

# BS-MS: EARTH AND ENVIRONMENTAL SCIENCES/ ENVIRONMENTAL AND URBAN GEOSCIENCES

## Student Learning Outcomes

Students graduating from this program will:

- be able to conduct an independent geospatial research project.
- be able to analyze and interpret environmental data.
- review ethics in research and career goals, conduct literature searches, and critically evaluate scholarly information
- assess and defend research findings through oral and written communication.

The School of Science and Engineering established the BS/MS program to offer students an opportunity to meet the full requirements of the existing BS and MS degree programs in a shorter time period than the separate degree programs by completing a B.S. degree within four years and then completing an M.S. degree in the fifth year.

- Students admitted to the program will receive the unit BS/MS Scholarship which will cover the difference between Graduate and Undergraduate tuition rates
- Students are required to maintain full-time undergraduate enrollment (minimum 12 hours/ semester)
- Must be continuously enrolled from BS to MS programs (must enter graduate program the semester following completion of BS degree requirements, summer excepted)
- Students are required to maintain full-time enrollment (minimum 9 hours/semester) in the graduate phase of the program and complete the master's degree within a year of their bachelor's degree completion to continue to receive the BS/MS Scholarship

## Admission Requirements for BS-MS Program:

Students must meet the following requirements to be eligible:

- The GRE will be waived for students who meet the qualifications above and are planning to enroll in the BS-MS program
- Students must indicate their interest and apply to the program no later than the end of their junior year
- Students must complete 30 hours at UMKC prior to admission to the BS/MS program
- Students are expected to follow the recommended curriculum (although deviations are possible) and must maintain a UMKC cumulative GPA of 3.00 or higher

This program offers students an opportunity to meet the full requirements of the existing BS and MS degree programs in a shorter time period than the separate degree programs by completing a B.S. degree in Earth and Environmental Science within four years, and then completing an M.S. degree in Environmental and Urban Geosciences in their fifth year. Please contact the SS&C Student Services Center for additional information or clarification on the information below by calling (816) 235-2399, or sending an e-mail to [sce@umkc.edu](mailto:sce@umkc.edu). ([csee@umkc.edu](mailto:csee@umkc.edu))

## Requirements for Graduation

### Credit Hour Requirements

The BS and MS program in Earth and Environmental Science-Environmental and Urban Geosciences requires a minimum of the following:

- 120 Undergraduate Credit Hours
- 30 Graduate Credit Hours
- 143 Total Credit Hours (7 Hours of Overlap taken in final year of undergraduate program)

For additional details, please contact our Department by e-mail [sse@umkc.edu](mailto:sse@umkc.edu). ([sce@umkc.edu](mailto:sce@umkc.edu))

### 5 Year BS-MS Map (Geology)

#### First Year

Fall Semester	Credits	Spring Semester	Credits
GEOLOGY 220 & 220L (or ENV-SCI 110 & 110L) <sup>CC</sup>	4	MATH 210	4
GEFSE 101	3	PHYSICS 210 (or CHEM 211 & CHEM 211L)	4
GECRT-SC 101, 102, or 103	3	ENGLISH 110	3

MATH 120	5	GECRT-SS 101, 102, 104, 105, 106, 107, 108, or 111	3		
	<b>15</b>		<b>14</b>		
<b>Second Year</b>					
<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>		
GEOG 203	4	CHEM 211 & 211L (or PHYSICS 210)	5		
GEOLOGY 250L	3	ENGLISH 225	3		
PHYSICS 220 (or CHEM 212R & CHEM 212LR)	4	GECRT-AH 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 113, or 114	3		
COMM-ST 110	3	GECDV 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, or 211	3		
GECUE 201, 203, 204, 205, 206, or 272	3	GEOG 215	4		
	<b>17</b>		<b>18</b>		
<b>Third Year</b>					
<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>		
Supporting Science - Chem	5	GEOLOGY 322 or 350	4		
GEOLOGY 325	4	HISTORY 101, 102, or POL-SCI 210	3		
ENV-STDY 325	3	GEOLOGY 3XX/4XX Elective	4		
General Elective 3XX/4XX	3	EES 3XX/4XX Elective	3		
	<b>15</b>		<b>14</b>		
<b>Fourth Year</b>					
<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>	<b>Summer Semester</b>	<b>Credits</b>
GEOG 444	4	GEOLOGY 350 or 322	4	GEOLOGY 490	6
EES 3XX/4XX Elective	3	ENV-STDY 499WI	3		
EES 3XX/4XX Elective	3	GEOLOGY 5597	3		
GEOG/GEOL 55XX	3	General Elective 3XX/4XX	4		
	<b>13</b>		<b>14</b>		<b>6</b>
<b>Fifth Year</b>					
<b>Fall Semester</b>	<b>Credits</b>	<b>Spring Semester</b>	<b>Credits</b>		
GEOG 5507	4	GEOG 5544	4		
GEOL/GEOG 55XX Elective	3	GEOL 5599 or 55XX Elective	4		
GEOLOGY 5599 (or 55XX Elective)	2				
	<b>9</b>		<b>8</b>		

