

Natural Resources Management

Department Information

- **Department Location:**
Morrill Hall 307A
- **Department Phone:**
701-231-8180
- **Department Web Site:**
www.ndsu.edu/nrm/
- **Degrees Offered:**
B.S.
- **Official Program Curriculum:**
bulletin.ndsu.edu/undergraduate/program-curriculum/natural-resources-management/

With increasing human pressure and a growing need to balance competing demands, our world needs new and better ways to manage society's impacts on the environment. The Natural Resources Management program prepares students for challenging careers requiring the sustainability perspective and global social perspective necessary for examining and solving complex natural resources management problems. Our goal is the highest and best societal uses of natural resources while maintaining the integrity of life-sustaining socio-ecological systems. Career opportunities abound in federal, state and local government, the private sector, non-profit conservation and environmental organizations, as well as higher education and research.

An interdisciplinary major in NRM leads to a Bachelor of Science (B.S.) degree. Students benefit from faculty engagement from the various colleges across the university in the coordination of the program, classroom teaching and advising.

During the first four semesters of the NRM program, students complete a broad foundation of core courses in the social, biological, and physical sciences. The second half of the program offers students the opportunity to focus on a specific area of interest (emphasis). NRM offers six emphasis areas, each allowing students the flexibility to select courses for specialized career preparation.

- **Biotic Resources Science:** deals with basic scientific principles that govern the interrelationship between biotic (e.g., plants, animals) and abiotic factors (e.g., climate, soils) in major ecosystems and the use of these principles for environmentally sound management of both natural and agro-ecosystems.
- **Environmental Communication:** is designed for environmentally oriented students preparing for careers in communication fields such as journalism, public relations, broadcast media and the internet.
- **Natural Resources Economics:** prepares students for management, administrative, regulatory, and policy positions that require a broad understanding of natural resources management and allocation.
- **Physical/Earth Resources Science:** leads to an understanding of the physical and chemical aspects of ecosystems. Topics of study include hydrology, water management and quality, waste management, soil properties, energy resources and land-use management.
- **Pollution Control:** focuses on the principles and practices of managing natural resources for pollution control. Topics include the technical aspects of pollution as they relate to water, air/solids, earth/soils, and the impact of environmental pollution on biotic factors. Students interested in this emphasis are strongly urged to complete College Algebra before entering the NRM program.
- **Social Sciences:** concentrates on human factors (social, political, anthropological) in environmental management and environmental disaster management, while recognizing constraints and opportunities presented by physical and biological factors.
- **Sustainability and Resiliency:** focuses on how to build capacity to deal with change; prepares students through system, strategic, and anticipatory thinking.

Plan of Study

Please note this is a sample plan of study and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Students are encouraged to work with their academic advisor on a regular basis to review degree progress and customize an individual plan of study.

First Year			
Fall	Credits	Spring	Credits
BIOL 150 & 150L	4	BIOL 151 & 151L	4
MATH 103	3	ENGL 120	3
NRM 225	3	Humanities & Fine Arts Gen Ed	6

NRM 150	1	Wellness Gen Ed	2
ENGL 110	4		
	15		15
Second Year			
Fall	Credits	Spring	Credits
COMM 110	3	CHEM 121 & 121L	4
ECON 201	3	NRM 264	3
GEOL 105	3	SOIL 210	3
SOC 110 or EMGT 101	3	STAT 330	3
POLS 115 or 215	3	Decide on Emphasis area - see below	
Decide on Emphasis area - see below		Elective	3
	15		16
Third Year			
Fall	Credits	Spring	Credits
ECON 481	3	HIST 434 or 435	3
NRM 431	3	RNG 452	3
Upper level Sociology, EMGT, POLS	3	Emphasis core	8
Upper level ENGL Gen Ed	3	Elective	3
Emphasis core	3		
Elective	3		
	18		17
Fourth Year			
Fall	Credits	Spring	Credits
Emphasis core	15	NRM 462	3
		Emphasis core	12
		Elective	3
	15		18

Total Credits: 129

Natural Resources Management Emphasis Areas

Biotic Resources Science

Code	Title	Credits
Choose One Tract - Required 6 credits		6
CHEM TRACT		
CHEM 122	General Chemistry II	
CHEM 240	Survey of Organic Chemistry	
MANAGEMENT TRACT		
RNG 453/453	Rangeland Resources Watershed Management	
RNG 136	Introduction to Range Management	
Required 32 additional elective credits		32
Total Credits		38

Sustainability

Code	Title	Credits
Required 12 credits		
NRM 420	Sustainable Scenarios in Natural Resources Management	3
NRM 401	Urban-Ecosystem Management	3
SOC 431	Environmental Sociology	3
or SOC 404	Community Assessment	
or POLS 442	Global Policy Issues	
or POLS 453	Environmental Policy and Politics	
NRM 454	Wetland Resources Management	3
or NRM 402	River and Stream Resource Management	
or SOIL 410	Soils and Land Use	
or BIOL 475	Conservation Biology	
Required 26 additional elective credits		26
Total Credits		38

Physical/Earth Resources Science

Code	Title	Credits
Required 13 credits		
CHEM 122	General Chemistry II	3
CHEM 122L	General Chemistry II Laboratory	1
GEOL 300	Environmental Geology	3
or GEOG 412	Geomorphology	
SOIL 322	Soil Fertility and Fertilizers	3
or SOIL 351	Soil Ecology	
SOIL 410	Soils and Land Use	3
or SOIL 444	Soil Genesis and Survey	
Required 25 additional elective credits		25
Total Credits		38

Social Sciences

Code	Title	Credits
Required 10 credits		
SOC 340	Social Research Methods	3
SOC 341	Social Research Methods Laboratory	1
SOC 404	Community Assessment	3
SOC 405	Community Development	3
Required 28 additional elective credits		28
Total Credits		38

Pollution Control

Code	Title	Credits
Required 23 credits		
MATH 165	Calculus I	4
CHEM 122	General Chemistry II	3
CHEM 122L	General Chemistry II Laboratory	1
ME 221	Engineering Mechanics I	3
ME 222	Engineering Mechanics II	3
CE 309	Fluid Mechanics	3
CE 370	Introduction to Environmental Engineering	3
CE 408	Water Resources and Supply	3

Required 15 additional elective credits	15
Total Credits	38

Environmental Communication

Code	Title	Credits
Required 16 credits		
COMM 112	Understanding Media and Social Change	3
COMM 200	Introduction to Media Writing	3
NRM 421	Environmental Outreach Methods	3
COMM 485	Risk and Crisis Communication	3
COMM 325	Applied Research Methods	4
or SOC 340 & SOC 341	Social Research Methods and Social Research Methods Laboratory	
Required 22 additional elective credits		22
Total Credits		38

Natural Resources Economics

Code	Title	Credits
Required 9 credits		
MATH 144	Mathematics for Business	4
ECON 341	Intermediate Microeconomics	3
STAT 331	Regression Analysis	2
Required 29 additional elective credits		29
Total Credits		38