MONTANA STATE UNIVERSITY - DEPARTMENT OF LAND RESOURCES & ENVIRONMENTAL SCIENCES

Degree Requirements for a B. S. in Environmental Sciences - Soil & Water Science Option

2016 - 2017 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

DEPARMENTAL REQUIREMENTS: 94-98

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)		
BIOB 160	Principles of Living Systems	4	F S (S)		
CHMY 141	College Chemistry I	4	F S (F)		
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		
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.					
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 &	Calculus for Technology I	3	F S (F)		
M 166Q	Calculus for Technology II	3	F S (S)		
OR					
M 171Q &	Calculus I	4	F S Su (F)		
M 172Q	Calculus II	4	F S Su (S)		
CHMY 211	Elements of Organics Chemistry	5	F S (S)		
ENSC 260	Evolution for Environmental Scientists	3	S		
GEO 208IN	Earth Materials	3	F		
GPHY 262 or	Spatial Sci Tech & Application.	3	S		
GPHY 284	Intro to GIS Science & Cartography	3	F S (F)		
STAT 216Q (or higher)	Intro to Statistics	3	F S Su (F)		
WRIT 201	College Writing II	3	F S (S)		
Junior Year		**Credits**	**Semester**	**Year**	**EXCEPTIONS**
NRSM 240 or	Natural Resource Ecology	3	F		
BIOE 370	General Ecology	3	F S		
PHSX 205	College Physics I	4	F S Su (F)		
ENSC 353	Environmental Biogeochemistry	3	F		
ERTH 307	Principles of Geomorphology	4	F		
ENSC 468	Ecosystem Biogeochemistry	3	S		
BIOM 452 or	Soil & Environmental Microbiology	3	S		
ENSC 460	Soil Remediation	3	S		
Univ Core and Electives		10			
Senior Year		**Credits**	**Semester**	**Year**	**EXCEPTIONS**
ENSC 444	Watershed Hydrology	3	F		
ENSC 454	Landscape Pedology	3	F		
Choose two of the following:					
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	Natural Resource Law	3	S		
PSCI 362	Natural Resource Policy	3	S		
ENSC 464 &	Computational Techniques Envir Sci	1	S		
ENSC 445	Watershed Analysis	3	S		
or					
ENSC 465	Environmental Biophysics I	3	S		
ENSC 499R	LRES Capstone	3	F		
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 8 -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		
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		

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

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.

Student: **Date:**

Advisor: **Date:**

Certifying Officer: **Date:**

April 2016