

**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, Engineering and Mathematics. 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 provide 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.

**Becoming Career Ready...**

/ Faculty-mentored research and guidance will help you develop the professional skills needed for success in a competitive job market and/or advanced study in graduate and professional programs. Students will learn to operate state of the art instruments to analyze environmental samples.

/ The Environmental Science: Chemistry option program prepares graduates for multiple opportunities in the environmental management field. Example job titles include marine chemist, corporate chemist, environmental chemist and emergency management responder.

/ 100% of Southeast programs offer real-world experience. Environmental Science: Chemistry option students earn this through completing a required internship and/or research participation at government agencies/laboratories or corporate environmental consultants.

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities and more.

**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

**Special Options with Environmental Science**

Southeast offers a Master of Science in Environmental Science.

**Transfer and Dual Credit Students**

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at [semo.edu/transfercredit](http://semo.edu/transfercredit)

*This program could lead to licensure or certification. However, Southeast's program either does not meet, or we cannot determine if it meets, the licensure or certification requirement in all states. Please consult our State Authorization page, Licensure tab, to determine information specific to your state:*  
<https://semo.edu/online/student-resources/stateauth.html>.

**To learn more**  
Office of Admissions  
(573) 651-2590  
[admissions@semo.edu](mailto:admissions@semo.edu)  
[semo.edu](http://semo.edu)

**To explore**  
the College of Science,  
Technology, Engineering and  
Mathematics online, visit  
[semo.edu/stem](http://semo.edu/stem)

**For advising**  
Center for Academic Advising  
[semo.edu/advising](http://semo.edu/advising)

**Bachelor of Science (BS)**

This is a guide based on the 2020-2021 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 Degree Works to monitor their individual progress.

**CURRICULUM CHECKLIST****Environmental Science: Chemistry Option– 90-94 Hours Required**

- \_\_\_ BI163 Evolution & Ecology (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)
  - \_\_\_ EN190 Writing & the Environment (3)
  - \_\_\_ EV201 Environmental Science Seminar I (1)
  - \_\_\_ EV400 Health Physics (3)
  - \_\_\_ 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)
  - 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)
  - \_\_\_ UI370 Media Ethics (3)
  - \_\_\_ UI373/073 Earth and Life Through Time (3)
  - \_\_\_ UI386 Environmental Health (3)
  - \_\_\_ UI387 Environmental Law & Public Policy (3)
- Chemistry Option Courses**
- \_\_\_ CH187 Inorganic Chemistry & Qualitative Analysis (2)
  - \_\_\_ CH271 Foundations of Analytical Chemistry (5)
  - \_\_\_ CH311 Foundations of Physical Chemistry (4)
  - \_\_\_ CH341 Foundations of Organic Chemistry (4)
  - \_\_\_ CH342 Organic Chemistry Lab I (1)
  - \_\_\_ PH121 Introductory Physics II (5)
  - \_\_\_ UI443 Professional Experience in Chemistry (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)
  - \_\_\_ CH531/UI 331 Foundations of Biochemistry (3)
  - \_\_\_ CH545 Organic Preparations & Characterizations (3)
  - \_\_\_ CH575/075 Chemical Instrumentation (4)

**General Education Requirements** – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

**SAMPLE FOUR-YEAR PLAN**

▶	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	3	BI163	4
	EN100	3	CH186	3
	BS105	3	CH187	2
	CH185/085/005	5	EN190	3
	General Education	3	General Education	3
	<b>Total</b>	<b>17</b>	<b>Total</b>	<b>15</b>
Milestone: maintain 2.0 cumulative GPA				

<b>SECOND YEAR</b>	CH271/071	5	BI332	3
	GO110/010	3	CH311	4
	MA139 or MA140	3-5	EV201	1
	General Education	3	PH106 or PH120/020	3-5
			General Education	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>	CH341	4	CHxxx elective	2-4
	CH342	1	EC344	3
	PH121/021	5	GO365	3
	General Education	3	MA223	3
	General Education	3	General Education	3
	<b>Total</b>	<b>16</b>	<b>Total</b>	<b>14-16</b>
Milestone: maintain 2.0 cumulative GPA				

<b>FOURTH YEAR</b>	EV400	3	EV401	1
	EV454	3	EV elective	3
	EV Intern/Research	3	UI3XX required choice	3
	GO460	3	UI429	3
	UI3XX required choice	3	UI443	3
			Social Systems	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16</b>	
Milestone: maintain 2.0 cumulative GPA				

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 the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

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

Revised  
6/30/2020