























ENVIRONMENTAL CHEMISTRY, B.S.















 - General Education Course

 - Milestone course: a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

Major

The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at <https://www.marshall.edu/gened/>.

Code	Title	Credit Hours
Core Curriculum		
<i>Core 1: Critical Thinking</i>		
FYS 100	First Yr Sem Critical Thinking	3
MTH 229 	Calculus/Analytic Geom I (CT)	5
Critical Thinking Course		3
<i>Core 2</i>		
ENG 101 	Beginning Composition	3
ENG 201  	Advanced Composition	3
CMM 103 	Fund Speech-Communication	3
MTH 229 	Calculus/Analytic Geom I (CT)	5
CHM 211  	Principles of Chemistry I	5
& CHM 217 	and Principles of Chem Lab I	
Core II Humanities		3
Core II Social Science		3
Core II Fine Arts		3
<i>Additional University Requirements</i>		
Writing Intensive (CHM 357 or 358)		3
Writing Intensive		3
Multicultural or International		3
CHM 491 	Capstone Experience	1-6
or CHM 490 	Internship	
Major-Specific		
CHM 211  	Principles of Chemistry I	3
CHM 217  	Principles of Chem Lab I	2
CHM 212  	Principles Chemistry II	3
CHM 218  	Principles of Chem Lab II	2
CHM 355 	Organic Chemistry I	3
CHM 356	Organic Chemistry II	3
CHM 361	Intro Organic Chem Lab	3
CHM 305	Research Methods Chem	1
CHM 365 	Introductory Biochemistry	3
Select one of the following:		4
CHM 357	Physical Chemistry: Quantum (WI)	
CHM 358	Physical Chemistry: Thermo. (WI)	
CHM 411	Modern Instrument Methods	4
Environmental Analytical Chemistry (Milestone)		3

CHM 491 	Capstone Experience (C)	2
or CHM 490 		Internship
CHM 432	Chemistry Seminar	0
PHY 201 	College Physics I	3
PHY 202  	General Physics I Laboratory	1
PHY 203  	College Physics II	3
PHY 204  	General Physics 2 Laboratory	1
BSC 120 	Principles of Biology	4
BSC 121 	Principles of Biology	4
BSC 320 	Principles of Ecology	4
BSC 445	Microbial Ecology	3
GEO 422 	Environmental Geography	3
GLY 200 	The Dynamic Earth	3
NRE 322	Assess I: Terrestrial Systems	4
NRE 323	Assessment II: Aquatic Ecology	4
Statistics Elective		3
<i>Environ Science Requirement</i>		
Select at least 8 credits from a maximum of two departments of the following: ¹		8
BSC 431	Limnology	
CHM 467	Intermediate Biochemistry	
GLY 320L	Geology Lab Techniques	
GLY 420	Principles of Geochemistry	
GLY 455	Hydrogeology	
GLY 455L	Hydrogeology Laboratory	
GLY 456	Environmental Geology	
NRE 320	Nature Enviro Problems	
NRE 321	Resol Environ Problems	
Free Elective		3

¹ Students wishing a physical science emphasis may take all of the Geology electives and not take either BSC 445 Microbial Ecology or NRE 323 Assessment II: Aquatic Ecology.

Major Information

- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.
- In addition to the Core General Education requirements, the College of Science requires 3 hours of Calculus, and 40 hours of upper level credit.
- Coursework listed as "elective" may vary for each student. Students are encouraged to use elective hours toward a or toward prerequisites.
- Students are strongly encouraged to select courses that meet two or more Core or College requirements. For example, a writing intensive literature course could satisfy the Core II Humanities requirement as well as the University writing intensive requirement.
- Course offerings and course attributes are subject to change semesters. Please consult each semesters schedule of courses for availability and attributes.
- Math is based on an ACT Mathematics score of 27 or higher. Students with an ACT Mathematics score less than 27 will be placed in the appropriate mathematics and science courses.
- A Grade Point Average of 2.0 is required

- overall,
- at MU,
- in all required Chemistry courses,
- in all Chemistry courses, and
- in all required Chemistry courses taken at MU.

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Four Year Plan

Students completing the environmental chemistry major will be prepared for career opportunities in environmental chemistry, toxicology, environmental policy, and consulting. Additionally, Environmental Chemistry is an excellent choice for students desiring to pursue professional training in Law, or Safety, or Industrial Hygiene.

Course	Title	Credit Hours
First Year		
First Semester		
CHM 211	Principles of Chemistry I	3
CHM 217	Principles of Chem Lab I	2
BSC 120	Principles of Biology	4
ENG 101	Beginning Composition	3
FYS 100	First Yr Sem Critical Thinking	3
UNI 100	Freshman First Class	1
Credit Hours		16
Second Semester		
ENG 201	Advanced Composition	3
CHM 212	Principles Chemistry II	3
CHM 218	Principles of Chem Lab II	2
BSC 121	Principles of Biology	4
Credit Hours		12
Second Year		
First Semester		
CHM 355	Organic Chemistry I	3
PHY 201	College Physics I	3
PHY 202	General Physics I Laboratory	1
Core I Critical Thinking		3
Core II Social Science		3
Credit Hours		13
Second Semester		
CHM 356	Organic Chemistry II	3
CHM 361	Intro Organic Chm Lab	3
PHY 203	College Physics II	3
PHY 204	General Physics 2 Laboratory	1
CMM 103	Fund Speech-Communication	3
Core II Fine Arts (Milestone)		3
Credit Hours		16
Third Year		
First Semester		
Select one of the following:		4

CHM 357	Physical Chemistry: Quantum (WI)	
CHM 358	Physical Chemistry: Thermo. (WI)	
CHM 305	Research Methods Chem	1
CHM 365	Introductory Biochemistry	3
BSC 320	Principles of Ecology	4
Free Elective		2
Credit Hours		14

Second Semester		
Enviro Science Requirement		4
Core II Humanities (WI)		3
Statistics Elective		3
CHM 411	Modern Instrument Methods	4
GLY 200	The Dynamic Earth	3
Credit Hours		17

Fourth Year		
First Semester		
CHM 491 or CHM 490	Capstone Experience or Internship	2
Environmental Analytical Chemistry		3
Enviro Science Requirement		4
Writing Intensive		3
NRE 322	Assess I: Terrestrial Systems	4
Credit Hours		16

Second Semester		
CHM 432	Chemistry Seminar	0
Free Elective		3
BSC 445	Microbial Ecology	3
GEO 422	Environmental Geography	3
Multicultural or International		3
NRE 323	Assessment II: Aquatic Ecology	4
Credit Hours		16
Total Credit Hours		120