G may not be counted as part of the 36 semester-hour requirement for an economics major.

The Economics major comprises:

### **36 Hours in Economics Courses (See footnote 2)**

36 hours in Economic courses (excluding 2800G) including the following required coursework:

- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- ECN 3971 - Statistics Applied to Economics I. Credits: 3  
(See footnote 3)
- ECN 3972 - Statistics Applied to Economics II. Credits: 3  
(See footnote 4)
- ECN 4689 - Theory and Research. Credits: 3
- ECN 4801 - Intermediate Macroeconomic Theory. Credits: 3
- ECN 4802 - Intermediate Microeconomic Theory. Credits: 3

### **6-8 Semester Hours in the following Math courses:**

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5  
(See footnote 1)  
OR
- MAT 2110G - Brief Calculus with Applications. Credits: 3

### **AND**

- MAT 2120G - Finite Mathematics. Credits: 3  
OR
- MAT 2550 - Introduction to Linear Algebra. Credits: 3  
(See Footnote 1)

### **Footnotes:**

(Major GPA based on all economics courses taken at EIU.)

<sup>1</sup>It is strongly recommended that students complete Mathematics 2110G (or 1441G) and 2120G (or 2550) before enrolling in Economics courses numbered 4750 or above. Mathematics 1441G, 2550, 3701, and 3702 are recommended for those students who wish to enter Ph.D. programs in Economics. It is also strongly recommended that prospective Ph.D. students complete the entire calculus sequence by following Mathematics 1441G with Mathematics 2442 and 2443 which are the prerequisites for Mathematics 3701 and 3702, as well as the differential equations sequence, Mathematics 3501 and 3502.

<sup>2</sup>Substitution of Business 2810, Mathematics 3701, 3702 or other equivalent courses for Economics 3971 or Economics 3972 does not reduce the 36 semester hours in Economics courses. That is, the student may need to add one or two elective ECN courses to his/her program.

<sup>3</sup>Or Mathematics 3701 or Business 2810 or other equivalent courses subject to Economics Department approval.

<sup>4</sup>Or Mathematics 3702.

## **Economics: International Studies Option (B.A.)**

### **Core Requirements (See footnote 1)**

Admission to the program requires a 2.25 GPA in Economics course work with at least six semester hours of Economics earned. Graduation from this program requires at least a "C" in each of ECN 3971 (or MAT 3701 or BUS 2810 or other equivalent courses subject to Economics Department approval), 3972 (or MAT 3702), 4689, 4801, and 4802, whether the course or its equivalent is taken at Eastern or at another school. ECN 2800G may not be counted as part of the 33 semester-hour requirement for an Economics major with an International Studies Option.

The International Studies option comprises:

### **33 Semester Hours in Economics Courses (See footnote 2)**

33 semester hours in Economics courses (excluding 2800G) including the following required coursework:

- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- ECN 3860 - International Economics. Credits: 3
- ECN 3971 - Statistics Applied to Economics I. Credits: 3  
(See footnote 3)
- ECN 3972 - Statistics Applied to Economics II. Credits: 3  
(See footnote 4)
- ECN 4689 - Theory and Research. Credits: 3
- ECN 4801 - Intermediate Macroeconomic Theory. Credits: 3
- ECN 4802 - Intermediate Microeconomic Theory. Credits: 3

### **6-8 Semester Hours in the Following Math Courses:**

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5  
(See footnote 1)  
OR
- MAT 2110G - Brief Calculus with Applications. Credits: 3

### **AND**

- MAT 2120G - Finite Mathematics. Credits: 3  
OR
- MAT 2550 - Introduction to Linear Algebra. Credits: 3  
(See footnote 1)

### **18-21 Semester Hours in the Following Courses:**

(Students must choose at least three different subject areas):

- ECN 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote 8)
- FIN 4820 - International Finance. Credits: 3  
(See Footnotes 6, 7)
- GEG 3050 - Geography and Culture of Africa. Credits: 3
- GEG 3055 - Geography and Culture of Asia. Credits: 3
- GEG 3060 - Geography and Culture of Europe. Credits: 3
- GEG 3070 - Geography and Culture of Middle America. Credits: 3
- GEG 3080 - Geography and Culture of South America. Credits: 3
- GEG 3620 - Geography of Tourism. Credits: 3
- GEG 3650 - Advanced Cultural Geography. Credits: 3
- GEG 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote 8)
- HIS 3110 - Britain 1688 to the Present. Credits: 3
- HIS 3250 - African History. Credits: 3
- HIS 3260 - Modern Latin America. Credits: 3
- HIS 3320 - History of Modern China. Credits: 3
- HIS 3350 - Twentieth Century Russia. Credits: 3

- HIS 3450 - Modern Germany. Credits: 3
- HIS 3800 - U.S. Diplomatic History. Credits: 3
- HIS 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote 8)
- HIS 4820 - The World in the Twentieth Century. Credits: 3
- MGT 4600 - International Business Policy and Operation. Credits: 3  
(See Footnotes 5, 7)
- PLS 2253G - Introduction to International Relations. Credits: 3
- PLS 3203 - American Foreign Policy. Credits: 3
- PLS 3223 - International Organizations. Credits: 3
- PLS 3303 - European Politics and Governments Credits: 3
- PLS 3333 - Politics of Latin America and the Caribbean. Credits: 3
- PLS 3343 - Government and Politics of the Middle East. Credits: 3
- PLS 3353 - Politics of Sub-Saharan Africa. Credits: 3
- PLS 3363 - Government and Politics in Asia-Pacific Rim. Credits: 3
- PLS 3373 - International Political Economy. Credits: 3
- PLS 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote 8)
- PLS 4823 - International Policy Issues. Credits: 3
- PLS 4933 - Ideologies of the Developing World. Credits: 3

#### **0-4 Semester Hours in Foreign Language at the Intermediate Level**

Proficiency at the intermediate level of a Foreign Language or completion of courses in Foreign Language to include:

- FLF 2202G - Intermediate French II. Credits: 4  
OR
- FLG 2202G - Intermediate German II. Credits: 4  
OR
- FLS 2202G - Intermediate Spanish II. Credits: 4

#### **Footnotes:**

(Major GPA based on all economics courses taken at EIU.)

<sup>1</sup> It is strongly recommended that students complete Mathematics 2110G (or 1441G) and 2120G (or 2550) before enrolling in Economics courses numbered 4750 or above. Mathematics 1441G, 2550, 3701, and 3702 are recommended for those students who wish to enter Ph.D. programs in Economics. It is also strongly recommended that prospective Ph.D. students complete the entire calculus sequence by following Mathematics 1441G with Mathematics 2442 and 2443 which are the prerequisites for Mathematics 3701 and 3702, as well as the differential equations sequence, Mathematics 3501 and 3502.

<sup>2</sup> Substitution of Business 2810, Mathematics 3701, 3702 or other equivalent courses for Economics 3971 or Economics 3972 does not reduce the 33 semester hours required in Economics courses. That is, the student may need to add one or two elective ECN courses to his/her program.

<sup>3</sup> Or Mathematics 3701 or Business 2810 or other equivalent courses subject to Economics Department approval.

<sup>4</sup> Or Mathematics 3702.

<sup>5</sup> Prerequisites: ECN 3860 or permission of the instructor. Requires admission to the School of Business or permission of the Associate Chair.

<sup>6</sup> Prerequisites: BUS 1950; BUS 2101; BUS 2102; BUS 3710; ECN 2802G; ECN 3860; FIN 3730. Requires admission to the School of Business or permission of the Associate Chair.

<sup>7</sup> The MGT and FIN courses count as one subject area.

<sup>8</sup> No more than six hours from Study Abroad will be counted towards completion of this option.

## **Economics Honors Program**

To be admitted to the honors program, students must have at least a 3.50 grade-point average on a 4.0 point scale, permission of the Dean of the Honors College, and permission of the Departmental Honors Coordinator.

Students in the Economics Honors Program must maintain an overall GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their GPA to 3.50 and submit their petition to the Dean of the Honors College and Departmental Honors Coordinator.

### **Departmental Honors Requirements**

Honors students must complete the following:

#### **Major Requirements**

Complete the other requirements for the Economics major. The hours earned in Honors courses will count toward the hours requirement for the major.

#### **9 Semester Hours in Economics Honors Courses**

Nine semester hours in a combination of the following courses. Each course may be repeated for a maximum of six semester hours. Repeating a course must be approved by the Departmental Honors Coordinator.

- A graduate course approved by Departmental Honors Coordinator. Credits: 3
- ECN 4444 - Honors Independent Study. Credits: 3
- ECN 4666 - Honors Seminar. Credits: 3

#### **3 Semester Hours in Economics Honors Thesis**

- ECN 4644 - Honors Thesis. Credits: 3

## **Economics Minor**

### **Total Semester Hours: 21 (See footnote 1)**

- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3

### **AND**

- Electives in Economics (excluding Economics 2800G, 3970, and 4275). Credits: 15  
(See footnote 2)

### **Footnotes:**

<sup>1</sup> Substitution of Business (2810), Mathematics (3701, 3702) or other equivalent courses for Economics 3971 or 3972 does not reduce the 21 semester hours required in Economics courses. That is, the student may need to add one or two elective ECN courses to his/her program.

<sup>2</sup> It is strongly recommended that students elect Economics 3971, 4801 and/or 4802. Also, it is strongly recommended that students complete Mathematics 2110G (or 1441G) and 2120G (or 2550) before enrolling in Economics courses numbered 4750 and above.

## Department of Geology/Geography

### Department Faculty

**John Paul Stimac**, *Chairperson*

Anderson, B.; Bower, K.; Burns, D.; Cataneo, B.; Chesner, C.; Cornebise, M.; Craig, C.; Davis, J.; DiNaso, S.; Gutowski, V.; Johnson, K.; Khan, B.; Laingen, C.; Obia, G.; Over, T.; Riley, J.; Smith, B.; Viertel, D.

**Department Telephone:** 217.581.2626

## **Geography (B.S.)**

### **Major**

The Geography Major comprises the following courses and one of the concentrations below.

- ESC 1300G - Introduction to Earth Sciences. Credits: 4  
(cross listed with GEL 1300G)
- ESC 1400G - Weather and Climate. Credits: 4
- ESC 3200 - Human Impacts on the Environment. Credits: 3  
(cross listed with GEG 3200)
- GEG 1100G - Cultural Geography. Credits: 3
- GEG 1200G - World Regional Geography. Credits: 3
- GEG 3025 - Geography of the United States and Canada. Credits: 3
- GEG 3200 - Human Impacts on the Environment. Credits: 3  
(cross listed with ESC 3200)
- GEG 3420 - Principles of Geomorphology. Credits: 3  
(cross listed with GEL 3420)
- GEG 3800 - Introduction to Cartography. Credits: 3
- GEG 3875 - Field Methods. Credits: 3
- GEG 3885 - Quantitative Methods in Geography. Credits: 3
- GEL 1300G - Introduction to Earth Sciences. Credits: 4  
(cross listed with ESC 1300G)
- GEL 3420 - Principles of Geomorphology. Credits: 3  
(cross listed with GEG 3420)

### **Concentrations:**

All majors will take 18 semester hours from geography and/or earth science courses in addition to the 32 semester hours of required courses.

#### **1. General Geography**

Eighteen semester hours from geography and/or earth science courses *other than Required Courses*. The course of study for the General Geography Concentration will be determined by students only after discussion with, and approval by, their major advisor and department chair.

