

**Environmental Science, Multidisciplinary Concentration**  
 Department of Earth & Atmospheric Sciences, 303-615-1177, Science Room 2028  
 College of Letters, Arts, and Sciences

Catalog  
2020-2021

This sheet applies to the 2020-21 catalog *only*. It does not replace the full catalog as an official statement of requirements. Students with declared majors *must* work with an advisor on course selection and sequencing to ensure a timely graduation.

General Studies	33 min
Environmental Science Required Courses	26
Multidisciplinary Requirements	42
Restricted Electives	<u>19</u>
Total to Graduate (Min. 40 hrs. Upper-Division)	120 min

**General Studies Course Requirements**

**Written Communication (min. 6 credits)**

- \_\_\_\_\_ ENG 1010 Composing Arguments
- \_\_\_\_\_ ENG 1020 Freshman Comp: Analysis, Research, & Doc.

**Oral Communication (min. 3 credits)**

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**Quantitative Literacy (min. 3 credits)**

- \_\_\_\_\_ See required pre-requisites for recommendations\*

**Arts and Humanities (min. 6 credits)**

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**Historical (min. 3 credits)**

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**Natural and Physical Sciences (min. 6 credits)**

- \_\_\_\_\_ See required pre-requisites for recommendations\*

**Social and Behavioral Sciences I (min. 3 credits)**

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**Social and Behavioral Sciences II (min. 3 credits)**

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**Global Diversity**

- \_\_\_\_\_ May be satisfied within General Studies (GD code)

**Multicultural Requirement**

- \_\_\_\_\_ May be satisfied within General Studies (MC code)

**Environmental Science Required Pre-Requisites\***

	<b><u>Credits</u></b>
_____ <b>BIO 1080 General Biology I</b> (Co: BIO 1090)	3
_____ <b>BIO 1090 General Biology Laboratory I</b> (Co: BIO 1080)	1
_____ <b>BIO 1081 General Biology II</b> (Preq. BIO 1080/1090; Co: BIO 1091)	3
_____ <b>BIO 1091 General Biology Laboratory II</b> (Preq. BIO 1080/1090; Co: BIO 1081)	1
_____ <b>CHE 1800 General Chemistry I</b> (Preq. at least MTH 1110)	4
_____ <b>CHE 1801 General Chemistry I</b> (Preq. Or Co. CHE 1800)	1
_____ <b>CHE 1810 General Chemistry II</b> (Preq. CHE 1800)	4
_____ <b>CHE 1811 General Chemistry Laboratory II</b> (Preq. or Co. CHE 1810)	1
_____ <b>GEG 1100 Physical Geography OR GEL 1010 Physical Geology</b>	3-4
_____ <b>MTH 1410 Calculus I</b> (Preq. MTH 1110 & 1120)	4

**Environmental Science Required Core Courses** \_\_\_\_\_ **ENV** **Credits**

<b>1200 Intro to Environmental Science</b>	3
_____ <b>GIS 1220 Introduction to Geospatial Sciences</b> (MTH 1110 Recommended)	3
_____ <b>GIS 2250 Geographic Information Systems</b> (Preq. GIS 1220)	3
_____ <b>CET 3320 Environmental Impact Statements</b> (Preq. Junior Status)	3
_____ <b>MTH 1210 Intro to Statistics</b>	4
_____ <b>MTH 3240 Environmental Statistics</b> (Preq. MTH 1210 & MTH 1110 or MTH 1112)	4
_____ <b>ENV 4200 Environmental Policy &amp; Planning</b> (Preq. ENV 1200)	3
_____ <b>ENV 4950 ENV Internship</b> (optional – override needed, see advisor) (Preq. 12 credits UD ENV & Jr. Status)	3

### Multidisciplinary Required Courses

_____ <b>ENV 2000 Applied Pollution Science</b> (Preq. ENV 1200, CHE 1800 & 1810)	3
_____ <b>MTR 1400 Weather and Climate</b>	3
_____ <b>MTR 2020 Weather and Climate Lab for Scientists</b> (Preq. MTH 1110, Preq. or Co: MTR 1400)	1

