Range Science

Department Information

- **Department Location:**
  Morrill Hall
- **Department Phone:**
  701-231-7582
- **Department Email:**
  ndsu.range@ndsu.edu
- **Department Web Site:**
  www.ndsu.edu/range/
- **Credential Offered:**
  B.S.
- **Official Program Curriculum:**
  bulletin.ndsu.edu/undergraduate/program-curriculum/range-science/

Rangelands are ecosystems where agriculture and conservation meet. Rangelands cover more than half of the Earth's land area, and include prairie, grassland, savanna, shrubland and chaparral, alpine meadows, wetlands and deserts. Rangelands are dynamic ecosystems, teeming with biodiversity and driven by patterns of climate, soil, and water, and have been used by humans for thousands of years. As range scientists, we seek to understand rangeland ecosystem patterns and processes to ensure sustainable management.

An Ecosystem Perspective

North Dakota is fortunate to have large areas of rangeland, and grazing agriculture remains a vital part of the state's economy and way of life. At North Dakota State University, we look at the entire rangeland ecosystem—from plant diversity, to wildlife, to soils and water—and study how humans can best manage these natural resources for both sustainable production and conservation. We prepare students to study and manage rangelands not only in North Dakota, but across the country and around the world.

The Curriculum

Range science provides students with knowledge and experience to assess, monitor and manage rangeland resources. Using an ecosystem perspective, students study the inter-relationships between a variety of plant, soil, animal and social sciences. The undergraduate program is designed to train students in rangeland plant ecology and management; disturbance ecology and management, including grazing and fire; range improvement and restoration, management and monitoring; and watershed management. Students are required to have basic knowledge in biology, botany, chemistry, mathematics and zoology. Courses in related fields such as animal science, soil science, entomology, geology, geographic information systems and natural resource management are included.

High School Preparation

High school preparation should include course work in biology, chemistry, math and English.

Career Opportunities

Range science graduates find rewarding, lifelong careers with federal, state and provincial government agencies; private industry and consulting firms; college and university research, teaching and extension positions; and non-profit conservation organizations. The increasing need for research in natural resource sciences has led many graduates to seek further education in graduate programs. Specifically, graduates of our program find jobs as ranch managers, rangeland livestock managers, restoration ecologists, invasive plant specialists, mined-land reclamation specialists, wildlife habitat managers, watershed managers, wetland management specialists and many more in various agencies and private firms.

Range science graduates are in high demand and qualify for a wide variety of careers in conservation and natural resources management. Examples of employment opportunities include:

Federal Agencies

- Natural Resources Conservation Service
- U.S. Forest Service
- Bureau of Land Management
- Agricultural Research Service
- U.S. Fish and Wildlife Service
- National Park Service

- U.S. Geological Survey
- U.S. Environmental Protection Agency

State Agencies

- Natural resource departments
- Game and fish departments
- State land departments
- Experiment stations
- Extension Service

Private Industry

- Ranch management
- Environmental consulting
- Agricultural sales and service
- Agricultural advisors
- Mined-land reclamation specialists

Foreign Assignments

- Peace Corps
- U.N. Food and Agriculture Organization
- U.S. Agency for International Development

Financial Aid and Scholarships

Range science majors are eligible to apply for many program scholarships as well as College of Agriculture, Food Systems, and Natural Resources scholarships each year. Scholarships are announced in spring semester and awarded fall semester. In addition, part-time work and work-study are available through the program and the School of Natural Resource Sciences.

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.

Freshman			
Fall	**Credits**	**Spring**	**Credits**
BIOL 150	3	CHEM 122 (Category S)	3
BIOL 150L	1	COMM 110 (Category C)	3
CHEM 121 (Category S)	3	ENGL 120	3
CHEM 121L (Category S)	1	SOIL 210 (Category S)	3
ENGL 110	4	Wellness Gen Ed	2
MATH 103 (or placement)	3		
RNG 136	3		
	18		14
Sophomore			
Fall	**Credits**	**Spring**	**Credits**
ANSC 114	3	SOIL 217	3
RNG 213	3	STAT 330 (Category R)	3
ECON 201 (Gen Ed Category B & G)	3	RNG 450	3
Humanities & Social Science Gen Ed	3	RNG 452	3
		Social & Behavioral Science Gen Ed	3
	12		15

Junior			
Fall	**Credits**	**Spring**	**Credits**
BIOL 456	3	ENGL 321, 324, or 459 (Category C)	3
RNG 456	3	PLSC 380	3
BIOL 364	3	PLSC 315 & 315L	4
SOIL 351, 410, or 444	3	Elective	6
Upper Division Writing	3		
	15		16
Senior			
Fall	**Credits**	**Spring**	**Credits**
RNG 458	3	RNG 462	3
BIOL 461	3	RNG 451	3
BIOL 475 or 476	3	RNG 453 or 454	3
BIOL 458	3	Humanities & Fine Arts/Cultural Diversity Gen Ed	3
BIOL 452 or 454	3	Elective	3
	15		15

Total Credits: 120