MONTANA STATE UNIVERSITY - DEPARTMENT OF LAND RESOURCES & ENVIRONMENTAL SCIENCES

Degree Requirements for a B. S. in Environmental Sciences - Environmental Sciences Option

2021 - 2022 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

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 & CHMY 142	College Chemistry I & Lab	4	F S Su (F)		
WRIT 101W	College Writing I	3	F S Su (F)		
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.					
BIOB 160	Principles of Living Systems	4	F S (S)		
CHMY 143 & CHMY 144	College Chemistry II & Lab	4	F S Su (S)		
M 161Q (or higher)	Survey of Calculus	4	F S Su (S)		
US CORE	University Seminar	3	F S Su (S)		
Sophomore Year		**Credits**	**Semester**	**Year**	**EXCEPTIONS**
ENSC 245IN	Soils	3	F		
GPHY 284	Intro to GIS Science & Cartography	3	F S (F)		
STAT 216 (or higher) or	Intro to Statistics	3	F S Su (F)		
BIOB 318	Biometry		F		
ENSC 210	Role of Plants in the Environment	3	S		
ENSC 260	Evolution for Environ Scientists	3	S		
PHSX 205	College Physics I	4	F S Su (S)		
WRIT 201 or HONR 202IH	College Writing II/Texts & Critics: Imag	3	F S Su (S)		
University Core		9			
Junior Year		**Credits**	**Semester**	**Year**	**EXCEPTIONS**
ENSC 353	Environmental Biogeochemistry	3	F		
NRSM 240 or	Natural Resource Ecology	3	F		
BIOE 370	General Ecology	3	F S		
University Core		3			
Directed Electives		21			
Senior Year		**Credits**	**Semester**	**Year**	**EXCEPTIONS**
ENSC 444	Watershed Hydrology	3	F		
ENSC 499R	LRES Capstone	3	F		
ENSC 464 or	Computational Techniques Envir Sci	1	S		Replace w/ ENSC 311-Spring
ENSC 465	Environmental Biophysics I	3	S		
NRSM 430 or	Natural Resource Law	3	F		
PSCI 362	Natural Resource Policy		S		
Directed Electives		18-20			

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)*			*Satisfied by departmental requirements

Each student shall work closely with their faculty advisor to plan an integrated set of elective courses appropriate to their academic, professional and personal goals. Courses not on this list may be used IF considered appropriate to the student's goals AND approved by the faculty advisor as a curricular exception.

DIRECTED ELECTIVES - Choose 39-41 credits of directed electives from the following: (39 if you take ENSC 465 & 41 if you take ENSC 464)

Subject/#	Course Title	F	S	Year	EXCEPTIONS
AGSC 401	Integrated Pest Management	3			
AGSC 428	Sustainable Cropping Systems		3		
BIOE 375	Ecological Response Climate Change		3		
BIOE 408	Rocky Mountain Vegetation	3			
BIOE 416 (Summer)	Alpine Ecology		3		
BIOE 421 (Summer)	Yellowstone Wildlife Ecology		3		
BIOE 422 (even years)	Insect Ecology		3		
BIOE 424 (odd years)	Ecology of Fungi	3			
BIOE 427RN	Research in Freshwater Ecology	3			
BIOE 428	Freshwater Ecology	3			
BIOE 439	Stream Ecology	3			
BIOE 445	Macrosystems Ecology: Plants, Animals & Ecosystems Across Scales		3		
BIOE 455	Plant Ecology		3		
BIOM 415 (even years)	Microbial Diver, Ecology & Evol		3		
BIOM 421	Concepts of Plant Pathology		3		
BIOM 423	Mycology	3			
BIOM 452	Soil & Environ Microbiology		3		
BIOM 465 (even years)	Plant-Pathogen Interactions		3		
ENSC 407	Environmental Risk Assessment	3	3		
ENSC 410R	Biodiver Surv & Monitor Methods	3			
ENSC 443	Weed Ecology & Management	3			
ENSC 445	Watershed Analysis		3		
ENSC 448	Stream Restoration Ecology	3			
ENSC 454	Landscape Pedology	3			
ENSC 458	Teaching Applications in LRES	3	3		
ENSC 460	Soil Remediation		3		
ENSC 461	Restoration Ecology	3			
ENSC 466	Chemical Ecology	3			
ENSC 468	Ecosystem Biogeochemistry		3		
ERTH 303	Weather and Climate	3			
ERTH 307	Prin of Geomorphology	3			
ERTH 432R	Surface Water Resouces		3		
GPHY 357	GPS Fund/Apps in Mapping	3	3		
GPHY 358	GPS Mapping - SL- Trail/E-911/Canal	1	1		
GPHY 384	Adv GIS & Spatial Analysis	3	3		
GPHY 402 (odd years)	Water & Society	3			
GPHY 411 (odd years)	Biogeography		3		
GPHY 429R	Applied Remote Sensing		3		
GPHY 484R	Applied GIS & Spatial Analysis		3		
NRSM 421	Holistic Thought & Management		4		
NRSM 330	Fire Ecology & Management	3			
NRSM 353	Grazing Ecology & Management		3		
NRSM 455	Riparian Ecololgy & Management		3		
WILD 426	Wildlife Habitat Management	3			
WILD 438	Wildlife Habitat Ecology		3		

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.

September 2022