### Biology Electives (min. 4 credits)

_____ <b>BIO 2100 General Botany</b> (Preq. BIO 1080/1090, BIO 1081/1091)	5
_____ <b>BIO 2400 General Microbiology</b> (Preq. BIO 1080/1090, BIO 1081/1091, 1 sem CHE)	5
_____ <b>BIO 3140 Plant Physiology</b> (Preq. BIO 2100)	5
_____ <b>BIO 3160 Plant Anatomy and Morphology</b> (Preq. BIO 2100)	4
_____ <b>BIO 3180 Vascular Plant Taxonomy</b> (Preq. BIO 2100)	4
_____ <b>BIO 3200 Invertebrate Zoology</b> (Preq. BIO 1080/1090, BIO 1081/1091)	4
_____ <b>BIO 3260 Vertebrate Zoology</b> (Preq. BIO 1080/1090, BIO 1081/1091)	4
_____ <b>BIO 3360 Animal Physiology</b> (Preq. BIO 3200 or BIO 3260 & CHE 1810)	4
_____ <b>BIO 4450 Pathogenic Microbiology</b> (Preq. BIO 2400, BIO 3600, or BIO 3610)	5
_____ <b>BIO 4510 Microbial Ecology</b> (Preq. BIO 2400 & 6 cr. of UD micro/molecular BIO; Sr. Status)	4
_____ <b>BIO 4540 Plant Ecology</b> (Preq. BIO 2100, Sr. Standing)	4
_____ <b>BIO 4550 Animal Ecology</b> (Preq. BIO 3200 or BIO 3260 & 6 cr. of UD BIO, Sr. Status)	4

### Environmental Science Electives (min. 9 credits)

_____ <b>ENV 2000:4999 Any ENV course taught at MSU</b> (Preq. See catalog for pre-requisites)	
_____ <b>PHY 2311 General Physics I</b> (Preq. MTH 1410)	
_____ <b>PHY 2321 General Physics I Lab</b> (Preq. MTH 1410)	

### Credits Geography Electives (min. 3 credits)

_____ <b>GEG 3000:4999 Any UD GEG course taught at MSU</b> (Preq. See catalog for pre-requisites)	3
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### Credits Geology Electives (min. 4 credits)

_____ <b>GEL 3000:4999 Any UD Geology course taught at MSU</b> (Preq. See catalog for pre-requisites)	1-4
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### Credits

5

### Geographic Information System Electives (min. 3 credits)

_____ <b>GIS 3250 Cartography</b> (Preq. GIS 2250 & MTH 1210)	3
_____ <b>GIS 4840 Remote Sensing</b> (Preq. GIS 2250 & MTH 1110)	3
_____ <b>GIS 4850 Spatial Modeling in Raster</b> (Preq. GIS 2250 & MTH 1110)	4
_____ <b>GIS 4860 GIS Applications</b> (Preq. GIS 2250, Pre or Co: GIS 3250)	4
_____ <b>GIS 4880 Current Topics in GIS: Variable Topics</b> (Preq. GIS 2250)	1-3

### Senior Experience Requirement (min. 3 credits)

_____ <b>ENV 4970 Environmental Field Studies</b> (Preq. 12 UD credits of ENV, GEG, GEL, or MTR & Sr. Status)	3
_____ <b>ENV 4960 Global Environmental Challenges</b> (Preq. 12 UD credits of ENV, GEG, GEL, or MTR & Sr. Status)	3
_____ <b>BIO 4510 Microbial Ecology</b> (Preq. BIO 2400 & 6 cr. of UD micro/molecular BIO; Sr. Status)	4
_____ <b>CHE 4950 Senior Experience in Chemistry</b> (Preq. CHE 3000, CHE 3110, & CHE 3190 or CHE 3250)	3

**\*\*The degree is an extended major that does not require a minor.  
Need to total a minimum of 120 credits for a bachelor's degree\*\***