#### **2. Environmental Studies**

Eighteen semester hours from geography and/or earth science *other than Required Courses*. Student must take at least 12 semester hours from the following:

- BIO 2002G - Environmental Life Sciences. Credits: 3
- ECN 3810 - Economics of Natural Resources. Credits: 3
- ESC 2420 - Regional Geomorphology. Credits: 3
- ESC 2450G - Oceanography. Credits: 3  
(cross listed with GEL 2450G)
- ESC 3010G - Environmental Physical Sciences. Credits: 3  
(cross listed with GEL 3010G)
- ESC 3020 - Natural Disasters: Causes and Effects. Credits: 3  
(cross listed with GEG 3020)
- ESC 3300 - Soils. Credits: 3
- ESC 3410 - Climatology. Credits: 3
- ESC 3550 - Surface Water Processes and Resources. Credits: 3
- ESC 3960 - Special Topics. Credits: 1 to 4
- ESC 4275 - Internship in Earth Science. Credits: 1 to 6
- ESC 4400 - Independent Study. Credits: 1 to 3
- ESC 4430 - Undergraduate Research in Earth Science. Credits: 1 to 3
- GEG 3020 - Natural Disasters: Causes and Effects. Credits: 3  
(cross listed with ESC 3020)
- GEG 3310 - Introduction to Biogeography. Credits: 3
- GEG 3320 - Natural Resource Conservation. Credits: 3
- GEG 3330 - Agricultural Geography. Credits: 3

- GEG 3500 - Climate, Environment and History Since the last Ice Age. Credits: 3  
(Cross-listed with HIS 3500)
- GEG 4000 - Seminar. Credits: 3  
(See Footnote \*\*)
- GEG 4400 - Independent Study. Credits: 1 to 3
- GEL 2450G - Oceanography. Credits: 3  
(cross listed with ESC 2450G)
- GEL 3010G - Environmental Physical Sciences. Credits: 3  
(cross listed with ESC 3010G)
- GEL 3425 - Engineering Geology. Credits: 3
- GEL 3525 - Hydrogeology. Credits: 3
- GEL 4335 - Environmental Geology. Credits: 3
- HIS 3500 - Climate, Environment and History Since the last Ice Age. Credits: 3  
(Cross-listed with GEG 3500)

### **3. Geographic Techniques/Spatial Analysis**

*Eighteen semester hours from geography/earth science other than Required Courses. Students must take at least 12 semester hours from the following:*

- ESC 3960 - Special Topics. Credits: 1 to 4
- ESC 4400 - Independent Study. Credits: 1 to 3
- GEG 3600 - Economic Geography. Credits: 3
- GEG 3750 - Population Geography. Credits: 3
- GEG 3780 - Land Use Planning. Credits: 3
- GEG 3810 - Geographic Information Systems I. Credits: 3
- GEG 3820 - Remote Sensing I. Credits: 3
- GEG 3850 - GPS: Mapping the Modern Way. Credits: 3
- GEG 3855 - Computer Mapping. Credits: 3
- GEG 3860 - Geographic Information Systems II. Credits: 3
- GEG 3865 - Advanced Cartography. Credits: 3
- GEG 3870 - Remote Sensing II. Credits: 3
- GEG 4000 - Seminar. Credits: 3  
(See Footnote \*\*)
- GEG 4275 - Internship in Geography. Credits: 1 to 6
- GEG 4400 - Independent Study. Credits: 1 to 3
- GEG 4430 - Undergraduate Research in Geography. Credits: 1 to 3

### **4. International Studies**

Eighteen semester hours including a minimum of 15 semester hours from the geography courses listed below and a minimum of 3 semester hours from the multi-disciplinary course list **in addition to** the 32 semester hours required by the geography major (i.e., core courses).

#### **Regional Component: (9 hours minimum)**

Choose from the following:

- GEG 3050 - Geography and Culture of Africa. Credits: 3
- GEG 3055 - Geography and Culture of Asia. Credits: 3
- GEG 3060 - Geography and Culture of Europe. Credits: 3
- GEG 3070 - Geography and Culture of Middle America. Credits: 3
- GEG 3080 - Geography and Culture of South America. Credits: 3  
(New course, effective Fall 2011)
- GEG 4000 - Seminar. Credits: 3  
(See Footnote \*\*)
- STA 3970 - Study Abroad: Faculty-Led. Credits: 1 to 16

#### **Systematic Component: (6 hours minimum)**

Choose at least 2 of the following:

- GEG 3600 - Economic Geography. Credits: 3
- GEG 3620 - Geography of Tourism. Credits: 3
- GEG 3640 - Geography of Sports. Credits: 3



- GEG 3650 - Advanced Cultural Geography. Credits: 3
- GEG 3750 - Population Geography. Credits: 3
- GEG 3775 - Urban Geography. Credits: 3
- GEG 4000 - Seminar. Credits: 3  
(See Footnote \*\*)
- GEG 4400 - Independent Study. Credits: 1 to 3  
(See Footnote \*)
- GEG 4430 - Undergraduate Research in Geography. Credits: 1 to 3  
(See Footnote \*)

**Multi-disciplinary Component: (3 hours minimum)**

Choose from the following:

- CSC 3100 - Global Threats and Problems. Credits: 3  
(cross listed with ECN/GEG/PLS/SOC 3100)
- ECN 3100 - Global Threats and Problems. Credits: 3  
(cross listed with CSC/GEG/PLS/SOC 3100)
- ECN 3833 - Economic Development of Modern Europe. Credits: 3
- ECN 3860 - International Economics. Credits: 3
- FLF 2201G - Intermediate French I. Credits: 4  
or FLF 2202 - Intermediate French II
- FLG 2201G - Intermediate German I. Credits: 4  
or FLG 2202 - Intermediate German II
- FLS 2201G - Intermediate Spanish I. Credits: 4  
or FLS 2202 - Intermediate Spanish II
- GEG 3100 - Global Threats and Problems. Credits: 3  
(cross listed with CSC/ECN/PLS/SOC 3100)
- HIS 3110 - Britain 1688 to the Present. Credits: 3
- HIS 3210 - History of the Modern Middle East. Credits: 3
- HIS 3250 - African History. Credits: 3
- HIS 3260 - Modern Latin America. Credits: 3
- HIS 3320 - History of Modern China. Credits: 3
- HIS 3350 - Twentieth Century Russia. Credits: 3
- HIS 3450 - Modern Germany. Credits: 3
- PLS 3100 - Global Threats and Problems. Credits: 3  
(cross listed with CSC/ECN/GEG/SOC 3100)
- PLS 3223 - International Organizations. Credits: 3
- PLS 3233 - International Terrorism. Credits: 3
- PLS 3303 - European Politics and Governments Credits: 3
- PLS 3333 - Politics of Latin America and the Caribbean. Credits: 3
- PLS 3343 - Government and Politics of the Middle East. Credits: 3
- PLS 3353 - Politics of Sub-Saharan Africa. Credits: 3
- PLS 3363 - Government and Politics in Asia-Pacific Rim. Credits: 3
- PLS 3373 - International Political Economy. Credits: 3
- SOC 3100 - Global Threats and Problems. Credits: 3  
(cross listed with CSC/ECN/GEG/PLS 3100)

**Additional Elective Geography Courses:**

- ESC 3400 - Broadcast Meteorology Practicum. Credits: 3  
(Cross-listed with GEG 3400)
- ESC 3415 - The Restless Atmosphere. Credits: 3  
(Cross-listed with GEG 3415)
- GEG 3000 - Geography of Illinois. Credits: 3
- GEG 3400 - Broadcast Meteorology Practicum. Credits: 3  
(Cross-listed with ESC 3400)
- GEG 3415 - The Restless Atmosphere. Credits: 3  
(Cross-listed with ESC 3415)
- GEG 3700 - Historical Geography of the United States. Credits: 3

**Footnotes:**

(Major GPA based on all geography and required earth science and geology courses taken at EIU.)

\* Research topic must have an international focus and must be approved by the GEL/GEG International Studies Concentration Committee.

\*\* GEG 4000 Seminar courses must be approved by the Geography faculty for each concentration.

## **Geography Teacher Certification**

See the Social Science Teaching Major program, (Geography Designation)

## **Geography Honors Program**

Students in the Honors Program for Geography Majors must maintain a 3.5 cumulative GPA and complete all other requirements for the Geography major. The departmental honors courses and approved graduate course will count toward and replace concentration hours in the Geography BS Major. Supervision of a student's course work in the Departmental Honors Program for Geography Majors will be undertaken by a faculty member after approval by the Departmental Honors Coordinator and Department Chairperson. It is highly recommended that students take Geography 4444, 4555 and 4644 in consecutive semesters.

### **Departmental Honors Requirements**

12 semester hours in a combination of the following courses:

- An approved graduate course. Credits: 1-3
- GEG 4444 - Honors Independent Study. Credits: 1 to 6
- GEG 4555 - Honors Research. Credits: 1 to 6
- GEG 4644 - Honors Thesis. Credits: 1 to 6
- GEG 4666 - Honors Seminar. Credits: 3

## **Geography Minor**

### **Total Hours: 22**

The Geography Minor comprises:

### **4 semester hours from:**

- ESC 1300G - Introduction to Earth Sciences. Credits: 4  
or
- ESC 1400G - Weather and Climate. Credits: 4

### **3 semester hours from:**

- GEG 1100G - Cultural Geography. Credits: 3  
or
- GEG 1200G - World Regional Geography. Credits: 3

### **3 semester hours from:**

- GEG 3800 - Introduction to Cartography. Credits: 3

### **12 semester hours of electives:**

Electives in geography or earth science selected in consultation with the Geology/Geography Department Chairperson. These must include at least six semester hours of courses numbered 3000 or above.

## **Geology (B.S.)**

### **Major**

The Geology major comprises:

- BIO 1001G - Biological Principles and Issues. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- ESC 1300G - Introduction to Earth Sciences. Credits: 4  
(cross listed with GEL 1300G)
- GEG 3420 - Principles of Geomorphology. Credits: 3  
(cross listed with GEL 3420)
- GEL 1300G - Introduction to Earth Sciences. Credits: 4  
(cross listed with ESC 1300G)
- GEL 1430 - Historical Geology. Credits: 4
- GEL 2440 - Mineralogy. Credits: 4
- GEL 3405 - Petrology. Credits: 4
- GEL 3420 - Principles of Geomorphology. Credits: 3  
(cross listed with GEG 3420)
- GEL 3430 - Structural Geology. Credits: 3
- GEL 3510 - Principles of Sedimentation. Credits: 3
- GEL 3560 - Principles of Stratigraphy. Credits: 3
- GEL 4335 - Environmental Geology. Credits: 3
- GEL 4490 - Invertebrate Paleontology. Credits: 3
- GEL 4800 - Summer Field Geology in the Black Hills, S.D. Credits: 6
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

### **Major electives:**

9 semester hours of electives must be taken from the following A and B lists:

#### **A List**

A minimum of 6 semester hours must be taken from the following courses:

- ESC 3300 - Soils. Credits: 3
- GEL 2100 - Geology of Energy Resources. Credits: 3
- GEL 3085 - Vertebrate Paleoenvironments and Paleoecology. Credits: 3
- GEL 3115 - Introduction to Paleoclimate. Credits: 4
- GEL 3425 - Engineering Geology. Credits: 3
- GEL 3440 - Tectonics. Credits: 3
- GEL 3460 - Economic Mineral Deposits. Credits: 3
- GEL 3470 - Seminar. Credits: 1 to 3
- GEL 3500 - Volcanology. Credits: 3
- GEL 3525 - Hydrogeology. Credits: 3
- GEL 4200 - Introduction to Geophysical Exploration. Credits: 3
- GEL 4450 - Well Log Interpretation. Credits: 3
- GEL 4480 - Optical Mineralogy. Credits: 4
- GEL 4892 - Introduction to Paleobotany. Credits: 4

**B List**

A maximum of 3 semester hours can be used from the following courses to meet the elective requirement:

- ESC 3550 - Surface Water Processes and Resources. Credits: 3
- GEG 3800 - Introduction to Cartography. Credits: 3
- GEG 3810 - Geographic Information Systems I. Credits: 3
- GEG 3820 - Remote Sensing I. Credits: 3
- GEG 3855 - Computer Mapping. Credits: 3

**Footnote:**

(Major GPA based on all geology and required earth science and geography courses taken at EIU.)

## **Geology Honors Program**

### **Departmental Honors Requirements**

Twelve semester hours in a combination of the following courses: (Each course, except thesis, may be repeated for a maximum of six hours. Repetition of courses and graduate course selection must be approved by the Departmental Honors Coordinator.)

- A. Students must take GEL 4555, Honors Research and GEL 4644, Honors Thesis.
- B. Students may select the following courses with the approval of the Departmental Honors Coordinator: GEL 4444, GEL 4666, and approved graduate course.
- C. Students must complete the other requirements for the Geology major. The departmental honors courses will count toward and replace the hours in the major in the electives area.
- D. Students in the Geology Honors Program must maintain a cumulative grade-point average of 3.50.
- E. Honors thesis supervision will be undertaken by a faculty member approved by the Departmental Chairperson, the Departmental Honors Coordinator, and the student's Faculty Advisor.
  - Approved graduate course. Credits: 0-3
  - GEL 4444 - Honors Independent Study. Credits: 1 to 6
  - GEL 4555 - Honors Research. Credits: 1 to 6
  - GEL 4644 - Honors Thesis. Credits: 1 to 6
  - GEL 4666 - Honors Seminar. Credits: 1 to 6



## **Geology Minor**

### **Total Semester Hours: 22**

- Six semester hours in elective Geology courses numbered 3000 and above. Credits: 6
- GEL 1300G - Introduction to Earth Sciences. Credits: 4
- GEL 1430 - Historical Geology. Credits: 4
- GEL 2440 - Mineralogy. Credits: 4
- GEL 3405 - Petrology. Credits: 4

## **Earth Science Teacher Certification**

See the Science with Teacher Certification Major program, (Earth Sciences Designation)

## **Earth Science Minor**

### **Total Hours: 20**

- Any three-semester-hour 3000-4000 level course from Earth Science or Geology. Credits: 3
- ESC 1300G - Introduction to Earth Sciences. Credits: 4
- ESC 1400G - Weather and Climate. Credits: 4
- ESC 2450G - Oceanography. Credits: 3
- ESC 3410 - Climatology. Credits: 3

### **AND**

- ESC 2420 - Regional Geomorphology. Credits: 3  
or
- GEG 3420 - Principles of Geomorphology. Credits: 3

## Department of Mathematics & Computer Science

### Department Faculty

**Peter Andrews** , *Chairperson*

Anderson, R.; Bishop, J.; Carlisle, S.; Comerford, J.; Comerford, L.; Coulton, P.; Delman, C.; Galperin, G.; Glazebrook, J.; Gordon, Y.; Green, W.; Hawker, C.; Henn, J.; Jeon, K.; Lassak, M.; Mertz, A.; Parwani, K.; Rosenholtz, I.; Sharif, S.; Slough, W.; Van Cleave, N.; Weaver, M.; White, A.; Wiles, P.; Wolcott, K.