**Total Credits: 143**

EES course offerings at the Graduate level:

\* Required for MS Environmental and Urban Geosciences

**Ugrad/Grad (offered regularly)**

Geog 403 wi/5503 (every optional spring)

Geog 401/5507 Advanced GIS (spring, some summers) 4 credits \*

Geol 416/5516 (every other fall) 4 credits

Geog 448/5548 (every fall) 3 credits

Geog 402/5502 (spring) 4 credits

Geol 370/5570 Advanced Hydrogeology (alternate springs) 3 credits

Geol 441/ 5541 Environmental Geophysics (alternate fall) 3credits

Geog 406/5546 Global Water and Sustainability 3 credits (Every Other Spring) (MD)

**Grad ONLY courses**

GEOG 5544 Advanced spatial data Spring (4 credits)\*  
 Geog/Geol 5597 Graduate Seminar in Geoscience Spring (3 Credit) \*  
 Geog/Geol 5599 Research Thesis (6 credits)  
 Geog/Geol 5598 Special Topics (3 credits)

## 5 Year BS-MS Map (Environmental Science)

### First Year

Fall Semester	Credits	Spring Semester	Credits
GEOLOGY 220 & 220L (or ENV-SCI 110 & ENV-SCI 110L) <sup>CC</sup>		4 STAT 235	3
MATH 110		3 Supporting Science	4
GEFSE 101		3 ENGLISH 110	3
GECRT-SC 101, 102, or 103		3 GECRT-SS 101, 102, 104, 105, 106, 107, 108, or 111	3
HISTORY 101, 102, or POL-SCI 210		3 COMM-ST 110	3
		<b>16</b>	<b>16</b>

### Second Year

Fall Semester	Credits	Spring Semester	Credits
GEOG 203		4 ENGLISH 225	3
GEOLOGY 250L		3 Supporting Science	5
GEOG 215		4 GECRT-AH 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 113, or 114	3
Supporting Science		4 General Elective	3
		ENV-SCI 321	3
		<b>15</b>	<b>17</b>

### Third Year

Fall Semester	Credits	Spring Semester	Credits
GEOLOGY 416		3 GECUE 201, 203, 204, 205, 206, or 272	3
ENV-STDY 325		3 ES Elective 3XX/4XX	3
GEOG 314 or 360		4 ES Elective 3XX/4XX	3
Supporting Science		5 General Elective	3
		GEOLOGY 370R	3
		<b>15</b>	<b>15</b>

### Fourth Year

Fall Semester	Credits	Spring Semester	Credits
GEOG 444		4 ENV-STDY 499WI	3
ES Elective 3XX/4XX		3 GEOLOGY 5597 or GEOG 5597	3
GECDV 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, or 211		3 General Elective 3XX/4XX if needed	3
GEOG/GEOL 55XX Elective		3 General Elective 3XX+	4
General Elective 3XX+		3 General Elective	4
		<b>16</b>	<b>17</b>

### Fifth Year

Fall Semester	Credits	Spring Semester	Credits
GEOG 5507		4 GEOG 5544	4

GEOG/GEOL 55XX Elective	3	GEOG 5599 or 55XX Elective	3
GEOG 5599 (or 55XX Elective)	2		
	<b>9</b>		<b>7</b>

**Total Credits: 143**

EES course offerings at the Graduate level:

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**Ugrad/Grad (offered regularly)**

Geog 403 wi/5503 (every optional spring)  
 Geog 401/5507 Advanced GIS (spring, some summers) 4 credits \*  
 Geol 416/5516 (every other fall) 4 credits  
 Geog 448/5548 (every fall) 3 credits  
 Geog 402/5502 (spring) 4 credits  
 Geol 370/5570 Advanced Hydrogeology (alternate springs) 3 credits  
 Geol 441/ 5541 Environmental Geophysics (alternate fall) 3credits  
 Geog 406/5546 Global Water and Sustainability 3 credits (Every Other Spring) (MD)

**Grad ONLY courses**

GEOG 5544 Advanced spatial data Spring (4 credits)\*  
 Geog/Geol 5597 Graduate Seminar in Geoscience Spring (3 Credit) \*  
 Geog/Geol 5599 Research Thesis (6 credits)  
 Geog/Geol 5598 Special Topics (3 credits)

## 5 Year BS-MS Map (Physical Geography)

**First Year**

Fall Semester	Credits	Spring Semester	Credits
GEOLOGY 220 & 220L (or ENV-SCI 110 & 110L)		4 Supporting Math	3
Supporting Math		3 Supporting Science	4
GEFSE 101		3 ENGLISH 110	3
GECRT-SC 101, 102, or 103		3 GECRT-SS 101, 102, 104, 105, 106, 107, 108, or 111	3
HISTORY 101, 102, or POL-SCI 210		3 COMM-ST 110	3
	<b>16</b>		<b>16</b>

**Second Year**

Fall Semester	Credits	Spring Semester	Credits
GEOG 203		4 Supporting Science	5
GEOLOGY 250L		3 ENGLISH 225	3
Supporting Science		4 GECRT-AH 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 113, or 114	3
GEOG 215		4 General Elective	3
		ENV-SCI 321	3
	<b>15</b>		<b>17</b>

**Third Year**

Fall Semester	Credits	Spring Semester	Credits
Supporting Science		5 GECUE 201, 203, 204, 205, 206, or 272	3
ENV-STDY 325		3 ES Elective 3XX/4XX	3
GEOG 314 or 360		4 ES Elective 3XX/4XX	3
GEOLOGY 416		3 General Elective	3

		GEOLOGY 370R		3
		<b>15</b>		<b>15</b>
<b>Fourth Year</b>				
Fall Semester	Credits	Spring Semester	Credits	
GEOG 444		4 ENV-STDY 499WI		3
ES Elective 3XX/4XX		3 GEOLOGY 5597 or GEOG 5597		3
GECDV 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, or 211		3 General Elective 3XX/4XX		3
GEOG/GEOG 55XX Elective		3 General Elective 3XX+		4
General Elective 3XX+		3 General Elective		4
		<b>16</b>		<b>17</b>
<b>Fifth Year</b>				
Fall Semester	Credits	Spring Semester	Credits	
GEOG 5507		4 GEOG 5544		4
GEOG/GEOG 55XX Elective		3 GEOG 5599 or 55XX Elective		3
GEOG 5599 (or 55XX Elective)		2		
		<b>9</b>		<b>7</b>

**Total Credits: 143**

EES course offerings at the Graduate level:

\* Required for MS Environmental and Urban Geosciences

**Ugrad/Grad (offered regularly)**

Geog 403 wi/5503 (every optional spring)

Geog 401/5507 Advanced GIS (spring, some summers) 4 credits \*

Geol 416/5516 (every other fall) 4 credits

Geog 448/5548 (every fall) 3 credits

Geog 402/5502 (spring) 4 credits

Geol 370/5570 Advanced Hydrogeology (alternate springs) 3 credits

Geol 441/ 5541 Environmental Geophysics (alternate fall) 3credits

Geog 406/5546 Global Water and Sustainability 3 credits (Every Other Spring) (MD)

**Grad ONLY courses**

GEOG 5544 Advanced spatial data Spring (4 credits)\*

Geog/Geol 5597 Graduate Seminar in Geoscience Spring (3 Credit) \*

Geog/Geol 5599 Research Thesis (6 credits)

Geog/Geol 5598 Special Topics (3 credits)