

## Environmental Science: Geoprocessing and Soils Option

### Bachelor of Science (BS)

# Geoprocessing and Soils Option

Environmental quality is fundamental to our quality of life. Environmental science seeks to preserve and improve our environment for ourselves and future generations.

Environmental science is a unique academic program at Southeast. It is an inter-departmental, interdisciplinary degree program based in the College of Science, Technology and Agriculture. Environmental science is a diverse, hybrid field of study that is based upon strong training in the natural sciences, mathematics, law, economics, and health.

The curriculum for the B.S. in Environmental Science consists of a core of approximately 60 credit hours and 20-30 additional credit hours in one of six degree option areas. All students complete internships and/or research participation. This broad-based education and training provides multiple opportunities for graduates in the growing environmental field.

#### Environmental science students will...

- Complete a science-intensive interdisciplinary curriculum providing a foundation for addressing environmental issues of today and the future.
- Study in modern classrooms and laboratories in the newly remodeled Magill Hall.
- Gain valuable professional and personal experience through internships and/or research participation.
- Be well prepared to directly enter career positions in the environmental field or to successfully pursue post-baccalaureate education programs.
- Develop the competencies to become professional and community leaders in an effort to develop a sustainable society.

#### Career Planning

Approximately 70% of environmental science graduates directly enter the work force. All graduates seeking employment in the environmental field have been successful in obtaining a relevant career position.

Approximately 30% of environmental science graduates continue their education in graduate programs in the sciences, law school, MBA programs, or medical school.

Each student works individually with a faculty advisor in the degree option area. The advisor assists students with curricular planning and in development of clear career goals. Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001/CL002	First Semester	Complete the FOCUS2 assessment and develop a Career Action Plan.
CL003	Junior Year	Students gain information about career planning and job searching resources.
CL004	Senior Year	Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search.

#### Internship, Employment, and Post-Baccalaureate Opportunities of Recent Graduates

- U.S. Environmental Protection Agency
- Missouri Department of Conservation
- U.S. Green Building Council
- Centers for Disease Control and Prevention
- Illinois Natural History Survey
- A.T. Still University School of Osteopathic Medicine
- Science Applications International Corporation
- Missouri Department of Natural Resources
- Saint Louis University School of Law
- U.S. Fish and Wildlife Service
- Southern Illinois University - Edwardsville
- CH2M Hill Inc.
- KRCU National Public Radio
- Missouri Botanical Garden
- Emory University
- Burns & McDonnell Engineering Co. Inc.
- Illinois Environmental Protection Agency
- St. Louis County Department of Health
- U.S. Army Corps of Engineers
- Saint Louis Zoological Park

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This is a guide based on the 2015-2016 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use DegreeWorks to monitor their individual progress.

### CURRICULUM CHECKLIST

#### Environmental Science: Geoprocessing & Soils Option

##### 81-85 Hours Required

- \_\_\_ AG440 Precision Agriculture (3)
- \_\_\_ BI153 Introduction to Organismal Biology (4)
- \_\_\_ BI332 General Ecology (3)
- \_\_\_ BS105 Environmental Biology (3)
- \_\_\_ CH185/085/005 General Chemistry (5)
- \_\_\_ CH186 Foundations of Inorganic Chemistry (3)
- \_\_\_ EC344 Environmental Economics (3)
- \_\_\_ EV201 Environmental Science Seminar I (1)
- \_\_\_ EV401 Environmental Science Seminar II (1)
- \_\_\_ EV454 Risk Assessment Applications (3)
- \_\_\_ EV481-483 Internship (3)
- OR
- \_\_\_ EV491-493 Research (3)
- \_\_\_ EV xxx EV Course (300-500 level) (3)
- \_\_\_ GO110 Physical Geology (3)
- \_\_\_ GO365 Environmental Soil Science (3)
- \_\_\_ GO445 Geographic Information Systems (3)
- \_\_\_ GO460 Environmental Hydrology (3)
- \_\_\_ GO555 Soil Classification & Resource Management (3)
- \_\_\_ MA139 Applied Calculus (3) (Logical Systems)
- OR
- \_\_\_ MA140 Analytical Geometry & Calculus I (5)
- \_\_\_ MA223 Elementary Probability & Statistics (3)
- \_\_\_ PH106 Physical Concepts (3)
- OR
- \_\_\_ PH120 Introductory Physics I (5)
- \_\_\_ UI429 Environmental Ethics (3)

##### Choose 6 Hours From:

- \_\_\_ UI331 Foundations of Biochemistry (3)
- \_\_\_ UI360 Recycling & Waste Management (3)
- \_\_\_ UI373 Earth and Life Through Time (3)
- \_\_\_ UI386 Environmental Health (3)
- \_\_\_ UI387 Environmental Law & Public Policy (3)

##### Choose 3 Hours From:

- \_\_\_ AG551 Water Management (3)
- \_\_\_ GO340 Remote Sensing (3)

##### Choose 3 Hours From:

- \_\_\_ AO427 Soil Fertility & Plant Nutrition (3)
- \_\_\_ BI440 Ecology & Management of Wetlands (3)

##### Additional Required Courses: 10 Hours

- \_\_\_ CH187 Inorganic Chemistry & Qualitative Analysis Lab (2)
- \_\_\_ CH341 Foundations of Organic Chemistry (4)
- \_\_\_ CH342 Organic Chemistry Lab I (1)
- \_\_\_ CH450 Environmental Chemistry (3)

#### University Studies Requirements (not already listed above):

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Development of a Major Civilization, Economic Systems, Political Systems, and Social Systems

### SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	3	BI153	4
	EN100	3	CH185/085/005	5
	BS105	3	GO110	3
	Artistic Expression	3	Written Expression	3
	Behavioral Systems	3		
<b>Total</b>	<b>15</b>		<b>Total</b>	<b>15</b>
Milestone: maintain 2.0 cumulative GPA				

<b>SECOND YEAR</b>	CH186	3	BI332	3
	CH187	2	CH341	4
	MA139/MA140	3-5	CH342	1
	Oral Expression	3	EV201	1
	Literary Expression	3	GO340/AG551	3
<b>Total</b>	<b>14-16</b>		<b>Total</b>	<b>14-16</b>
Milestone: maintain 2.0 cumulative GPA				

*(Summer courses are encouraged to avoid semesters exceeding 15 hours.)*

<b>THIRD YEAR</b>	CH450	3	EC344	3
	GO365	3	EV454	3
	Required UI3XX course	3	GO445	3
	Economic Systems	3	MA223	3
	PH106/PH120	3-5	Develop of a Major Civ	3
<b>Total</b>	<b>15-17</b>		<b>Total</b>	<b>15</b>
Milestone: maintain 2.0 cumulative GPA				

<b>FOURTH YEAR</b>	GO460	3	AG440	3
	EV Internship/Research	3	BI440/AO427	3
	Required UI3XX course	3	GO555	3
	Social Systems	3	UI429	3
	Political Systems	3	EV elective	3
	Elective	0-3	EV401	1
<b>Total</b>	<b>15-18</b>		<b>Total</b>	<b>16</b>
Milestone: maintain 2.0 cumulative GPA				

\*EC101 highly recommended by department

A "Milestone" signifies a significant stage for a student in the completion of a degree.

**Degree requirements for all students:** a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level.

A minimum 2.0 GPA in the major and overall are required to graduate with a B.S. in Environmental Science.

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e., minimum GPA and course work) for your program of study.

Revised  
3/19/2015