**Department Telephone:** 217.581.2028

## **Mathematics (B.A.)**

### **Major**

The Mathematics major comprises the following courses and one of the concentrations listed below. An upper division writing intensive course is required.

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 2800 - Foundations of Mathematics. Credits: 3
- MAT 3530 - Abstract Algebra. Credits: 4
- MAT 3800 - Seminar in Mathematics. Credits: 2

### **Pure Mathematics Concentration Requirements**

#### **Pure Mathematics Core (11 hours)**

- MAT 4760 - Linear Algebra. Credits: 4
- MAT 4855 - Introduction to Topology. Credits: 3
- MAT 4860 - Mathematical Analysis. Credits: 4

#### **Electives 12 Semester Hours From:**

- MAT 3271 - College Geometry I. Credits: 3
- MAT 3272 - College Geometry II. Credits: 3
- MAT 3501 - Differential Equations I. Credits: 3
- MAT 3502 - Differential Equations II. Credits: 3
- MAT 3701 - Probability and Statistics I. Credits: 3
- MAT 3702 - Probability and Statistics II. Credits: 3
- MAT 3770 - Combinatorial Computing. Credits: 3
- MAT 4335 - Topics in Mathematics. Credits: 3
- MAT 4750 - Linear Programming. Credits: 3
- MAT 4830 - Introduction to Complex Analysis with Applications. Credits: 3
- MAT 4885 - Theory of Computation. Credits: 3
- MAT 4910 - Number Theory. Credits: 3

### **Applied Mathematics Concentration Requirements**

#### **Applied Mathematics Core (12 hours)**

- MAT 3501 - Differential Equations I. Credits: 3
- MAT 3570 - Numerical Analysis. Credits: 3
- MAT 3701 - Probability and Statistics I. Credits: 3
- MAT 3702 - Probability and Statistics II. Credits: 3

#### **Electives (11-13 hrs)**

- MAT 2670 - Computer Science II. Credits: 4
- MAT 3502 - Differential Equations II. Credits: 3
- MAT 3770 - Combinatorial Computing. Credits: 3
- MAT 4345 - Topics in Applied Mathematics. Credits: 3
- MAT 4750 - Linear Programming. Credits: 3
- MAT 4760 - Linear Algebra. Credits: 4
- MAT 4780 - Mathematics of Interest. Credits: 3
- MAT 4830 - Introduction to Complex Analysis with Applications. Credits: 3
- MAT 4860 - Mathematical Analysis. Credits: 4

**Footnotes:**

(Major GPA based on all mathematics courses taken at EIU.)

## **Mathematics with Teacher Certification Option (B.A.)**

A major in Mathematics (BA with Teacher Certification) prepares students to become secondary (9-12) teachers in the state of Illinois.

This major requires that students follow and meet the requirements for Admission, Retention and Graduation from Teacher Certification programs as described in the "Teacher Certification Programs" section of this catalog and as explained at the University Admission to Teacher Education Meeting which all students must attend. Students should gain University Approval to Take Teacher Education Courses no later than the end of their first semester Junior year in order to use this suggested plan. Additional information on Admission, Retention and Graduation for Teacher Certification programs can be found on the College of Education & Professional Studies website at [www.eiu.edu/ceps/teached](http://www.eiu.edu/ceps/teached).

All students must pass the Illinois Certification Test of Basic Skills for selection into teacher education and should complete this requirement no later than their sophomore year.

Students must receive a "C" or better in all professional education courses and maintain a minimum cumulative and major GPA of 2.65 in order to continue in the program.

Students have two options for completing the professional education coursework – Regular Secondary Education Program and Integrated Secondary Education Program (ISEP). For more information regarding these two options, please consult with your advisor. Information is also available in the Teacher Certification Program section of this catalog.

For students also wanting to be eligible to teach middle school mathematics, additional Middle Level Education courses are required.

### **The program is made up of:**

#### **1. 50 Hours in Mathematics Courses**

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2270 - Technology in Mathematics. Credits: 3
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 2800 - Foundations of Mathematics. Credits: 3
- MAT 3271 - College Geometry I. Credits: 3
- MAT 3272 - College Geometry II. Credits: 3
- MAT 3400 - Teaching Secondary Mathematics. Credits: 4
- MAT 3530 - Abstract Algebra. Credits: 4
- MAT 3701 - Probability and Statistics I. Credits: 3
- MAT 3702 - Probability and Statistics II. Credits: 3
- MAT 4900 - History of Mathematics. Credits: 3

#### **2. 25-31 Hours in the Professional Education Core**

##### **For the Regular Program**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16

##### **Or for the ISEP**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3

- STG 4001 - Student Teaching. Credits: 12-16

### **3. Additional Hours in General Education to Complete the University Requirement**

#### **Footnotes:**

Major GPA based on all mathematics courses taken at EIU.

Students must complete all the professional education coursework under either the Regular Secondary Education Program or the Integrated Secondary Education Program.



## **Mathematics and Computer Science Honors Program**

Admission to the Mathematics and Computer Science Departmental Honors Program will be open to students who have at least a 3.50 GPA, on a 4.0 scale, for all classes, over at least 12 semester hours of work in residence at EIU, and who have the permission of the Dean of the Honors College and the Departmental Honors Coordinator. Mathematics 2800 (for Mathematics Majors) or 2345 (for Mathematics and Computer Science Majors) must be completed prior to admission.

Students in the Mathematics and Computer Science Honors Program must maintain an *overall* GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their GPA to 3.50 and submit their petition to the Dean of the Honors College and the Departmental Honors Coordinator.

### **Departmental Honors Requirements**

Honors thesis supervision will be undertaken by a faculty member approved by the Departmental Honors Coordinator, the student's Faculty Advisor, and the Departmental Chairperson. The thesis must be submitted and defended in accordance with the Senior Thesis Guide and must be signed by the thesis supervisor.

A graduate course (5000+) may fulfill 3 of the above 12 hours with permission of the Dean of the Honors College, the Departmental Honors Coordinator, and the Graduate Coordinator. (A graduate course may **not** replace Mathematics 4644.)

Students in the departmental honors program must complete all requirements for graduation with a degree in Mathematics, Mathematics with Teacher Certification, or Mathematics and Computer Science. The following substitutions may be made:

A mathematics honors seminar in any area may be substituted for the major requirement in that area, or for any elective towards the major, with permission of the Department Honors Coordinator and the Departmental Chairperson. (Example: An honors seminar in Probability may be substituted for Mathematics 3701.)

A mathematics graduate course (5000+) in any area may be substituted for the major requirement in that area with permission of the Departmental Honors Coordinator and the Departmental Chairperson.

At least 12 hours, which must include Mathematics 4644, from among the following Honors courses:

- MAT 4444 - Independent Study, Honors. Credits: 1 to 3
- MAT 4555 - Honors Research. Credits: 1 to 3
- MAT 4644 - Honors Thesis. Credits: 3 required
- MAT 4666 - Honors Seminar. Credits: 2 to 4

## **Mathematics Minor**

**Total Hours: 23**

### **9 Semester Hours of Electives in Mathematics**

Electives in mathematics selected in consultation with a math advisor. These may be any course numbered 2170 or above, with at least six sem. hrs. numbered 3000 or above, but excluding 3400, 3420, 3620.

### **14 Semester Hours of the following courses:**

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4

## **Mathematics Minor for Teacher Certification**

Completion of a teacher certification minor does not guarantee that the individual will be granted an endorsement to teach in that field. Individuals must meet all requirements (including state tests) as set forth by the Illinois State Board of Education to be granted an endorsement in a second teaching field.

### **Total Hours: 31**

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 2800 - Foundations of Mathematics. Credits: 3
- MAT 3271 - College Geometry I. Credits: 3
- MAT 3400 - Teaching Secondary Mathematics. Credits: 4
- MAT 3530 - Abstract Algebra. Credits: 4

## **Mathematics and Computer Science (B.S.)**

### **Major**

The Mathematics and Computer Science major comprises a required upper-division writing intensive course and the following:

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2345 - Elements of Discrete Mathematics. Credits: 3
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 2670 - Computer Science II. Credits: 4
- MAT 3570 - Numerical Analysis. Credits: 3
- MAT 3670 - Principles of Computer Systems. Credits: 3
- MAT 3701 - Probability and Statistics I. Credits: 3
- MAT 3702 - Probability and Statistics II. Credits: 3
- MAT 3770 - Combinatorial Computing. Credits: 3
- MAT 3870 - Data Structures. Credits: 3
- MAT 4275 - Internship in Mathematics and Computer Science. Credits: 10 to 15
- MAT 4880 - Design and Analysis of Algorithms. Credits: 3
- MAT 4970 - Principles of Operating Systems. Credits: 3

### **6-8 Semester Hours of Electives Chosen From**

- MAT 3501 - Differential Equations I. Credits: 3
- MAT 3502 - Differential Equations II. Credits: 3
- MAT 3530 - Abstract Algebra. Credits: 4
- MAT 4370 - Topics in Computer Science. Credits: 3
- MAT 4750 - Linear Programming. Credits: 3
- MAT 4885 - Theory of Computation. Credits: 3
- PHY 3150 - Electronics. Credits: 4

### **Footnotes:**

(Major GPA based on those courses listed above taken at EIU.)

## Department of Nursing

### Department Faculty

**Renee Kidd-Marshall**, *Director* (Beginning, July 1, 2010)

Merten, R.

**Department Telephone:** 217.581.7049

## **Nursing (B.S.)**

The RN to BS Nursing Program is committed to offering superior, accessible undergraduate nursing education for registered nurses pursuing a bachelor's of science degree with a major in nursing.

### **Admission to the Nursing Major**

Enrollment in RN to BS nursing courses is limited to students who have been admitted to the nursing major. A complete Application for the RN to BS in Nursing Program Admission must be on file in the nursing office to be considered for admission to the major. Admission decisions are made by a nursing committee and are competitive.

### **Criteria for Admission to the Major:**

1. Unconditional admission to the University
2. Complete Application for the RN to BS in Nursing Program
3. Achievement of a cumulative GPA of 2.5 or higher
4. RN license from state of residence
5. Current CPR certification for the professional provider
6. Documentation of health requirements
7. Two professional references
8. Professional statement
9. Completion of the following courses or their equivalents with a grade of 'C' or better:
  - BIO 2001G - Human Physiology. Credits: 4
  - BIO 2200 - Human Anatomy. Credits: 4
  - ENG 1001G - Composition and Language. Credits: 3
  - ENG 1002G - Composition and Literature. Credits: 3
  - FCS 1800 - Life Span Human Development. Credits: 3
  - PSY 1879G - Introductory Psychology. Credits: 3
  - SOC 1838G - Introductory Sociology. Credits: 3

### **AND**

- CHM 1040G - The World of Chemistry. Credits: 4

### **OR**

- CHM 2040G - Practical Chemistry. Credits: 3

### **OR**

- CHM 1310G - General Chemistry I. Credits: 3
- AND
- CHM 1315G - General Chemistry Laboratory I. Credits: 1

### **Registration for Upper Division Nursing Courses:**

Only students admitted to the nursing major will be approved to register for upper division (3000 or higher) nursing courses.

### **Application Deadlines:**

Applications for the RN to BS in Nursing Program are available in the Nursing Office, Room 2230, McAfee Building or on the nursing program website. Applications and documentation of all admission requirements must be submitted to the Nursing Office on or before July 1st for admission to fall nursing courses and November 15<sup>th</sup> for admission to spring nursing courses.

### **Major Requirements:**

The major in Nursing comprises:

- Professional Elective. Credits: 3
- BIO 1004G - Practical Microbiology. Credits: 3
- MAT 2250G - Elementary Statistics. Credits: 4

- NUR 3103 - Theoretical Foundations of Professional Nursing Practice. Credits: 3
- NUR 3303 - Advanced Nursing Health Assessment. Credits: 3
- NUR 3604 - Pathophysiology and Pharmacology in Professional Nursing Practice. Credits: 4
- NUR 3703 - Research in Professional Nursing. Credits: 3
- NUR 4106 - Leadership and Management in Nursing. Credits: 6
- NUR 4203 - Nursing, Health Care, Policies, and Politics. Credits: 3
- NUR 4506 - Nursing and the Community. Credits: 6
- NUR 4604 - Professional Seminar. Credits: 4

**Progression Requirements:**

1. Students enrolled in the RN to BS in Nursing Program must earn a 'C' or better in all major requirement courses to progress in the program.
2. Students must achieve a satisfactory for the clinical component of each nursing course.
3. Students must maintain a cumulative grade point average of at least 2.00 throughout their enrollment in the RN to BS in Nursing Program+.
4. A nursing course in which a student failed to earn a grade of 'C' or better may be repeated by the student only one time. Failure to receive a grade of 'C' or better for a second time of any nursing course will result in dismissal from the program.
5. Failure to earn a 'C' or better in any two nursing courses within the RN to BS in Nursing curriculum will result in dismissal from the program.

