COLLEGE OF SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

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, 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

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
semo.edu

To explore the College of Science, Technology, Engineering and Mathematics online, visit semo.edu/stem

For advising
Center for Academic Advising
semo.edu/advising

COLLEGE OF SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

Environmental Science: Chemistry Option

SOUTHEAST MISSOURI STATE UNIVERSITY · 1873®

Bachelor of Science (BS)

Degree Map 2021-2022

This is a guide based on the 2021-2022 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– 89-93 Hours Required

___ BI163 Evolution & Ecology (4)
___ BI332 General Ecology (3)
___ BS105 Environmental Biology (3)
___ CH184 General Chemistry I Lab (1)
___ CH185 General Chemistry I (3)
___ CH186 General Chemistry II (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 General Chemistry II Lab (1)
___ 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
FIRST YEAR	UI100	1	BI163	4
	EN100	3	CH186	3
	BS105	3	CH187	1
	CH184/CH185	4	EN190	3
	General Education	3	General Education	3
	Total	**14**	**Total**	**14**
	Milestone: maintain 2.0 cumulative GPA			
SECOND YEAR	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
	Total	**14-16**	**Total**	**14-16**
	Milestone: maintain 2.0 cumulative GPA			
	(summer courses are encouraged to avoid semesters exceeding 15 hours)			
THIRD YEAR	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
	Total	**16**	**Total**	**14-16**
	Milestone: maintain 2.0 cumulative GPA			
FOU RTH YEAR	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
	General Education	3	General Education	3
	Total	**18**	**Total**	**16**
	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.

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To learn more
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