

# RANGELAND ECOLOGY AND MANAGEMENT (B.S.)

This major prepares students to conserve, restore, and manage the vast landscapes known as rangelands. These ecosystems include deserts, prairies, shrublands, and woodlands. The degree program focuses on the scientific study of rangelands and introduces principles for managing and restoring rangelands for maximum benefit and ecosystem sustainability.

Required course work includes the university requirements (see regulation J-3 (<https://catalog.uidaho.edu/general-requirements-academic-procedures/j-general-requirements-baccalaureate-degrees/>)) and:

Code	Title	Hours
<b>First and Second Years</b>		
AVS 1090 or AVS 1100	The Science of Animals that Serve Humanity Science of Animal Husbandry	3-4
BIOL 1140 or BIOL 1150	Organisms and Environments Cells and the Evolution of Life	3-4
BIOL 2130 or PLSC 2050	Structure and Function Across the Tree of Life General Botany	4
COMM 1101 or AGED 1010	Fundamentals of Oral Communication Verbal Communication in Agriculture, Food, and Natural Resources	3
ECON 2202	Principles of Microeconomics	3
FOR 2100/ WLF 2200	Principles of Ecology	3
FOR 2350	Society and Natural Resources	3
MATH 1143 or MATH 1160	Precalculus I: Algebra Survey of Calculus	3-4
NR 1010	Exploring Natural Resources	2
REM 1510	Rangeland Principles	3
SOIL 2050	The Soil Ecosystem	3
SOIL 2060	The Soil Ecosystem Lab	1
STAT 2510	Statistical Methods	3
REM 2520	Wildland Plant Identification	2
REM 2530	Wildland Plant Identification Field Studies	1
Select one of the following:		4
CHEM 1101 & 1101L	Introduction to Chemistry and Introduction to Chemistry Laboratory	
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Laboratory	
<b>Third and Fourth Years</b>		
ENGL 3130 or ENGL 3170 or ENGL 3180 or WLF 3700	Business Writing Technical Writing II Science Writing Management and Communication of Scientific Data	3
FISH 4300 or FOR 4600 or REM 4410	Riparian and River Ecology Watershed Science and Management Riparian Management & Restoration	3
FOR 3700	Fundamentals of Geomatics	3
NRS 3830	Natural Resource and Ecosystem Service Economics	3

or AGECE 4510	Applied Environmental and Natural Resource Economics	
REM 3410	Systematic Botany	3
REM 4100	Principles of Vegetation Monitoring and Measurement	3
REM 4560	Integrated Rangeland Management	3
REM 4590	Rangeland Ecology	3
REM 4600	Integrated Field Studies in Rangelands	1
SOIL 4540	Pedology	3
Select one of the following:		3-4
REM 2800 & PLSC 4190	Introduction to Wildland Restoration and Plant Community Restoration Methods	
REM 4400	Restoration Ecology	
Career Track courses with Advisor Input and Approval (see below)		15
<b>Total Hours</b>		<b>90-94</b>

Students must complete 15 credits of advisor-approved electives contributing to a specific career track that may include the following:

- **Restoration Ecology:** Millions of acres of rangeland and forests have been disturbed by fire, invasive plants, and overgrazing. Academic advisors in rangeland conservation have developed a set of electives for students interested in a career in wildland restoration. Completing these career track electives will fulfill requirements for the Restoration Ecology Undergraduate Academic Certificate. Careful selection of courses can also highlight expertise in botany and plant materials to qualify for professions as a botanist.
- **Wildlife Habitat:** Many species of wildlife live on rangelands, and the management of wildlife habitat is an important and sought after skill. With help from their academic advisor, rangeland students can complete a career track that will show expertise in wildlife habitat management and fulfill the requirements for a Minor in Wildlife Resources.
- **Land and Livestock:** This career track is for students interested in hands-on management of rangelands. Academic advisors work with students to select courses that provide the knowledge and skills needed to manage rangelands with grazing and fire to enhance livestock production while sustaining communities of native plants and animals. Completion of these courses can also satisfy the requirements for a Minor in Animal Science or Soil Science.
- **Wildland Fire:** Wildfire is one of the major forces causing change on rangeland ecosystems. Completing a specific set of advisor-approved electives will enable students to show knowledge of land management related to wildland fire and fulfill the requirements for a Minor in Fire Ecology and Management.
- **Individual Interest:** Students can work with their advisor to select specific courses to show expertise in a career track of specific interest that may include watershed or riparian ecologist, natural resource GIS specialist, environmental consultant, tribal land manager, resource economist, or many other interests related to rangelands.