**Footnotes:**

+ Major GPA based on all nursing courses taken at EIU.

## Department of Physics

### Department Faculty

**Steven Daniels**, *Chairperson*

Aryajinejad, S.; Brandt, D.; Conwell, J.; Daniels, S.; Ilic, N.; Linton, D.; Pakey, D.; Storm, L.; Zou, J.

**Department Telephone:** 217.581.3220



## **Physics (B.S.)**

### **Major**

The Physics major comprises the following courses:

Students who have completed college-level, algebra-based physics courses (e.g., PHY 1151G, 1152G, 1161, 1162) should consult the department chair.

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 3501 - Differential Equations I. Credits: 3
- MAT 3502 - Differential Equations II. Credits: 3
- PHY 1351G - General Physics I. Credits: 3  
(See footnote 1)
- PHY 1352G - General Physics I Laboratory. Credits: 1  
(See footnote 1)
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3
- PHY 2400 - Dynamics. Credits: 3
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 3420 - Electricity and Magnetism II. Credits: 3
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4010 - Seminar in Physics. Credits: 1
- PHY 4710 - Experimental Physics. Credits: 1  
(3 semester hours are required)
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4

### **Electives**

And 6 semester hours of PHY electives, selected from the list below:

- PHY 3010 - Special Topics in Physics. Credits: 1 to 3
- PHY 3011 - Special Topics in Physics. Credits: 1 to 3
- PHY 3012 - Special Topics in Physics. Credits: 1 to 3
- PHY 3090 - Modern Physics II. Credits: 3
- PHY 3270 - Introduction to Circuit Analysis. Credits: 4
- PHY 3300 - Advanced Classical Mechanics. Credits: 3
- PHY 3320 - Computational Methods in Physics and Engineering. Credits: 4
- PHY 3350 - Introduction to Solid State Physics. Credits: 3
- PHY 4100 - Astrophysics. Credits: 3
- PHY 4410 - Independent Study. Credits: 1 to 3
- PHY 4470 - Optics. Credits: 4
- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4
- PHY 4800 - Independent Study. Credits: 1 to 6
- PHY 4860 - Quantum Mechanics and Atomic Physics II. Credits: 2
- PHY 4870 - Mathematical Methods of Physics. Credits: 3

**Footnote:**

(Major GPA based on all physics courses taken at EIU.)

<sup>1</sup>PHY 1391, General Physics I, Honors, and PHY 1392, General Physics I Laboratory, Honors, may be taken in place of PHY 1351 and PHY 1352.

## **Physics: Applied Physics Option (B.S.)**

The applied physics option is for students interested in quantitative applications of the laws of physics to a number of applied areas including electronics, geosciences and solid-state physics.

### **Core Requirements**

Requirements include:

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- ESC 3010G - Environmental Physical Sciences. Credits: 3  
(cross listed with GEL 3010G)
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 3501 - Differential Equations I. Credits: 3
- PHY 1351G - General Physics I. Credits: 3  
(See Footnote 1)
- PHY 1352G - General Physics I Laboratory. Credits: 1  
(See Footnote 1)
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 4470 - Optics. Credits: 4
- PHY 4710 - Experimental Physics. Credits: 1  
(twice, once as a Radiation Lab)

### **Footnote:**

(Major GPA based on all physics courses taken at EIU)

<sup>1</sup>PHY 1391, General Physics I, Honors, and PHY 1392, General Physics I Laboratory, Honors, may be taken in place of PHY 1351 and PHY 1352.

## **Physics: Astronomy Option (B.S.)**

The Astronomy option is a 4-year degree program for students interested in obtaining a B.S. degree in Physics with a concentration in astronomy. This option is for students desiring a liberal arts background in theoretical and experimental physics, as well as a background in astronomy.

### **Core Requirements**

Requirements include:

- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- PHY 1055G - Principles of Astronomy. Credits: 3  
(or PHY 1095G)
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1  
(or PHY 1096G)
- PHY 1351G - General Physics I. Credits: 3  
(or PHY 1391G)
- PHY 1352G - General Physics I Laboratory. Credits: 1  
(or PHY 1392G)
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2600 - Introductory Research in Physics. Credits: 1 to 3
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3100 - Astronomical Techniques. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 4100 - Astrophysics. Credits: 3
- PHY 4470 - Optics. Credits: 4

### **Electives**

3 semester hours chosen from the list below:

- MAT 2170 - Computer Science I. Credits: 4
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 3501 - Differential Equations I. Credits: 3

### **And 6 semester hours chosen from the following:**

- PHY 3090 - Modern Physics II. Credits: 3
- PHY 3300 - Advanced Classical Mechanics. Credits: 3
- PHY 3320 - Computational Methods in Physics and Engineering. Credits: 4
- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 3420 - Electricity and Magnetism II. Credits: 3
- PHY 4444 - Honors Independent Study. Credits: 3  
(See Footnote 1)
- PHY 4555 - Honors Research. Credits: 3  
(See Footnote 1)
- PHY 4600 - Research in Physics. Credits: 1 to 3  
(See Footnote 1)
- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4
- PHY 4800 - Independent Study. Credits: 1 to 6  
(See Footnote 1)
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4
- PHY 4860 - Quantum Mechanics and Atomic Physics II. Credits: 2
- PHY 4870 - Mathematical Methods of Physics. Credits: 3

**Footnote:**

<sup>1</sup> A limit of 1 hour of Physics 4444, 4555, 4600, or 4800 may be counted toward the degree.

(Major GPA based on all physics courses taken at EIU.)

## **Physics: Computational Physics Option (B.S.)**

The Computational Physics option is designed for students interested in the computational approach to solving complex problems in physics. Students gain experience in computer modeling and simulation of a wide variety of systems in physics and engineering. It is designed for students who seek industrial employment or graduate study in a computational field.

### **Core Requirements**

Requirements include:

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 2550 - Introduction to Linear Algebra. Credits: 3
- MAT 3501 - Differential Equations I. Credits: 3
- PHY 1351G - General Physics I. Credits: 3  
(OR PHY 1391G)
- PHY 1352G - General Physics I Laboratory. Credits: 1  
(OR PHY 1392G)
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3
- PHY 2400 - Dynamics. Credits: 3
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3320 - Computational Methods in Physics and Engineering. Credits: 4
- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4010 - Seminar in Physics. Credits: 1
- PHY 4320 - Computational Physics. Credits: 4
- PHY 4600 - Research in Physics. Credits: 1 to 3
- PHY 4710 - Experimental Physics. Credits: 1
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4

### **Electives**

And 6-8 hours of electives chosen from the list below:

- PHY 3090 - Modern Physics II. Credits: 3
- PHY 3270 - Introduction to Circuit Analysis. Credits: 4
- PHY 3300 - Advanced Classical Mechanics. Credits: 3
- PHY 3350 - Introduction to Solid State Physics. Credits: 3
- PHY 3420 - Electricity and Magnetism II. Credits: 3
- PHY 4100 - Astrophysics. Credits: 3
- PHY 4470 - Optics. Credits: 4
- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4
- PHY 4800 - Independent Study. Credits: 1 to 6  
(See Footnote 1)
- PHY 4860 - Quantum Mechanics and Atomic Physics II. Credits: 2
- PHY 4870 - Mathematical Methods of Physics. Credits: 3

### **Footnote:**

<sup>1</sup>A limit of 3 semester hours of PHY 4800 may be counted toward the option.

(Major GPA based on all physics courses taken at EIU.)

## **Physics: Engineering Physics Option (B.S.)**

(See also "Pre-Engineering Program" and "Engineering")

This cooperative degree program requires about three years of work at EIU followed by two years of work at the University of Illinois at Urbana-Champaign (UIUC). This program is designed to combine studies in Physics and Engineering, producing workers with greater versatility and broader skills, making them more attractive to employers of scientists and engineers. Upon completion of the program, the student receives a Bachelor of Science in Physics: Option in Engineering Physics, from EIU and a Bachelor of Science in Engineering degree from UIUC. Interested students should consult with the chairperson of the Pre-Engineering Studies Committee for detailed requirements of the program.

After completing 60 semester hours in this curriculum, a student may apply to the EIU Pre-Engineering Studies Committee for admission as an Engineering Physics candidate. The requirements for admission as an Engineering Physics candidate are a minimum grade point average of 3.00 and approval by the committee. Continuation as an engineering candidate includes meeting the transfer requirements of the College of Engineering at UIUC.

A student who transfers into this curriculum from another college or university must be in residence at EIU for at least one semester before he/she becomes eligible for admission as an Engineering Physics candidate .

### **Core Requirements**

**Total: 87-94 semester hours with elective credit to bring the total to 90 semester hours.**

- General Education Electives. Credits: 30 (See footnote 1)
- AET 2043 - Computer-Aided Engineering Drawing. Credits: 3  
(See Footnote 2)
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3  
(See Footnote 2)
- CHM 1415 - General Chemistry Laboratory II. Credits: 1  
(See Footnote 2)
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 3501 - Differential Equations I. Credits: 3
- PHY 1000 - Engineering Orientation. Credits: Audit only  
(See Footnote 3)
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3
- PHY 2400 - Dynamics. Credits: 3
- PHY 4710 - Experimental Physics. Credits: 1

### **12 Semester Hours From Category A+B+C:**

#### **Category A: At least one of:**

- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4  
(See Footnote 4)

#### **Category B: At least one of:**

- PHY 3350 - Introduction to Solid State Physics. Credits: 3  
(See Footnote 5)
- PHY 4470 - Optics. Credits: 4
- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4

**Category C:**

- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3090 - Modern Physics II. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 3270 - Introduction to Circuit Analysis. Credits: 4
- PHY 3300 - Advanced Classical Mechanics. Credits: 3
- PHY 3350 - Introduction to Solid State Physics. Credits: 3
- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 3420 - Electricity and Magnetism II. Credits: 3
- PHY 4444 - Honors Independent Study. Credits: 3  
(See Footnote 6)
- PHY 4470 - Optics. Credits: 4
- PHY 4555 - Honors Research. Credits: 3  
(See Footnote 6)
- PHY 4600 - Research in Physics. Credits: 1 to 3  
(See Footnote 6)
- PHY 4644 - Honors Thesis. Credits: 3  
(See Footnote 6)
- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4
- PHY 4800 - Independent Study. Credits: 1 to 6  
(See Footnote 6)
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4
- PHY 4860 - Quantum Mechanics and Atomic Physics II. Credits: 2
- PHY 4870 - Mathematical Methods of Physics. Credits: 3

**Footnotes:**

(Major GPA based on all EIU courses in chemistry, industrial technology, mathematics, and physics taken from the list above.)

Students completing cooperative degree programs, i.e., Engineering and Clinical Laboratory Sciences, will not be required to take a senior seminar.

<sup>1</sup> These courses should be selected in consultation with the chairperson of the Pre-Engineering Studies Committee to ensure that Eastern's General Education requirements and UIUC requirements are both fulfilled.

<sup>2</sup> Students are encouraged to take all of these courses, but one or more may not be required in certain engineering fields.

<sup>3</sup> This course should be repeated each semester that a student attends Eastern. In the case of course conflicts with this course, a waiver should be obtained from the Chair of the Pre-Engineering Studies Committee.

<sup>4</sup> This course has a pre-requisite of Physics 3080.

<sup>5</sup> This course has a pre-requisite of Physics 3410.

<sup>6</sup> A limit of 3 hours of Physics 4444, 4555, 4600, 4644, or 4800 may be counted toward the degree.



## **Physics: Radiation Physics Option (B.S.)**

The radiation physics option is for students interested in applications of physics that occur in the nuclear radiation fields including radio-pharmaceuticals, dosimetry and environmental radiation safety.

### **Core Requirements**

Requirements include:

- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- ESC 3010G - Environmental Physical Sciences. Credits: 3  
(cross listed with GEL 3010G)
- GEL 4335 - Environmental Geology. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5  
or
- MAT 2110G - Brief Calculus with Applications. Credits: 3
- MAT 2170 - Computer Science I. Credits: 4
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1
- PHY 3001 - Laser Safety. Credits: 3
- PHY 3002 - Introduction to Health Physics. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4710 - Experimental Physics. Credits: 1  
(3 semester hours are required - 2 in radiation lab and 1 in laser lab)

### **Electives**

5 semester hours of electives chosen from the list below:

- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- CHM 3450 - Biochemistry I. Credits: 3
- FCS 4820 - Death and Dying. Credits: 3
- MAT 2250G - Elementary Statistics. Credits: 4
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 4010 - Seminar in Physics. Credits: 1
- PHY 4600 - Research in Physics. Credits: 1 to 3
- PHY 4800 - Independent Study. Credits: 1 to 6

### **Footnote:**

(Major GPA based on all physics courses taken at EIU.)

