

**MONTANA STATE UNIVERSITY - DEPARTMENT OF LAND RESOURCES & ENVIRONMENTAL SCIENCES**  
**Degree Requirements for a B. S. in Environmental Sciences - Geospatial & Environmental Analysis Option**  
**2015 - 2016 Catalog**

**Name:** \_\_\_\_\_ **GID#** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Graduating Semester:** \_\_\_\_\_

**A minimum of 120 credits is required for graduation; at least 42 of these credits must be in courses numbered 300 and above.**  
**ALL DEPARTMENTAL REQUIREMENTS & THEIR PREREQUISITES MUST BE A GRADE OF C- OR BETTER**  
**GRADUATION WORKSHEETS ARE DUE ONE YEAR BEFORE GRADUATION**

**DEPARTMENTAL REQUIREMENTS: 80-82 Credits**

Subject/#	Course Title	Credits	Semester	Year	EXCEPTIONS
<b>Freshman Year</b>					
ENSC 110	Land Resources & Environmental Sci	3	F		
BIOB 170IN	Principles of Biological Diversity	4	F S		
BIOB 160	Principles of Living Systems	4	F S		
CHMY 141	College Chemistry I	4	F S Su (F)		
CHEM 143	College Chemistry II	4	F S Su (S)		
M 161Q (or higher)	Survey of Calculus	4	F S Su (S)		
WRIT 101W	College Writing I	3	F S Su		
<i>WRIT 101W is waived with an ACT English Score of 28 or higher, an SAT Critical Writing score of 650 or higher, an MUS Writing Assessment of 5.5, or an ACT/SAT essay/writing subscore of 11.</i>					
US Core	University Seminar	3	F S		
<b>Sophomore Year</b>					
ERTH 101	Earth Systems	4	F S Su (F)		
ENSC 245IN	Soils	3	F		
ENSC 260	Evolution for Environ Scientists	3	S		
GPHY 284	Intro to GIS Science & Cartography	3	F S (F)		
STAT 216Q	Intro to Statistics	3	F S Su (F)		
STAT 217Q	Intermediate Statistical Concepts	3	F S Su (S)		
PHSX 205	College Physics I	4	F S Su (S)		
WRIT 201	College Writing II	3	F S (S)		
Univ Core and Electives		5			
<b>Junior Year</b>					
ENSC 353	Environmental Biogeochemistry	3	F		
NRSM 240 or BIOE 370	Natural Resource Ecology General Ecology	3 3	F S		
GPHY 357	GPS Fund & Apps in Mapping	3	F		
GPHY 384	Adv GIS & Spatial Analysis	3	F S (S)		
Univ Core and Electives		18			
<b>Senior Year</b>					
ENSC 444	Watershed Hydrology	3	F		
ENSC 454	Landscape Pedology	3	F		
ENSC 464 or ENSC 465	Computational Techniques Envir Sci Environmental Biophysics I	1 3	S S		
GPHY 426	Remote Sensing & Digital Imaging	3	S		
GPHY 484R	Applied GIS & Spatial Analysis	3	S		
NRSM 430 or PSCI 362	Natural Resource Law Natural Resource Policy	3 3	S S		
ENSC 499R	LRES Capstone	3	F		
Univ Core and Electives		9-11			

**RESTRICTED ELECTIVES - Choose 20-22 Credits from the following:**

Subject/#	Course Title	Credits	Semester	Year	EXCEPTIONS
AGSC 401	Integrated Pest Management	3	F		
AGSC 428	Sustainable Cropping Systems	3	S		
BIOE 375	Ecological Responses to Climate Change	3	S		
BIOE 408	Rocky Mountain Vegetation	2	F		
BIOE 416	Alpine Ecology	3	Su		
BIOE 428	Freshwater Ecology	3	F		
BIOE 455	Plant Ecology	3	S		
BIOM 415	Microbial Divers, Ecology & Evolution	3	S'ev		
BIOM 452	Soil & Environmental Microbiology	3	S		
BIOO 433	Plant Physiology	3	S		
BIOO 435	Plant Systematics	3	S		
ECNS 332	Economy of Natural Resources	3	F		
ENSC 407	Environmental Risk Assessment	3	F'od		
ENSC 410R	Biodiversity Survey & Monitoring Methods	3	F		
ENSC 443	Weed Ecology & Management	3	F		
ENSC 445	Watershed Analysis	3	S		
ENSC 448	Stream Restoration Ecology	3	F		
ENSC 460	Soil Remediation	3	S		
ENSC 461	Restoration Ecology	3	F		
ENSC 468	Ecosystem Biogeochemistry	3	S		
ERTH 307	Principles of Geomorphology	4	F		
ERTH 432R (on demand)	Surface Water Resources	3			
GPHY 121D	Human Geography	3	F		
GPHY 429R	Applied Remote Sensing	3	S		
GPHY 457	Adv GPS Mapping for GIS	3	F		
NRSM 421	Holistic Thought & Management	4	S		
NRSM 453	Habitat Inventory & Analysis	3	F		
NRSM 455	Riparian Ecology & Management	3	S		
SOCI 470 (on demand)	Environmental Sociology	3			
SRVY 375	Analytical Photo Remote Sensing	2	F'od		
SRVY 230	Intro Surveying for Engineers	3	F S Su		
STAT 411	Methods for Data Analysis I	3	F S		

*Because some courses are offered alternate years, the proposed scheduling of courses in junior and senior years may need to be modified. Work with your advisor for your individual schedule.*

LRES Majors: ENSC 490 Undergrad Research, ENSC 492 Independent Study or ENSC 498 Internship is strongly recommended.

<b>CORE 2.0 REQUIREMENTS - Must be a grade C- or better</b>	<b>Semester</b>	<b>Year</b>	<b>Course</b>
Seminar (US)			
College Writing (W)*			
Quantitative Reasoning (Q)*			
Diversity (D)			
Contemporary Issues in Science (CS)* <i>2nd IN Course will apply to CS</i>			
Arts (IA or RA)			
Humanities (IH or RH)			
Social Sciences (IS or RS)			
Natural Science (IN or RN)*			
Research & Creative Experience* (R, RA, RH, RN or RS)			

\*Satisfied by departmental requirements

<b>Student:</b>	<b>Date:</b>
<b>Advisor:</b>	<b>Date:</b>
<b>Certifying Officer:</b>	<b>Date:</b>