

ENVIRONMENTAL SCIENCE MAJOR:

ENVIRONMENTAL GEOSPATIAL TECHNIQUES TRACK (B.S.)

CORE REQUIREMENTS (8 Courses)

Cr. 4	F, S	Cr. 5	F, S, Su	Cr. 3	F, S	Cr. 4	F, S	Cr. 3	F, S	Cr. 1	F, S	Cr. 4	F, S, Su	Cr. 4	F, S, Su
BIO 105		CHM 103		ENV 101		GEO 101		GEO 305		GEO 401		MIC 230		STAT 145	

BIO 341 F** - Cr. 3	GEO 410 F** - Cr. 3
BIO 447 S** - Cr. 3	GEO 412 S** - Cr. 3
BIO 499 F, S, SU** - Cr. 1-3	GEO 450 F, W, S, Su - Cr. 1-6
CHM 413 F** - Cr. 2	GEO 499 F, W, S, Su - Cr. 1-3
CHM 479 O** - Cr. 1-3	MIC 499 F, W, S, Su - Cr. 1-3
CHM 499 F, S, SU** - Cr. 1-3	

ENVIRONMENTAL SCIENCE FIELD EXPERIENCE (Min 3 Credits*)

GEO 221 F - Cr. 4 **GEO 222** S - Cr. 4
**EARTH'S CLIMATE AND
LANDFORMS**
(1 Course*)

GEO 221 F - Cr. 4	GEO 428 S, EY** - Cr. 3
GEO 222 S - Cr. 4	GEO 430 S, OY** - Cr. 3
GEO 422 S** - Cr. 3	GEO 460 F, EY** - Cr. 3
GEO 425 F, OY** - Cr. 3	GEO 221 and GEO 222 can ONLY be applied to Earth's Climate OR Earth's Environmental Systems

EARTH'S ENVIRONMENTAL SYSTEMS (2 Courses*)

BIO 202 W, Su - Cr. 2
BIO 419 F** - Cr. 3
CHM 301 F, S - Cr. 5
GEO 488 S, OY** - Cr. 3
MTH 207 F, S, Su - Cr. 5
STAT 405 F - Cr. 3

QUANTITATIVE ANALYSIS (1 Course*)

ENV 310 O - Cr. 3	ENV 353 O - Cr. 3
ENV 311 O - Cr. 3	GEO 309 F, OY - Cr. 3
ENV 313 O - Cr. 3	GEO 310 F, EY - Cr. 3
ENV 315 O - Cr. 3	GEO 320 S, OY - Cr. 3
ENV 316 O - Cr. 3	GEO 321 S - Cr. 3
ENV 350 O - Cr. 3	GEO 340 F, EY - Cr. 3
ENV 351 O - Cr. 3	GEO 427 F, OY** - Cr. 3
ENV 352 O - Cr. 3	

HUMANS AND THE ENVIRONMENT (2 Courses*, at least 1 must be GEO)

EVS EXIT SURVEY

GEO 405 F, S, ** - Cr. 3	GEO 415 F, ** - Cr. 3	GEO 465 S, EY** - Cr. 3
GEO 410 F, ** - Cr. 3	GEO 445 S, ** - Cr. 3	GEO 485 S - Cr. 3
GEO 412 S, ** - Cr. 3		

GEO 410 and GEO 412 can ONLY be applied to Field Experience OR Environmental Geospatial Techniques

ENVIRONMENTAL GEOSPATIAL TECHNIQUES ELECTIVES (2 Courses*)

It is recommended that environmental science majors complete a minor in earth science, human and environmental geography, geographic information science, geoarchaeology, sustainability and environmental studies, biology, chemistry, and / or microbiology.

PREREQUISITES:



* See Undergraduate Catalog for course prerequisite details

LEGEND (WHEN OFFERED):

F = FALL S = SPRING
SU = SUMMER W = WINTER
A = ANNUALLY O = OCCASIONALLY
OY = ODD NUMBERED YEARS
EY = EVEN NUMBERED YEARS
** = JR/SR STANDING

Environmental Science Major: ENVIRONMENTAL GEOSPATIAL TECHNIQUES B.S.**55 - 59 CREDITS****Environmental Science Core (8 required courses):**

Name	Credits	Description	Prerequisite	Offered
BIO 105	4	General Biology	-	F, S
CHM 103	5	General Chemistry I	MTH 150 or placement in MTH 151	F, S, Su
ENV 101	3	Introduction to Sustainability	-	F, S
GEO 101	4	Earth Environments	-	F, S
GEO 305	3	Geographic Information Systems and Science I	-	F, S
MIC 230	4	Fundamentals of Microbiology	BIO 105	F, S, Su
STAT 145	4	Elementary Statistics	MTH 050	F, S, Su
GEO 401	1	Capstone Seminar in Geography and Environmental Science	Senior Standing	F, S

Earth's Climate and Landforms (Choose 1 courses)

Name	Credits	Description	Prerequisite	Offered
GEO 221	4	Weather and Climate	GEO 101	F
GEO 222	4	Earth Surface Processes and Landforms	GEO 101	S