**Physics Teacher Certification**

See the Science with Teacher Certification Major program, (Physics Specialization).

## **Physics Honors Program**

Admission to the Physics Departmental Honors Program will be open to students who have at least a 3.50 GPA, for all classes, on a 4.0 point scale, permission of the Dean of the Honors College, and permission of the Departmental Honors Coordinator. In addition, Physics 2390 and Mathematics 3501 must be completed prior to admission.

Students in the Physics Honors Program must maintain an *overall* GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their grade-point average to 3.50 and submit their petition to the Dean of the Honors College and Departmental Honors Coordinator.

### **Departmental Honors Requirements**

#### **Subject to the following minima:**

Students in the Departmental Honors program must also complete all the requirements for graduation as a physics major as given in the current *Undergraduate Catalog*.

Honors thesis supervision will be undertaken by a faculty member approved by the Departmental Chairperson, the Departmental Honors Coordinator, and Faculty Advisor. The thesis must be submitted and defended in accordance with the Senior Thesis Guide and must be signed by the thesis supervisor.

#### **And at least 12 semester hours in the following honors courses:**

- PHY 4444 - Honors Independent Study. Credits: 3
- PHY 4555 - Honors Research. Credits: 3
- PHY 4644 - Honors Thesis. Credits: 3
- PHY 4666 - Honors Seminar. Credits: 3

## **Physics Minor**

### **Total Semester Hours: 18**

#### **4 Semester Hours from the following courses:**

- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1

#### **OR**

- PHY 1391G - General Physics I, Honors. Credits: 3
- PHY 1392G - General Physics I Laboratory, Honors. Credits: 1

#### **OR**

- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1

#### **4 Semester Hours from the following courses:**

- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

#### **OR**

- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

#### **4 Semester Hours from:**

- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1

#### **Electives:**

#### **6 Semester Hours from:**

- PHY 2390 - Statics. Credits: 3
- PHY 2400 - Dynamics. Credits: 3
- PHY 3001 - Laser Safety. Credits: 3
- PHY 3002 - Introduction to Health Physics. Credits: 3
- PHY 3010 - Special Topics in Physics. Credits: 1 to 3
- PHY 3011 - Special Topics in Physics. Credits: 1 to 3
- PHY 3012 - Special Topics in Physics. Credits: 1 to 3
- PHY 3080 - Modern Physics I. Credits: 3
- PHY 3090 - Modern Physics II. Credits: 3
- PHY 3100 - Astronomical Techniques. Credits: 3
- PHY 3150 - Electronics. Credits: 4
- PHY 3300 - Advanced Classical Mechanics. Credits: 3
- PHY 3320 - Computational Methods in Physics and Engineering. Credits: 4
- PHY 3350 - Introduction to Solid State Physics. Credits: 3
- PHY 3410 - Electricity and Magnetism I. Credits: 3
- PHY 3420 - Electricity and Magnetism II. Credits: 3
- PHY 4100 - Astrophysics. Credits: 3
- PHY 4320 - Computational Physics. Credits: 4
- PHY 4470 - Optics. Credits: 4
- PHY 4710 - Experimental Physics. Credits: 1

- PHY 4750 - Thermodynamics and Statistical Mechanics. Credits: 4
- PHY 4850 - Quantum Mechanics and Atomic Physics I. Credits: 4
- PHY 4860 - Quantum Mechanics and Atomic Physics II. Credits: 2

**Note:**

Not more than two semester hours from:

- PHY 3010 - Special Topics in Physics. Credits: 1 to 3
- PHY 3011 - Special Topics in Physics. Credits: 1 to 3
- PHY 3012 - Special Topics in Physics. Credits: 1 to 3

## **Engineering (B.S.)**

**(See also "Pre-Engineering Program")**

This cooperative degree program, administered by the Pre-Engineering Studies Committee, requires about three years of work at EIU followed by two years of work at either the University of Illinois at Urbana-Champaign (UIUC) or Southern Illinois University at Carbondale (SIUC). It is designed to provide engineering students with a broader base of liberal arts than is usually given in a four-year curriculum. Upon completion of the program, the student receives a Bachelor of Science degree from EIU and a Bachelor of Science in Engineering degree from UIUC or SIUC. Interested students should consult with the chairperson of the Pre-Engineering Studies Committee for detailed requirements of the program.

After completing 60 semester hours in this curriculum, a student may apply to the Pre-Engineering Studies Committee for admission as an engineering candidate. The requirements for admission as an engineering candidate are a minimum grade point average of 2.50 for UIUC (2.00 for SIUC) and approval by the committee. Continuation as an engineering candidate includes meeting the transfer requirements of the College of Engineering at UIUC or SIUC.

A student who transfers into this curriculum from another college or university must be in residence at EIU for at least one semester before he/she becomes eligible for admission as an engineering candidate.

### **Core Requirements**

**Total: 73-89 semester hours with elective credit to bring the total to 90 semester hours.**

- General Education Electives. Credits: 20-27  
(See footnote 3)
- AET 2043 - Computer-Aided Engineering Drawing. Credits: 3  
(See footnote 2)
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CMN 1310G - Introduction to Speech Communication. Credits: 3
- ENG 1001G - Composition and Language. Credits: 3
- ENG 1002G - Composition and Literature. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 3501 - Differential Equations I. Credits: 3
- PHY 1000 - Engineering Orientation. Credits: Audit only  
(See footnote 1)
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3  
(See footnote 2)
- PHY 2400 - Dynamics. Credits: 3  
(See footnote 2)
- PHY 3270 - Introduction to Circuit Analysis. Credits: 4  
(See footnote 2)

### **Footnotes:**

(Major GPA based on all courses in chemistry, Applied Engineering & Technology, mathematics, and physics taken from the list above.)

Students completing cooperative degree programs, i.e., Engineering and Clinical Laboratory Sciences, will not be required to take a senior seminar.

<sup>1</sup> This course should be repeated each semester that a student attends Eastern. In the case of course conflicts with this course, a waiver should be obtained from the Chair of the Pre-Engineering Studies Committee.

<sup>2</sup> Students are encouraged to take all of these courses, but one or more may not be required in certain engineering fields. SIUC electrical engineering majors take PHY 3410 instead of AET 2043.

<sup>3</sup> These courses should be selected in consultation with the chairperson of the Pre-Engineering Studies Committee to ensure that Eastern's General Education requirements and UIUC or SIUC requirements are both fulfilled.

## **Pre-Engineering Program**

(See also "Engineering BS")

This two-year program is administered by the Pre-Engineering Studies Committee. Students planning to enroll in pre-engineering are advised to include the following in their high school programs: mathematics--four or more units, including trigonometry; and Science--three or more units, including chemistry and physics. Students with deficient high school background should expect their graduation with an engineering degree to be delayed.

There are two pre-engineering options: general (appropriate for all except chemical engineering) and chemical. Students interested in the chemical engineering option should consult with the chairperson of the Pre-Engineering Studies Committee.

### **Minimum Requirements**

- Humanities and Social Studies approved by Pre-Engineering Chairperson. Credits: 6
- AET 2043 - Computer-Aided Engineering Drawing. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- ENG 1001G - Composition and Language. Credits: 3
- ENG 1002G - Composition and Literature. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2170 - Computer Science I. Credits: 4
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- MAT 3501 - Differential Equations I. Credits: 3
- PHY 1000 - Engineering Orientation. Credits: Audit only  
(See footnote 1)
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 2390 - Statics. Credits: 3
- PHY 2400 - Dynamics. Credits: 3
- PHY 3270 - Introduction to Circuit Analysis. Credits: 4

### **Footnotes:**

<sup>1</sup> This course should be repeated each semester that a student attends Eastern. In the case of course conflicts with this course, a waiver should be obtained from the Chair of the Pre-Engineering Studies Committee.



## Department of Political Science

### Department Faculty

**Jeff Ashley**, *Chairperson*

Anderson, K.; Ashley, J.; Barria, L.; Carwell, D.; Hendrickson, R.; Lusvardi, A.; McNitt, A.; Morris, J.; Mueller, M.; Poole, B.; Roper, S.; Swenson, K.; Wandling, R.

**Department Telephone:** 217.581.2523

## **Political Science (B.A.)**

### **The major in Political Science comprises:**

#### **Core Introductory Requirements (19 hours)**

All Political Science majors will complete the following hours:

- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3  
OR
- PLS 1193G - American Government and Constitution, Honors. Credits: 3
- PLS 2001 - Introduction to Research Methods in Political Science. Credits: 1  
(1 hour)
- PLS 2033 - Research Methods in Political Science. Credits: 3
- PLS 2103 - Introduction to Political Theory. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3  
OR
- PLS 2293G - Introduction to International Relations, Honors. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3

#### **Field Requirements (21 hours):**

Political Science majors will take at least one course from each of the three areas listed below. In addition, students will complete 12 additional hours from these courses.

#### **Comparative Politics & International Relations**

- PLS 3100 - Global Threats and Problems. Credits: 3
- PLS 3203 - American Foreign Policy. Credits: 3
- PLS 3223 - International Organizations. Credits: 3
- PLS 3233 - International Terrorism. Credits: 3
- PLS 3253 - International Criminal Law. Credits: 3
- PLS 3303 - European Politics and Governments Credits: 3
- PLS 3333 - Politics of Latin America and the Caribbean. Credits: 3
- PLS 3343 - Government and Politics of the Middle East. Credits: 3
- PLS 3353 - Politics of Sub-Saharan Africa. Credits: 3
- PLS 3363 - Government and Politics in Asia-Pacific Rim. Credits: 3
- PLS 3373 - International Political Economy. Credits: 3
- PLS 4823 - International Policy Issues. Credits: 3

#### **American Politics, Public Policy & Public Administration**

- PLS 3413 - Introduction to Public Administration. Credits: 3
- PLS 3653 - American Indian Politics. Credits: 3
- PLS 3703 - African American Politics. Credits: 3
- PLS 3713 - Political Parties and Elections. Credits: 3
- PLS 3723 - Public Opinion and Political Participation. Credits: 3
- PLS 3733 - Interest Groups and Lobbying. Credits: 3
- PLS 3743 - Congress. Credits: 3
- PLS 3753 - The American Presidency. Credits: 3
- PLS 3763 - Environmental Politics and Policy. Credits: 3
- PLS 4793 - Public Organization Theory. Credits: 3
- PLS 4873 - Human Resource Management in Government. Credits: 3
- PLS 4893 - Government Budgeting and Politics. Credits: 3

**Public Law & Political Theory**

- PLS 3523 - Criminal Law. Credits: 3
- PLS 3543 - Civil Liberties in America. Credits: 3
- PLS 3553 - Federal Indian Law and Policy. Credits: 3
- PLS 3903 - Gender, Public Policy and the Law. Credits: 3
- PLS 4774 - American Constitutional Law. Credits: 3
- PLS 4853 - Contemporary Constitutional Development. Credits: 3
- PLS 4903 - Classic Political Theory. Credits: 3
- PLS 4913 - Contemporary Political Theory. Credits: 3
- PLS 4923 - African American Political Thought. Credits: 3
- PLS 4933 - Ideologies of the Developing World. Credits: 3
- PLS 4943 - American Political Thought. Credits: 3

**Applied Political Science Experience (3 hours):**

Political Science majors will complete at least three hours in one or more of the following experiences:

- PLS 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote \*)
- PLS 4275 - Internship. Credits: 1 to 12  
(See Footnote \*\*)
- PLS 4503 - Independent Study. Credits: 1 to 6  
(See Footnote \*\*\*)
- PLS 4444 - Honors Independent Study. Credits: 3  
(See footnote #)
- PLS 4555 - Honors Research. Credits: 3  
(See footnote #)
- PLS 4644 - Honors Thesis. Credits: 3  
(See footnote #)
- PLS 2513 - Moot Court. Credits: 1  
(Limited to 2 hours of Political Science Credit)
- PLS 2611 - Model Illinois Government. Credits: 1  
(Limited to 2 hours of Political Science Credit)

**Political Science Capstone Course (3 hours):**

All Political Science majors will complete a capstone course (PLS 4600), taken after students have completed at least 75 hours, including all Core Introductory Political Science requirements, and at least nine hours of Field Requirements.

- PLS 4600 - Political Science Capstone. Credits: 3

**Footnotes:**

\* Three credit hours will count for this requirement. Additional credit hours may be substituted for Field Requirements, with departmental approval.

\*\* Three credit hours will count for this requirement. Additional credit hours cannot be substituted for Field Requirements, but will count towards degree completion.

\*\*\* Three credit hours will count for this requirement. Additional credit hours cannot be substituted for Field Requirements, but will be included in computing the major g.p.a.

# The Honors Independent Research will count for this requirement. The Political Science graduate seminar will count for a Field Requirement. The Honors Independent Study and Thesis cannot be substituted for Field Requirements, but will be included in computing the major g.p.a.

## **Public Administration Concentration for Political Science Majors**

In addition to meeting all requirements for the Political Science Major, students will take a total of 12 hours from two groups of courses. All courses with a PLS prefix taken to meet Public Administration concentration requirements must be in addition to requirements for the major.

