

MONTANA STATE UNIVERSITY - DEPARTMENT OF LAND RESOURCES & ENVIRONMENTAL SCIENCES
Degree Requirements for a B. S. in Environmental Sciences - Soil & Water Science Option **2017 - 2018 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

Subject/#	Course Title	Credits	Semester	Year	EXCEPTIONS
Freshman Year					
ENSC 110	Land Resources & Environmental Sci	3	F		
BIOB 170IN	Principles of Biological Diversity	4	F S (F)		
CHMY 141	College Chemistry I	4	F S (F)		
BIOB 160	Principles of Living Systems	4	F S (S)		
CHMY 143	College Chemistry II	4	F S (S)		
ERTH 101IN	Earth System Science	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 Su		
Sophomore Year		Credits	Semester	Year	EXCEPTIONS
ENSC 245IN	Soils	3	F		
Take one of the following two-semester math sequences:					
M 165Q & M 166Q	Calculus for Technology I	3	F S (F)		
	Calculus for Technology II	3	F S (S)		
M 171Q & M 172Q	Calculus I	4	F S Su (F)		
	Calculus II	4	F S Su (S)		
GEO 208IN	Earth Materials	3	F		
PHSX 205	College Physics I	4	F S Su (F)		
ENSC 210	Role of Plants in the Environment	3	S		
ENSC 260	Evolution for Environmental Scientists	3	S		
GPHY 262 or GPHY 284	Spatial Sci Tech & Application.	3	S		
	Intro to GIS Science & Cartography	3	F S (F)		
WRIT 201	College Writing II	3	F S (S)		
Junior Year		Credits	Semester	Year	EXCEPTIONS
ENSC 353	Environmental Biogeochemistry	3	F		
BIOB 318 or STAT 216Q (or higher)	Biometry	3	F		
	Intro to Statistics	3	F S Su (F)		
ERTH 307	Principles of Geomorphology	4	F		
NRSM 240 or BIOE 370	Natural Resource Ecology	3	F		
	General Ecology	3	F S		
BIOM 452 or ENSC 460	Soil & Environmental Microbiology	3	S		
	Soil Remediation	3	S		
CHMY 211	Elements of Organics Chemistry	5	F S (S)		
Univ Core and Electives		9			
Senior Year			Semester	Year	EXCEPTIONS
ENSC 444	Watershed Hydrology	3	F		
ENSC 454	Landscape Pedology	3	F		
ENSC 499R	LRES Capstone	3	F		
<i>Choose one of the following:</i>					
BIOE 428	Freshwater Ecology	3	F		
ENSC 448	Stream Restoration Ecology	3	F		
ENSC 461	Restoration Ecology	3	F		
BIOE 455	Plant Ecology	3	S		
NRSM 430 or PSCI 362	Natural Resource Law	3	S		
	Natural Resource Policy	3	S		
ENSC 464 & ENSC 445	Computational Techniques Envir Sci	1	S		
	Watershed Analysis	3	S		
or ENSC 465	Environmental Biophysics I	3	S		
ENSC 468	Ecosystem Biogeochemistry	3	S		
Univ Core and Electives		8-9			

Each student shall work closely with their advisor to plan an integrated set of elective courses appropriate to their academic & professional goals.

RESTRICTED ELECTIVES - Choose 6 - 9 credits of the following:		Credits	Semester	Year	EXCEPTIONS
AGSC 454	Agrostology	3	F'od		
BIOE 375	Ecol Responses Climate Change	3	S		
BIOE 428	Freshwater Ecology	3	F		
BIOE 455	Plant Ecology	3	S		
BIOM 415	Microbial Diversity Ecolgy & Evolution	3	S'ev		
BIOM 452	Soil & Environmental Microbiology	3	S		
CHMY 311	Fundamental Analytical Chem	3	S		
EENV 441	Natural Treatment Systems	3	F		
ENSC 407	Environmental Risk Assessment	3	F'od		
ENSC 410R	Biodiversity Methods	3	F		
ENSC 443	Weed Ecology and Manangement	3	F		
ENSC 445	Watershed Analysis	3	S		
ENSC 448	Stream Restoration Ecol (if not taken above)	3	F		
ENSC 460	Soil Remediation	3	S		
ENSC 461	Restoration Ecology (if not taken above)	3	F		
ENSC 466	Chemical Ecology	3	F		
ERTH 432R	Surface Water Resources	3 (on demand)			
GEO 309	Sedimentation and Stratigraphy	4	S		
GPHY 357	GPS Fund/App in Mapping	3	F		
GPHY 384	Adv GIS and Spatial Analysis	3	F		
GPHY 426	Remote Sensing	3	S		
GPHY 429R	Applied Remote Sensing	3	S		
GPHY 484R	Applied GIS & Spatial Analysis	3	S		
NRSM 421	Holistic Thought/Mgmt	4	S		
NRSM 455	Riparian Ecology & Management	3	S		
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.

CORE 2.0 REQUIREMENTS - Must be a grade C- or better	Semester	Year	Course
Seminar (US)			
College Writing (W)*			
Quantitative Reasoning (Q)*			
Diversity (D)			
Contemporary Issues in Science (CS)* 2nd IN Course will apply to CS			
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)*			

*Met by departmental requirements

August 2017