Humans and the Environment (Choose 2 courses, at least 1 much be GEO)

Name	Credits	Description	Prerequisite	Offered
ENV 310	3	Food, Culture, and the Environment	ENV 101	O
ENV 311	3	The Mississippi River: Mighty and Managed	ENV 101	O
ENV 313	3	Woodlands of the Driftless: History, Ecology, and Mgmt	ENV 101	O
ENV 315	3	Sustainability: Principles and Practices	ENV 101	O
ENV 316	3	Occupying the Driftless: Culture, Place, and Environment	ENV 101	O
ENV 350	3	Justice, Injustice, and Activism	ENV 101	O
ENV 351	3	Feeding the Planet: Environmental Justice of our Food Sys	ENV 101	O
ENV 352	3	Americans, Global Parks, and Wilderness	ENV 101	O
ENV 353	3	Rural Livelihoods: Sustain and the Env in the Upper Midwest	ENV 101	O
GEO 309	3	Cities: Past, Present, and Future	-	F-Odd
GEO 310	3	Transportation Equity and Sustainable Communities	-	F-Even
GEO 321	3	Sustainable Development and Conservation	-	S
GEO 340	3	Polar Environments	-	F-Even
GEO 427	3	Sustainable Water Resource Management	-	F-Odd

Earth's Environmental Systems (Choose 2 courses)

(GEO 221 and GEO 222 can only be applied to Earth's Climate and Landforms or Earth's Environmental Systems)

Name	Credits	Description	Prerequisite	Offered
GEO 221	4	Weather and Climate	GEO 101	F
GEO 222	4	Earth Surface Processes and Landforms	GEO 101	S
GEO 422	3	Meteorology	GEO 221	S
GEO 425	3	Biogeography	GEO 101	F-Odd
GEO 428	3	Past Environmental Change	GEO 221 and GEO 222	S-Even
GEO 430	3	River Systems	GEO 222 or BIO 341 or BIO 464	S-Odd
GEO 460	3	Environmental Hazards	GEO 221 or GEO 222	F-Even

Quantitative Analysis (Choose 1 course)

Name	Credits	Description	Prerequisite	Offered
BIO 202	2	Intro to Biological Data Analysis and Interpretation	BIO 105	W, Su
BIO 419	3	Quantitative Methods in Ecology	BIO 307 or BIO 341; STAT 145 or MTH 265	F
CHM 301	5	Analytical Chemistry	CHM 104	F, S
GEO 488	3	Quantitative Methods in Geography	GEO 305; STAT 145	S - Odd
MTH 207	5	Calculus I	MTH 151	F, S, Su
MTH 265	4	Mathematical Models in Biology	MTH 175 or MTH 207	S
STAT 405	3	Statistical Methods	STAT 145	F

Environmental Science Field Experience (Complete a minimum of 3 credits)

Name	Credits	Description	Prerequisite	Offered
BIO 341	3	Limnology	BIO 105	F
BIO 447	3	Standard Methods / Quality Assurance Water Analyses	BIO 203 or BIO 210 or BIO 303 or BIO 304	S
BIO 499	1-3	Independent Research	-	F, S, Su
CHM 413	2	Environmental Chemistry Laboratory	CHM 300 or CHM 301 or CHM 303	F
CHM 479	1-3	Field Research Station Experience	CHM301 or CHM 302 or CHM 305 or CHM 313 or CHM 325 or CHM 413 or CHM 417 or CHM 461	O

CHM 499	1-3	Research		F, S, Su
GEO 410	3	Geospatial Field Methods	GEO 305	F
GEO 412	3	Geospatial Applications of Unmanned Aerial Systems	GEO 305	S
GEO 450	1-6	Internship in Geography and Environmental Science	-	F, W, S, Su
GEO 499	1-3	Research in Geography and Environmental Science	-	F, W, S, Su
MIC 499	1-3	Independent Research in Microbiology	-	F, W, S, Su

ENVIRONMENTAL GEOSPATIAL TECHNIQUES TRACK (2 courses required)

(GEO 410 and GEO 412 can only be applied to the Field Experience or Environmental Geospatial Technique Electives)

Name	Credits	Description	Prerequisite	Offered
GEO 405	3	Geographic Information System and Science II	GEO 305; STAT 145	F, S
GEO 410	3	Geospatial Field Methods	GEO 305	F
GEO 412	3	Geospatial Applications of Unmanned Aerial Systems	GEO 305	S
GEO 415	3	Remote Sensing of the Environment I	GEO 305	F
GEO 445	3	Remote Sensing of the Environment II	GEO 415	S
GEO 465	3	Geospatial Automation	GEO 405	S-Even
GEO 485	3	Geographic Information System and Science III	GEO 405	S

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* Offered Codes: F = Fall; W = Winter; S = Spring; Su = Summer; O = Occasionally; F-Odd = Fall, Odd Years; F-Even = Fall, Even Years; S-Odd = Spring, Odd Years; S-Even = Spring, Even Years