**Total Semester Hours: 12**

### **Group One (9 Hours)**

Students will take three courses from Group One, excluding the course taken to meet the public administration requirement for the major.

- PLS 3413 - Introduction to Public Administration. Credits: 3
- PLS 4793 - Public Organization Theory. Credits: 3
- PLS 4873 - Human Resource Management in Government. Credits: 3
- PLS 4893 - Government Budgeting and Politics. Credits: 3

### **Group Two (3 Hours)**

Students will take one of the following courses:

- ECN 3851 - Public Finance. Credits: 3  
(See Footnote \*)
- GEG 3800 - Introduction to Cartography. Credits: 3  
(See Footnote \*)
- PLS 3763 - Environmental Politics and Policy. Credits: 3
- PLS 3903 - Gender, Public Policy and the Law. Credits: 3
- SOC 4000 - Sociology of Work and Occupations. Credits: 3

### **Footnotes:**

(Major GPA based on all political science courses taken at EIU.)

\*Students wishing a more specialized background to prepare for graduate studies in public administration or a public administration career should give special consideration to either of the following: (1) the Economics sequence of ECN 2801G, 2802G and 3851 or (2) GEG 3800 along with Geographic Information Systems (GIS) coursework offered by the Geology-Geography Department.

## **Political Science with International Studies Option (B.A.)**

### **Core Introductory Requirements (16 hours)**

All Political Science majors with the International Studies Option will complete the following hours:

- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3  
OR
- PLS 1193G - American Government and Constitution, Honors. Credits: 3
- PLS 2001 - Introduction to Research Methods in Political Science. Credits: 1
- PLS 2033 - Research Methods in Political Science. Credits: 3
- PLS 2103 - Introduction to Political Theory. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3  
OR
- PLS 2293G - Introduction to International Relations, Honors. Credits: 3

### **Political Science Field Requirements (18 hours):**

Students will take four courses (12 hours) from the Comparative Politics and International Relations group. Students will take one additional course from each of the other two subfields.

### **Comparative Politics & International Relations**

- PLS 3100 - Global Threats and Problems. Credits: 3
- PLS 3203 - American Foreign Policy. Credits: 3
- PLS 3223 - International Organizations. Credits: 3
- PLS 3233 - International Terrorism. Credits: 3
- PLS 3253 - International Criminal Law. Credits: 3
- PLS 3303 - European Politics and Governments Credits: 3
- PLS 3333 - Politics of Latin America and the Caribbean. Credits: 3
- PLS 3343 - Government and Politics of the Middle East. Credits: 3
- PLS 3353 - Politics of Sub-Saharan Africa. Credits: 3
- PLS 3363 - Government and Politics in Asia-Pacific Rim. Credits: 3
- PLS 3373 - International Political Economy. Credits: 3
- PLS 4823 - International Policy Issues. Credits: 3

### **American Politics, Public Policy & Public Administration**

- PLS 3413 - Introduction to Public Administration. Credits: 3
- PLS 3653 - American Indian Politics. Credits: 3
- PLS 3703 - African American Politics. Credits: 3
- PLS 3713 - Political Parties and Elections. Credits: 3
- PLS 3723 - Public Opinion and Political Participation. Credits: 3
- PLS 3733 - Interest Groups and Lobbying. Credits: 3
- PLS 3743 - Congress. Credits: 3
- PLS 3753 - The American Presidency. Credits: 3
- PLS 3763 - Environmental Politics and Policy. Credits: 3
- PLS 4793 - Public Organization Theory. Credits: 3
- PLS 4873 - Human Resource Management in Government. Credits: 3
- PLS 4893 - Government Budgeting and Politics. Credits: 3

### **Public Law & Political Theory**

- PLS 3523 - Criminal Law. Credits: 3
- PLS 3543 - Civil Liberties in America. Credits: 3
- PLS 3553 - Federal Indian Law and Policy. Credits: 3
- PLS 3903 - Gender, Public Policy and the Law. Credits: 3
- PLS 4774 - American Constitutional Law. Credits: 3

- PLS 4853 - Contemporary Constitutional Development. Credits: 3
- PLS 4903 - Classic Political Theory. Credits: 3
- PLS 4913 - Contemporary Political Theory. Credits: 3
- PLS 4923 - African American Political Thought. Credits: 3
- PLS 4933 - Ideologies of the Developing World. Credits: 3
- PLS 4943 - American Political Thought. Credits: 3

**Applied Political Science Experience (3 hours):**

Political Science majors with the International Studies Option will complete at least three hours in one or more of the following experiences:

- PLS 3970 - Study Abroad. Credits: 1 to 15  
(See Footnote \*)
- PLS 4275 - Internship. Credits: 1 to 12  
(See Footnote \*\*)
- PLS 4503 - Independent Study. Credits: 1 to 6  
(See Footnote \*\*\*)
- PLS 4444 - Honors Independent Study. Credits: 3  
(See Footnote #)
- PLS 4555 - Honors Research. Credits: 3  
(See Footnote #)
- PLS 4644 - Honors Thesis. Credits: 3  
(See Footnote #)
- PLS 2513 - Moot Court. Credits: 1  
(Limited to 2 hours of Political Science credit)
- PLS 2611 - Model Illinois Government. Credits: 1  
(Limited to 2 hours of Political Science credit)

**Political Science Capstone Course (3 hours):**

All Political Science majors with the International Studies Option will complete a capstone course (PLS 4600), taken after students have completed at least 75 hours, including all Core Introductory Political Science requirements, and at least nine hours of Field Requirements.

- PLS 4600 - Political Science Capstone. Credits: 3

**History Requirements (6 hours):**

Students will complete two courses from the following list:

- HIS 2560 - Early Modern World History. Credits: 3
- HIS 3210 - History of the Modern Middle East. Credits: 3
- HIS 3250 - African History. Credits: 3
- HIS 3260 - Modern Latin America. Credits: 3
- HIS 3320 - History of Modern China. Credits: 3
- HIS 3350 - Twentieth Century Russia. Credits: 3
- HIS 3555 - Modern World History. Credits: 3
- HIS 3800 - U.S. Diplomatic History. Credits: 3

**Economics Requirements and Electives (6 hours minimum):**

Students will complete the following two courses:

- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3

**Although not required, students with an interest in taking upper-division courses in Economics are encouraged to select from the following:**

- ECN 3833 - Economic Development of Modern Europe. Credits: 3
- ECN 3860 - International Economics. Credits: 3
- ECN 4511 - Comparative Economic Systems. Credits: 3
- ECN 4570 - Economic Problems of Developing Countries. Credits: 3

- ECN 4813 - Transition Economies. Credits: 3
- ECN 4861 - International Economic Problems. Credits: 3

**Foreign Language Requirement**

Students must show proficiency in a foreign language (of their choosing) at the intermediate level or completion of foreign language courses at the intermediate level.

**Footnotes:**

(Major GPA based on all political science courses taken at EIU.)

\* Three credit hours will count for this requirement. Additional credit hours may be substituted for Field Requirements, with departmental approval.

\*\* Three credit hours will count for this requirement. Additional credit hours cannot be substituted for Field Requirements, but will count toward degree completion.

\*\*\* Three credit hours will count for this requirement. Additional credit hours cannot be substituted for Field Requirements, but will be included in computing the major g.p.a.

# The Honors Independent Research will count for this requirement. The Political Science graduate seminar will count for a Field Requirement. The Honors Independent Study and Thesis cannot be substituted for Field Requirements, but will be included in computing the major g.p.a.

**Political Science Teacher Certification**

See the Social Science Teaching Major program, (Political Science Designation).



## **Political Science Honors Program**

### **Prerequisites**

Admission to the Political Science Departmental Honors Program is open to students who have at least a 3.50 grade-point average on a 4.0 point scale and have completed the courses listed below. Permission of the Dean of the Honors College and the Departmental Honors Coordinator is also required. Students in the Political Science Honors Program must maintain an overall GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their grade-point average to 3.50 and submit their petition to the Dean of the Honors College and Departmental Honors Coordinator.

- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3  
or
- PLS 1193G - American Government and Constitution, Honors. Credits: 3
- PLS 2001 - Introduction to Research Methods in Political Science. Credits: 1
- PLS 2033 - Research Methods in Political Science. Credits: 3
- PLS 2103 - Introduction to Political Theory. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3  
or
- PLS 2293G - Introduction to International Relations, Honors. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3

### **Departmental Honors Requirements**

- PLS 4444 - Honors Independent Study. Credits: 3
- PLS 4555 - Honors Research. Credits: 3
- PLS 4644 - Honors Thesis. Credits: 3

### **And Political Science 5000 through 5499 Graduate Seminar. Credits: 3**

The graduate seminar required of honors students may substitute for one of the distribution requirements in the major with the prior approval of the Departmental Chairperson and the Departmental Honors Coordinator.

## **Political Science Minor**

### **18 semester hours in political science, including:**

- PLS 1153G - American Government and Constitution. Credits: 3  
or
- PLS 1193G - American Government and Constitution, Honors. Credits: 3

### **Plus One of:**

- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3  
or
- PLS 2293G - Introduction to International Relations, Honors. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3

**And at least six semester hours of Political Science courses numbered 3000 and above.**

## **Pre-Law Program and Minor**

To provide students with guidance in the selection of those courses which will enable them to complete a J.D. at an American Bar Association accredited law school, EIU offers a minor in Pre-Law Studies. This minor will provide students with the following: basic analytical skills, an introduction to the language of the law, and the written communication skills necessary for the study of law. This minor is administered by the Pre-Law Advisor and the Pre-Legal Studies Committee.

All students interested in a career in law should consult with the Pre-Law Advisor (217) 581-2523 (Coleman Hall 2135) for information regarding law school admission requirements.

Students at Eastern are provided with a variety of on-campus services by the Pre-Law Advisor and the Pre-Legal Studies Committee, including information about all ABA-approved law schools, guest presentations by law school admissions officers and by persons who practice law, several scholarships for students who are admitted to law school, field trips to area law schools, Pre-Law Internships, a Pre-Law Club, the Law School Admission Test (administered on campus), a mock Law School Admission Test, LSAT Preparatory Course and advice from the Pre-Law Advisor concerning law school admissions strategies.

# Department of Psychology

## Department Faculty

**John Mace** , *Chairperson*

Allan, W.; Addison, W.; Bernas, R.; Best, J.; Brausch, A.; Brito, C.; Canivez, G.; Floress, M.; Gruber, R.; HaileMariam, A.; Hanft-Martone, M.; Heller, M.; Johnson-Gros, K.; Leal, L.; Scher, S.; Schoonover, C; Sharma, A.; Stowell, J.; Williams, J.; Wilson, K.

**Department Telephone:** 217.581.2127

## **Psychology (B.A.)**

### **Major**

Criteria for admission to the Psychology Major:

1. Completion of MAT 1271 or higher level math course, with a grade of C or better; or ACT mathematics score of 26 or higher.
2. Completion of PSY 1879G (or equivalent) with a grade of C or better.

### **Core Requirements**

**Total Semester Hours: 36-39**

Students must complete the hours specified from each of the groups below as well as the following, which represent the **core requirements** of the Psychology BA:

- MAT 1271 - College Algebra. Credits: 3  
or higher level math course, or ACT math score of 26 or higher
- PSY 1879G - Introductory Psychology. Credits: 3
- PSY 2610 - Statistical Methods of Psychology. Credits: 4
- PSY 2999 - Psychological Forum. Credits: 1
- PSY 3805 - Research Methods and Experimental Design. Credits: 4

### **AND**

One of the following courses to meet the capstone requirement <sup>1</sup>:

- PSY 4100 - Supervised Research in Psychology. Credits: 1 to 6
- PSY 4250 - History and Systems. Credits: 3
- PSY 4260 - Crisis Intervention. Credits: 3
- PSY 4270 - Theories of Psychotherapy. Credits: 3
- PSY 4515 - Children with Exceptionalities. Credits: 3
- PSY 4590 - Psychology Seminar. Credits: 3
- PSY 4644 - Honors Thesis. Credits: 3
- PSY 4666 - Honors Seminar. Credits: 3
- PSY 4700 - Prejudice and Discrimination. Credits: 3

### **Group A. Abnormal/Social Group:**

At least two courses from

- PSY 3590 - Theories of Personality. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- PSY 3870 - Social Psychology. Credits: 3

### **Group B. Biopsychology Group:**

At least one course from

- PSY 3310 - Biological Psychology. Credits: 3
- PSY 3680 - Sensation and Perception. Credits: 3

### **Group C. Cognitive/Learning Group:**

At least one course from

- PSY 3620 - Psychology of Learning. Credits: 3
- PSY 3830 - Cognitive Processes. Credits: 3

### **Group D. Developmental Group:**

At least one course from

- PSY 3515 - Child Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3

- PSY 3525 - Psychology of Maturity and Old Age. Credits: 3

**Electives**

Electives: Six semester hours from any Psychology Courses <sup>2</sup> except Psychology 4274 and 4275.