## Courses to total 120 credits for this degree

Fall Term 1	Hours	
ENGL 1101	Writing and Rhetoric I	3
NR 1010	Exploring Natural Resources	2
REM 1510	Rangeland Principles	3
AVS 1090 OR AVS 1100		3

2 Rangeland Ecology and Management (B.S.)

MATH 1143 OR MATH 1160		3
<b>Hours</b>		<b>14</b>
<b>Spring Term 1</b>		
ENGL 1102	Writing and Rhetoric II	3
REM 2520	Wildland Plant Identification	2
REM 2530	Wildland Plant Identification Field Studies	1
(CHEM 1101 AND CHEM 1101L) OR (CHEM 1111 AND CHEM 1111L)		4
Elective Course		3
Elective Course		2
<b>Hours</b>		<b>15</b>
<b>Fall Term 2</b>		
COMM 1101 or AGED 1010	Fundamentals of Oral Communication or Verbal Communication in Agriculture, Food, and Natural Resources	3
ECON 2202	Principles of Microeconomics	3
FOR 2350	Society and Natural Resources	3
STAT 2510	Statistical Methods	3
BIOL 1140 OR BIOL 1150		3-4
<b>Hours</b>		<b>15-16</b>
<b>Spring Term 2</b>		
Humanistic and Artistic Ways of Knowing Course		3
Elective Course		3
Elective Course		1
FOR 2100 OR WLF 2200		3
BIOL 2130 OR PLSC 2050		4
<b>Hours</b>		<b>14</b>
<b>Fall Term 3</b>		
FOR 3700	Fundamentals of Geomatics	3
REM 4100	Principles of Vegetation Monitoring and Measurement	3
SOIL 2050	The Soil Ecosystem	3
SOIL 2060	The Soil Ecosystem Lab	1
Elective Course		1-3
ENGL 3130 OR ENGL 3170 OR ENGL 3180 OR WLF 3700		3
<b>Hours</b>		<b>14-16</b>
<b>Spring Term 3</b>		
NRS 3830 or AGECE 4510	Natural Resource and Ecosystem Service Economics or Applied Environmental and Natural Resource Economics	3
REM 3410	Systematic Botany	3
Humanistic and Artistic Ways of Knowing Course		3
Career Track, Major Elective Course		3
(PLSC 4190 AND REM 2800) OR REM 4400		3-4
<b>Hours</b>		<b>15-16</b>
<b>Fall Term 4</b>		
REM 4590	Rangeland Ecology	3
REM 4600	Integrated Field Studies in Rangelands	1
SOIL 4540	Pedology	3
International Course		3
Career Track, Major Elective Course		3
Career Track, Major Elective Course		3
<b>Hours</b>		<b>16</b>
<b>Spring Term 4</b>		
REM 4560	Integrated Rangeland Management	3
American Experience Course		3
Career Track, Major Elective Course		3
Career Track, Major Elective Course		3
FISH 4300 OR FOR 4600 OR REM 4410		3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>118-122</b>

for assistance in interpreting this map. This map is not reflective of your academic history or transcript and it is not official notification of completion of degree or certificate requirements. Please contact the Registrar's Office regarding your official degree/certificate completion status.

1. Graduates will be able to implement effective planning and problem-solving approaches individually and in teams that consider economic, social, and ecological impacts of rangeland projects and plans.
2. Graduates will be able to use spatial tools (including maps, GPS, GIS, and remote sensing) to observe and interpret ecosystems and aid in making management decisions.
3. Graduates will be proficient with rangeland inventories and perform field measurements of upland and riparian habitats in shrublands, grasslands, woodlands, and deserts.
4. Graduates will be able to effectively communicate plans and decisions in light of existing policies and laws.
5. Graduates demonstrate a sound understanding of science and the application of the scientific method to addressing natural resource questions.

The degree map is a guide for the timely completion of your curricular requirements. Your academic advisor or department may be contacted