

Environmental Science: Chemistry Option

Bachelor of Science (BS)

Chemistry 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 an inter-departmental, interdisciplinary degree program based in the College of Science, Technology and Agriculture. It 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 participate in internships and/or research. This 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 to address environmental issues of today and the future.
- Study in modern classrooms and laboratories in the remodeled Magill Hall of Science.
- Gain valuable professional and personal experiences through internships and/or research.
- Be well prepared to enter career positions in the environmental field or to pursue post-baccalaureate education programs.
- Develop the competencies to become professional and community leaders in efforts 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 obtained 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 their area. The advisor assists students with curricular planning and 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

To learn more
 Office of Admissions
 (573) 651-2590
admissions@semo.edu
www.semo.edu

To explore
 the College
 Science, Technology and
 Agriculture online, visit
www.semo.edu/costa

For advising
 College of Science, Technology and
 Agriculture Advising Center
 (573) 651-5930
www.semo.edu/costa/advising

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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: Chemistry Option— 86-93 Hours Required

- ___ 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)
 - ___ CH187 Inorganic Chemistry & Qualitative Analysis (2)
 - ___ CH271 Foundations of Analytical Chemistry (5)
 - ___ CH306 Survey of Physical Chemistry (3)
 - ___ CH341 Foundations of Organic Chemistry (4)
 - ___ CH342 Organic Chemistry Lab I (1)
 - ___ CH450 Environmental 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)
 - ___ GO460 Environmental Hydrology (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)
 - ___ PH121 Introductory Physics II (5)
 - ___ UI429 Environmental Ethics (3)
 - ___ UI443 Professional Experience in Chemistry (3)
- Choose 6 Hours:**
- ___ 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 One Course:**
- ___ CH313 Physical Chemistry Lab (3)
 - ___ CH343 Advanced Organic Chemistry (3)
 - ___ CH344 Organic Chemistry Lab II (2)
 - ___ CH391-393 Undergraduate Research (1-3)
 - ___ CH447 Advanced 1 & 2 Dim NMR Techniques (3)
 - ___ CH545 Organic Preparations & Characterizations (3)
 - ___ CH575 Chemical Instrumentation (4)
 - ___ CH531/UI 331 Foundations of Biochemistry (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, Social Systems.

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	BI153	4
	EN100	3	CH186	3
	BS105	3	CH187	2
	CH185/085/005	5	Behavioral Systems	3
	Artistic Expression	3	Written Expression	3
	Total	17	Total	15
Milestone: maintain 2.0 cumulative GPA				
SECOND YEAR	CH271	5	BI332	3
	GO110	3	CH306	3
	MA139 or MA140	3-5	EV201	1
	Literary Expression	3	PH120/020	5
			Economic Systems*	3
	Total	14-16	Total	15
Milestone: maintain 2.0 cumulative GPA				
<i>(summer courses are encouraged to avoid semesters exceeding 15 hours)</i>				
THIRD YEAR	CH341	4	CH450	3
	CH342	1	EC344	3
	PH121/021	5	GO365	3
	Oral Expression	3	MA223	3
	Political Systems	3	Develop of a Major Civ	3
	Total	16	Total	15
Milestone: maintain 2.0 cumulative GPA				
FOURTH YEAR	EV454	3	EV401	1
	EV Intern/Research	3	EV elective	3
	GO460	3	UI3XX required choice	3
	CHXXX elective	1-4	UI429	3
	UI3XX required choice	3	UI443	3
			Social Systems	3
Total	13-17	Total	16	
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 (MAPPP) at the senior level.

A minimum 2.00 GPA in the major and overall are required to graduate with a BS in Environmental Science degree.

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

Revised
3/19/2015