**Footnotes:**

<sup>1</sup> Capstone Requirement: Graduation with a major in psychology requires the completion of a capstone experience entailing four components:

1. Oral presentation of information about psychology
2. Engagement with original primary literature in psychology
3. Written communication of information about psychology
4. Critical and integrative thinking about psychology

The capstone requirement must be met after the student has completed 90 semester hours and PSY 3805 - Research Methods and Experimental Design, with a grade of C or better.

The capstone requirement may also be met by completing individual components in other classes, or by non-class activities. In-class activities must be approved as capstone components ahead of time by the class instructor. Other activities must have the approval of the department chair. See the Psychology Department website (<http://www.eiu.edu/~psych>) for examples of activities that may qualify as components of the capstone requirement.

<sup>2</sup> No more than 3 semester hours each of PSY 3900 or 4100 may count toward this requirement.

A grade of C or better is required in all courses counting towards the Major.

(Major GPA based on all psychology courses taken at EIU)

Majors are required to complete the department's exit evaluation at least 10 days prior to the closing date of the last term of graduation.

**Psychology Teacher Certification**

See the Social Science Teaching Major program, (Psychology Designation).

## **Psychology Honors Program**

Admission to the Departmental Honors Program in Psychology requires at least a 3.50 GPA on a 4.0 scale and permission of the Dean of the Honors College and the Departmental Honors Coordinator.

Students in the Psychology Honors Program must maintain an overall GPA of 3.50. Students who have been dismissed from the program because their overall GPA has fallen below 3.50 may petition for readmission. Students must raise their grade-point average to 3.50 and submit their petition to the Dean of the Honors College and Departmental Honors Coordinator.

### **Departmental Honors Requirements**

(Honors Students also must meet core requirements for the major.)

#### **Total Semester Hours: 52-55**

- One graduate-level course approved by the Departmental Honors Coordinator Credits: 3  
[Psychology 4444 may be substituted for this requirement. Psychology 4444 can be taken for a total of no more than six hours.]
- PSY 3310 - Biological Psychology. Credits: 3
- PSY 3590 - Theories of Personality. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- PSY 3830 - Cognitive Processes. Credits: 3
- PSY 3870 - Social Psychology. Credits: 3
- PSY 4250 - History and Systems. Credits: 3
- PSY 4444 - Honors Independent Study. Credits: 3
- PSY 4610 - Advanced Statistics in Psychology. Credits: 4
- PSY 4644 - Honors Thesis. Credits: 3
- PSY 4666 - Honors Seminar. Credits: 3  
(taken twice)  
[Psychology 4444, taken once, may be substituted for Psychology 4666]

#### **One of the following:**

- PSY 3515 - Child Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3
- PSY 3525 - Psychology of Maturity and Old Age. Credits: 3



## **Psychology Minor**

A grade of C or better is required in all courses counting towards the minor.

### **Total Semester Hours: 18**

- PSY 1879G - Introductory Psychology. Credits: 3

### **And 15 Semester Hours of Electives in Psychology**

Electives in Psychology selected to meet the particular educational goals of individual students in consultation with a Psychology advisor. (Must include at least nine hrs. of courses numbered 3000 or above.)

## Science with Teacher Certification

### Science with Teacher Certification (B.S.)

#### Standard High School Certificate

The Science with Teacher Certification major prepares students for teaching careers in the sciences (biological sciences, chemistry, earth sciences and physics) at the secondary level (grades 9-12). For students also wanting to be eligible to teach middle school sciences, additional Middle Level Education courses are required.

This major requires that students follow and meet the requirements for Admission, Retention and Graduation from Teacher Certification programs as described in the "Teacher Certification Programs" section of this catalog and as explained at the University Admission to Teacher Education Meeting which all students must attend. Students must gain University Approval to Take Teacher Education Courses no later than the end of their first semester Junior year. Additional information on Admission, Retention and Graduation for Teacher Certification programs can be found on the College of Education & Professional Studies website at <http://www.eiu.edu/ceps/teached>.

All students must pass the Illinois Certification Test of Basic Skills for selection into teacher education and should complete this requirement no later than their sophomore year.

Students must receive a "C" or better in all professional education courses and maintain a minimum cumulative and major GPA of 2.65 to continue in the program.

Students have two options for completing the professional education coursework – Regular Secondary Education Program and Integrated Secondary Education Program (ISEP). The Integrated Secondary Education Program is strongly recommended for the Science with Teacher Certification major. For more information regarding these two options please consult with your advisor. Information is also available in the Teacher Certification Program section of this catalog.

#### Biological Sciences Specialization

The BS in Science with Teacher Certification (Biological Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the biological sciences.

#### The BS in Science Teacher Certification with Biological Sciences Specialization Major:

##### 1. 77 Semester Hours of Major Courses

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- BIO 2200 - Human Anatomy. Credits: 4
- BIO 3120 - Molecular and Cellular Biology. Credits: 4
- BIO 3200 - Genetics. Credits: 4
- BIO 3400 - Methods of Teaching Biological Sciences in High School. Credits: 3
- BIO 3510 - Plant Physiology. Credits: 4  
or
- BIO 3520 - Animal Physiology. Credits: 4
- BIO 3800 - Ecology. Credits: 4
- BIO 4984 - Organic Evolution. Credits: 3
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- ESC 1300G - Introduction to Earth Sciences. Credits: 4
- ESC 1400G - Weather and Climate. Credits: 4
- ESC 2450G - Oceanography. Credits: 3
- MAT 2250G - Elementary Statistics. Credits: 4
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1

- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

## **2. 25-31 Semester Hours in the Professional Education Core**

### **For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16

### **or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

### **Chemistry Specialization**

The BS in Science with Teacher certification (Chemistry Specialization) degree program prepares students for a career as high school science teachers. In addition, it prepares students to teach high school chemistry at all levels from introductory through Advanced Placement (AP).

### **The BS in Science Teacher Certification with Chemistry Specialization Major:**

#### **1. 76-77 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2310 - Inorganic Chemistry I. Credits: 3
- CHM 2430 - Survey of Organic Chemistry. Credits: 3
- CHM 2435 - Survey of Organic Chemistry Laboratory. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3000 - Undergraduate Seminar. Credits: 0
- CHM 3001 - Undergraduate Seminar. Credits: 1
- CHM 3100 - Practicum in Chemistry. Credits: 1
- CHM 3300 - Survey of Biochemistry. Credits: 3
- CHM 3780 - Instrumental Analysis. Credits: 3  
or CHM 3915
- CHM 3910 - Chemical Thermodynamics and Kinetics. Credits: 3
- CHM 3915 - Physical Chemistry Laboratory. Credits: 2  
or CHM 3780
- ESC 1300G - Introduction to Earth Sciences. Credits: 4

- ESC 1400G - Weather and Climate. Credits: 4
- ESC 2450G - Oceanography. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1

## **2. 25-31 Semester Hours in the Professional Education Core**

### **For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16

### **or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

## **Earth Sciences Specialization**

The BS in Science with Teacher Certification (Earth Sciences Specialization) degree program prepares students for a career as a secondary science teacher with emphasis in the earth sciences.

## **The BS in Science Teacher Certification with Earth Sciences Specialization Major:**

### **1. 74 Semester Hours of Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1
- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- ESC 1300G - Introduction to Earth Sciences. Credits: 4
- ESC 1400G - Weather and Climate. Credits: 4
- ESC 2450G - Oceanography. Credits: 3

- ESC 3200 - Human Impacts on the Environment. Credits: 3
- ESC 3410 - Climatology. Credits: 3  
or GEL 3510
- GEL 1430 - Historical Geology. Credits: 4
- GEL 2440 - Mineralogy. Credits: 4
- GEL 3405 - Petrology. Credits: 4
- GEL 3420 - Principles of Geomorphology. Credits: 3
- GEL 3510 - Principles of Sedimentation. Credits: 3  
or ESC 3410
- GEL 4490 - Invertebrate Paleontology. Credits: 3
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1055G - Principles of Astronomy. Credits: 3
- PHY 1056G - Principles of Astronomy Laboratory. Credits: 1
- PHY 1151G - Principles of Physics I. Credits: 3
- PHY 1152G - Principles of Physics I Laboratory. Credits: 1
- PHY 1161 - Principles of Physics II. Credits: 3
- PHY 1162 - Principles of Physics II Laboratory. Credits: 1

## **2. 25-31 Semester Hours in the Professional Education Core**

### **For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16

### **or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16

### **Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

### **Physics Specialization**

Students in the Science Teacher Certification program with Physics Specialization are preparing for a career in high school science teaching. The physics specialization provides a broad based empirical introduction to the quantitative study of the foundations and applications of physics including the areas of mechanics, electromagnetism, thermodynamics and modern physics for the student who will teach AP, honors, or upper division high school physics.

### **The BS in Science Teacher Certification with a Physics Specialization Major:**

#### **1. 74 Semester Hours in Major Courses**

- BIO 1100 - General Biology. Credits: 4
- BIO 1200G - General Botany. Credits: 4
- BIO 1300G - Animal Diversity. Credits: 4
- CHM 1310G - General Chemistry I. Credits: 3
- CHM 1315G - General Chemistry Laboratory I. Credits: 1

- CHM 1410 - General Chemistry II. Credits: 3
- CHM 1415 - General Chemistry Laboratory II. Credits: 1
- CHM 2730 - Quantitative Analysis. Credits: 3
- CHM 3100 - Practicum in Chemistry. Credits: 1
- ESC 1300G - Introduction to Earth Sciences. Credits: 4
- ESC 1400G - Weather and Climate. Credits: 4
- ESC 2450G - Oceanography. Credits: 3
- MAT 1441G - Calculus and Analytic Geometry I. Credits: 5
- MAT 2442 - Calculus and Analytic Geometry II. Credits: 5
- MAT 2443 - Calculus and Analytic Geometry III. Credits: 4
- PHS 3400 - Methods of Teaching Physical Sciences. Credits: 3
- PHY 1351G - General Physics I. Credits: 3
- PHY 1352G - General Physics I Laboratory. Credits: 1
- PHY 1361 - General Physics II. Credits: 3
- PHY 1362 - General Physics II Laboratory. Credits: 1
- PHY 1371 - General Physics III. Credits: 3
- PHY 1372 - General Physics III Laboratory. Credits: 1
- PHY 3150 - Electronics. Credits: 4
- PHY 3500 - Laboratory Practicum. Credits: 1
- PHY 4000 - Seminar in Physics. Credits: 1
- PHY 4470 - Optics. Credits: 4

**2. 25-31 Semester Hours in the Professional Education Core**

For the regular program:

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16

**or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16

**Footnote:**

(Major GPA based on all biological sciences, chemistry, earth sciences, and physics courses taken at EIU.)

# Social Science Studies Program

Charles Titus, *Chairperson*

Department Telephone: 217.581.6362

## Social Science Teaching (B.A.)

### Standard High School Certificate\*

The Social Science Teaching Major is designed to meet the needs of students who wish to teach Social Studies subjects in Illinois secondary schools. The major's disciplinary curriculum consists of courses in the social sciences (economics, geography, history, political science, psychology, sociology and anthropology). Students must receive a grade of "C" or higher in all courses which apply to the major and must maintain a major grade point average of 3.0 or higher and a cumulative grade point average of 2.75 or higher to complete the program. For students also wanting to be eligible to teach in the middle school, additional Middle Level Education courses are required.

The Social Science Teaching Major comprises

1. 40 hours of general education
2. 27-31 hours in the professional education core (Regular program: SED 2000, EDF 2555, SED 3330, EDP 3331, EDF 4450, SPE 3500, STG 4000, STG 4001; or Integrated program (ISEP): SED 2000, EDF 2555, SED 3000, SED 3100, SED 4000, STG 4001) and
3. 72-80 hours in major courses dependent upon the designation chosen (see courses listed below under "Required Major Courses" for each designation).

This major requires that students follow and meet the requirements for Admission, Retention and Graduation from Teacher Certification programs as described in the Teacher Certification Programs section of this catalog and as explained at the University Admission to Teacher Education Meeting which all students must attend. Students must gain University Approval to Take Teacher Education Courses no later than the end of their first semester Junior year in order to use this suggested plan. Additional information on Admission, Retention and Graduation for Teacher Certification programs can be found on the College of Education & Professional Studies website at <http://www.eiu.edu/ceps/teached>.

All students must pass the Illinois Certification Test of Basic Skills for selection into teacher education and should complete this requirement no later than their sophomore year.

Students must receive a "C" or better in all professional education courses and maintain a minimum cumulative and major GPA of 2.65 in order to continue in the education program. Students must receive a "C" or better in all professional education and major courses, and maintain a minimum cumulative GPA of 2.75 and major GPA of 3.00, in order to be approved for student teaching. Approval for student teaching requires that the minimum GPA be held at the beginning of the semester prior to the student teaching semester.

Students have two options for completing the professional education coursework – Regular Secondary Education Program and Integrated Secondary Education Program (ISEP). For more information regarding these two options please consult with your advisor. Information is also available in the Teacher Certification Programs section of this catalog.

### Geography Designation

The Social Science Teaching major with a Geography designation comprises:

#### 80 Hours in Major Courses

- ANT 2200G - Introduction to Anthropology. Credits: 3
- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- ESC 1300G - Introduction to Earth Sciences. Credits: 4
- ESC 1400G - Weather and Climate. Credits: 4
- GEG 1100G - Cultural Geography. Credits: 3
- GEG 1200G - World Regional Geography. Credits: 3
- GEG 3025 - Geography of the United States and Canada. Credits: 3
- GEG 3200 - Human Impacts on the Environment. Credits: 3
- GEG 3420 - Principles of Geomorphology. Credits: 3
- HIS 1500G - Roots of the Modern World: Society and Religion. Credits: 3
- HIS 2010G - History of the United States to 1877. Credits: 3
- HIS 2020G - History of the United States Since 1877. Credits: 3
- HIS 3555 - Modern World History. Credits: 3
- PLS 1003 - Introduction to Comparative Politics. Credits: 3

- PLS 1153G - American Government and Constitution. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3
- PSY 1879G - Introductory Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- SOC 1838G - Introductory Sociology. Credits: 3
- SOC 2721 - Social Stratification. Credits: 3
- SOS 3400 - Methods and Materials in the Social Studies in the Secondary School. Credits: 3

## **2 GEG Elective Courses**

### **Total Semester Hours: 6**

- GEG 3600 - Economic Geography. Credits: 3
- GEG 3750 - Population Geography. Credits: 3
- GEG 3800 - Introduction to Cartography. Credits: 3

## **24-25 Hours in Additional General Education Courses**

### **27-31 Hours in the Professional Education Core**

#### **For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 4
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 14 semester hours)

#### **or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 12 semester hours)

#### **Footnotes:**

(Major GPA based on all anthropology, economics, geography, history, political science, psychology, sociology and social science courses taken at EIU.)

Satisfactory completion of this designation requires:

- a grade of C or higher in each course that applies to the 72-80 semester hours of courses required, regardless of where taken;
- a major grade-point average of at least 3.00 and cumulative grade-point average of at least 2.75 in all courses attempted at EIU;
- at least 45 semester hours of the requirements for the social science major must be in courses taken at EIU.

Students must complete all the professional coursework under either the Regular Secondary Education Program or the Alternative Secondary Education Program.

\* GEG electives must be chosen from: GEG 3600, 3750, 3800



**History**

See the History with Teacher Certification Option.

**Political Science Designation**

The Social Science Teaching major with a Political Science designation comprises:

**73 Hours in Major Courses**

- ANT 2200G - Introduction to Anthropology. Credits: 3
- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- GEG 1100G - Cultural Geography. Credits: 3
- GEG 1200G - World Regional Geography. Credits: 3
- GEG 3200 - Human Impacts on the Environment. Credits: 3
- HIS 1500G - Roots of the Modern World: Society and Religion. Credits: 3
- HIS 2010G - History of the United States to 1877. Credits: 3
- HIS 2020G - History of the United States Since 1877. Credits: 3
- HIS 3555 - Modern World History. Credits: 3
- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3
- PLS 2001 - Introduction to Research Methods in Political Science. Credits: 1
- PLS 2033 - Research Methods in Political Science. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3
- PLS 3203 - American Foreign Policy. Credits: 3
- PLS 3543 - Civil Liberties in America. Credits: 3
- PLS 3753 - The American Presidency. Credits: 3
- PSY 1879G - Introductory Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- SOC 1838G - Introductory Sociology. Credits: 3
- SOC 2721 - Social Stratification. Credits: 3
- SOS 3400 - Methods and Materials in the Social Studies in the Secondary School. Credits: 3

**28 Hours in Additional General Education Courses****27-31 Hours in the Professional Education Core****For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 14 semester hours)

**or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16

(register for 12 semester hours)

**Footnotes:**

(Major GPA based on all anthropology, economics, geography, history, political science, psychology, sociology and social science courses taken at EIU.)

Satisfactory completion of this designation requires:

- a. a grade of C or higher in each course that applies to the 72-80 semester hours of courses required, regardless of where taken;
- b. a major grade-point average of at least 3.0 and cumulative grade-point average of at least 2.75 in all courses attempted at EIU;
- c. at least 45 semester hours of the requirements for the social science major must be in courses taken at EIU.

Students must complete all the professional coursework under either the Regular Secondary Education Program or the Alternative Secondary Education Program.

**Psychology Designation**

The Social Science Teaching major with a Psychology designation comprises:

**72 Hours in Major Courses**

- ANT 2200G - Introduction to Anthropology. Credits: 3
- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- GEG 1100G - Cultural Geography. Credits: 3
- GEG 1200G - World Regional Geography. Credits: 3
- GEG 3200 - Human Impacts on the Environment. Credits: 3
- HIS 1500G - Roots of the Modern World: Society and Religion. Credits: 3
- HIS 2010G - History of the United States to 1877. Credits: 3
- HIS 2020G - History of the United States Since 1877. Credits: 3
- HIS 3555 - Modern World History. Credits: 3
- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3
- PSY 1879G - Introductory Psychology. Credits: 3
- PSY 3310 - Biological Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3
- PSY 3590 - Theories of Personality. Credits: 3
- PSY 3620 - Psychology of Learning. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- PSY 3870 - Social Psychology. Credits: 3
- SOC 1838G - Introductory Sociology. Credits: 3
- SOC 2721 - Social Stratification. Credits: 3
- SOS 3400 - Methods and Materials in the Social Studies in the Secondary School. Credits: 3

**28 Hours in Additional General Education Courses**

**27-31 Hours in the Professional Education Core**

**For the Regular Program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 14 semester hours)

**or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 12 semester hours)

**Footnotes:**

(Major GPA based on all anthropology, economics, geography, history, political science, psychology, sociology and social science courses taken at EIU.)

Satisfactory completion of this designation requires:

- a. a grade of C or higher in each course that applies to the 72-80 semester hours of courses required, regardless of where taken;
- b. a major grade-point average of at least 3.0 and cumulative grade-point average of at least 2.75 in all courses attempted at EIU;
- c. at least 45 semester hours of the requirements for the social science major must be in courses taken at EIU.

Students must complete all the professional coursework under either the Regular Secondary Education Program or the Alternative Secondary Education Program.

**Sociology-Anthropology Designation**

Students are advised that opportunities for teaching sociology/anthropology at the secondary level are limited.

The Social Science Teaching major with a Sociology/Anthropology designation comprises:

**75 Hours in Major Courses**

- ANT 2200G - Introduction to Anthropology. Credits: 3
- ANT 3712 - Archaeology of the Earliest Civilizations. Credits: 3
- ECN 2801G - Principles of Macroeconomics. Credits: 3
- ECN 2802G - Principles of Microeconomics. Credits: 3
- GEG 1100G - Cultural Geography. Credits: 3
- GEG 1200G - World Regional Geography. Credits: 3
- GEG 3200 - Human Impacts on the Environment. Credits: 3
- HIS 1500G - Roots of the Modern World: Society and Religion. Credits: 3
- HIS 2010G - History of the United States to 1877. Credits: 3
- HIS 2020G - History of the United States Since 1877. Credits: 3
- HIS 3555 - Modern World History. Credits: 3
- PLS 1003 - Introduction to Comparative Politics. Credits: 3
- PLS 1153G - American Government and Constitution. Credits: 3
- PLS 2253G - Introduction to International Relations. Credits: 3
- PLS 2603 - State and Local Government. Credits: 3
- PSY 1879G - Introductory Psychology. Credits: 3
- PSY 3521 - Psychology of Adolescence and Young Adulthood. Credits: 3
- PSY 3780 - Abnormal Psychology. Credits: 3
- SOC 1838G - Introductory Sociology. Credits: 3
- SOC 2721 - Social Stratification. Credits: 3
- SOC 2780 - The Sociology of Deviant Behavior. Credits: 3
- SOC 2840 - Racial and Cultural Minorities. Credits: 3
- SOC 3050 - Sociological Theory. Credits: 3
- SOC 3620 - Research Methods for Collecting Social Data. Credits: 3
- SOS 3400 - Methods and Materials in the Social Studies in the Secondary School. Credits: 3

**28 Hours in Additional General Education Courses**

**27-31 Hours in the Professional Education Core****For the regular program:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- EDF 4450 - Philosophy and History of Education. Credits: 3
- EDP 3331 - Theories of Learning and Development for Secondary Teachers. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3330 - Instructional Tasks in the Secondary School. Credits: 3
- SPE 3500 - The Education of Individuals with Exceptional Learning Needs: Access to the General Curriculum. Credits: 3
- STG 4000 - Multicultural/Disabilities Practicum. Credits: 1
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 14 semester hours)

**or the Following for the ISEP:**

- EDF 2555 - Diversity of Schools and Societies: Social and Global Perspectives. Credits: 3
- SED 2000 - Inquiry Into Teaching. Credits: 1
- SED 3000 - ISEP Level I. Credits: 3
- SED 3100 - ISEP Level II. Credits: 3
- SED 4000 - ISEP Level III. Credits: 3
- STG 4001 - Student Teaching. Credits: 12-16  
(register for 12 semester hours)

**Footnotes:**

(Major GPA based on all anthropology, economics, geography, history, political science, psychology, sociology and social science courses taken at EIU.)

Satisfactory completion of this designation requires:

- a. a grade of C or higher in each course that applies to the 72-80 semester hours of courses required, regardless of where taken;
- b. a major grade-point average of at least 3.0 and cumulative grade-point average of at least 2.75 in all courses attempted at EIU;
- c. at least 45 semester hours of the requirements for the social science major must be in courses taken at EIU.

Students must complete all the professional coursework under either the Regular Secondary Education Program or the Alternative Secondary Education Program.

## Department of Sociology & Anthropology

### Department Faculty

#### **Craig Eckert**, *Chairperson*

Benedict, W.R.; Bass, K.; Best, C.; Cunningham, D.; Cunningham, R.; Deerman, E.; Eckert, C.; Gillespie, M.; Hendrickson, D.; Holly, D.; Kashefi, M.; Lovekamp, W.; New-Freeland, L.; Swartzbaugh, R.

**Department Telephone:** 217.581.3123

## **Sociology (B.A.)**

**Total Semester Hours: 44**

### **Core Requirements**

- ANT 2200G - Introduction to Anthropology. Credits: 3
- SOC 1838G - Introductory Sociology. Credits: 3
- SOC 2000 - Sociology Professional Seminar. Credits: 1
- SOC 2721 - Social Stratification. Credits: 3
- SOC 3050 - Sociological Theory. Credits: 3
- SOC 3620 - Research Methods for Collecting Social Data. Credits: 3
- SOC 3630 - Statistical Analysis of Social Data. Credits: 4
- SOC 4900 - Current Issues in Sociology. Credits: 3

### **And 21 s.h. of SOC Electives**

(exclusive of 4275) chosen in consultation with the student's advisor.

To be certified for graduation with a major in sociology, a student must achieve a CGPA of at least 2.0 in the core courses in the major used to satisfy graduation requirements. (See footnote 1.)

### **Footnotes:**

(Major GPA based on Anthropology 2200G if taken at EIU and all sociology courses taken at EIU.)

<sup>1</sup> If the student believes there are extenuating circumstances relevant to the failure to meet this requirement, filing an appeal to the Departmental Grade Appeals Committee is possible

If foreign language is exempt, 45 hours of free electives are available and provide the opportunity for the student to complete one or more minors or even selective majors, all within the four years.

**Sociology-Anthropology Teacher Certification**

See the Social Science Teaching program (Sociology-Anthropology Designation).

## **Sociology Honors Program**

Departmental honors require that students entering the program have an EIU minimum cumulative GPA of 3.50 on a 4.0 scale, and permission of the Dean of the Honors College and the departmental honors coordinator. Both native and transfer students may participate in the program. All students must complete 12-13 hours of honors, including 3 hours for honors thesis. Any tenured/tenure-track faculty member with Ph.D. completed and one year teaching experience at EIU may direct honors independent study, honors research, and honors thesis, the determinant being faculty expertise and student research interest. All honors research activities are potentially subject to review by the Institutional Review Board depending on the nature and focus of the research.

Total Semester Hours: 12-13

### **3-4 hours from:**

- SOC 3290 - Contemporary Social Theory, Honors. Credits: 3
- SOC 3691 - Social Statistics, Honors. Credits: 4
- SOC 3692 - Research Methods for Collecting Social Data, Honors Credits: 3

### **9 hours from:**

- SOC 4444 - Honors Independent Study. Credits: 1 to 3
- SOC 4555 - Honors Research Credits: 3
- SOC 4644 - Sociology Honors Thesis. Credits: 3



## **Sociology Minor**

**Total Semester Hours: 18**

**3 semester hours in:**

- SOC 1838G - Introductory Sociology. Credits: 3

**AND**

15 semester hours of electives in Sociology (exclusive of 4275 and 3970), of which at least 9 hours must be courses numbered 3000 or above, selected in consultation with a Sociology advisor of the student's choosing.