

# Range Science

[www.ag.ndsu.edu/range](http://www.ag.ndsu.edu/range)

Range Science is a unique program that blends ecology and management for the purpose of sustaining rangelands. Rangelands are important for the diverse array of products and services they provide, including livestock production, wildlife habitat, clean air and water, and recreation to name a few. Rangeland ecosystems comprise over 40% of the earth's land and include grasslands, savannahs, shrublands, deserts, alpine meadows, marshes and wetlands. Rangelands are comprised mainly of native grasses, forbs, and shrubs which are extremely productive and rich in biodiversity.

Just as rangeland ecosystems are diverse, so too are the careers available in rangeland management. Professional career options for rangeland managers are in private and public land management, educators, ranching, wildlife and fisheries, hydrology and economics, scientists, and consultants. The majority of graduates in Range Science find employment with consulting firms, private industry, non-profit organizations, and state and federal agencies. Many of the state and federal agency jobs are as range conservationists with the USDA Forest Service and Natural Resource Conservation Service; USDI Bureau of Land Management, U.S. Fish and Wildlife Service and National Park Service; Bureau of Indian Affairs; and state agencies that include State Land Departments, State Health Departments and universities. Students in the Range Science program will take courses in animal sciences, biology, botany, chemistry, ecology, economics, natural resources management, plant sciences, range science, statistics, wildlife management, zoology, as well as the requirements of general education.

## Major Requirements

### Major: Range Science

**Degree Type: B.S.**

**Required Degree Credits to Graduate: 132**

### General Education Requirements

#### First Year Experience (F):

|          |                                                                                                         |   |
|----------|---------------------------------------------------------------------------------------------------------|---|
| AGRI 189 | Skills for Academic Success (Students transferring in 24 or more credits do not need to take AGRI 189.) | 1 |
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#### Communication (C):

|          |                       |   |
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| ENGL 110 | College Composition I | 3 |
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| ENGL 120 | College Composition II | 3 |
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| One Course in Upper Level Writing: Select one of the following: |  | 3 |
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| ENGL 321 | Writing in the Technical Professions |  |
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| ENGL 324 | Writing in the Sciences |  |
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| ENGL 459 | Researching and Writing Grants and Proposal |  |
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| COMM 110 | Fundamentals of Public Speaking | 3 |
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#### Quantitative Reasoning (R):

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| STAT 330 | Introductory Statistics | 3 |
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#### Science & Technology (S):

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|--------------------|-----------------------------------------------------------|---|
| CHEM 121<br>& 121L | General Chemistry I<br>and General Chemistry I Laboratory | 4 |
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|          |                  |   |
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| PLSC 110 | World Food Crops | 3 |
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|          |          |   |
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| PLSC 315 | Genetics | 3 |
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| <b>Humanities &amp; Fine Arts (A): Select from current general education list</b> |  | 6 |
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#### Social & Behavioral Sciences (B):

|          |                              |   |
|----------|------------------------------|---|
| ECON 201 | Principles of Microeconomics | 3 |
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|-----------------------------------------------|--|---|
| Select from current general education courses |  | 3 |
|-----------------------------------------------|--|---|

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| <b>Wellness (W): Select from current general education courses</b> |  | 2 |
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| <b>Cultural Diversity (D): Select from current general education list</b> |  |  |
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#### Global Perspectives (G):

|          |                              |   |
|----------|------------------------------|---|
| ECON 201 | Principles of Microeconomics | 3 |
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| <b>Total Credits</b> |  | <b>40</b> |
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## Major Requirements

|                                       |    |
|---------------------------------------|----|
| <b>General Education Requirements</b> | 40 |
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|                                           |  |
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| <b>Required Courses for Range Science</b> |  |
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|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------|
| AGRI 150                                                                       | Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.) | 1          |
| ANSC 114                                                                       | Introduction to Animal Sciences                                                                     | 3          |
| ANSC 123                                                                       | Feeds and Feeding                                                                                   | 3          |
| or ANSC 220                                                                    | Livestock Production                                                                                |            |
| RNG 336                                                                        | Introduction to Range Management                                                                    | 3          |
| RNG 450                                                                        | Range Plants                                                                                        | 3          |
| RNG 452                                                                        | Geographic Information Systems in Range Survey                                                      | 3          |
| RNG 453                                                                        | Rangeland Resources Watershed Management                                                            | 3          |
| or RNG 454                                                                     | Wetland Resources Management                                                                        |            |
| RNG 456                                                                        | Range Habitat Management                                                                            | 3          |
| RNG 458                                                                        | Grazing Ecology                                                                                     | 3          |
| RNG 460                                                                        | Plant Ecology                                                                                       | 3          |
| RNG 462                                                                        | Natural Resource and Rangeland Planning                                                             | 3          |
| RNG 491                                                                        | Seminar                                                                                             | 1          |
| BIOL 150<br>& 150L                                                             | General Biology I<br>and General Biology I Laboratory                                               | 4          |
| BIOL 151<br>& 151L                                                             | General Biology II<br>and General Biology II Laboratory                                             | 4          |
| BOT 380                                                                        | Plant Physiology                                                                                    | 3          |
| CHEM 122                                                                       | General Chemistry II                                                                                | 3          |
| CHEM 140                                                                       | Organic Chemical Concepts and Applications                                                          | 1          |
| CHEM 260                                                                       | Elements of Biochemistry                                                                            | 4          |
| MATH 103                                                                       | College Algebra (or higher level)                                                                   | 3          |
| Select one of the following:                                                   |                                                                                                     | 2-3        |
| PLSC 219                                                                       | Introduction to Prairie & Community Forestry                                                        |            |
| PLSC 320                                                                       | Principles of Forage Production                                                                     |            |
| PLSC 323                                                                       | Principles of Weed Science                                                                          |            |
| PLSC 315<br>& 315L                                                             | Genetics<br>and Genetics Laboratory                                                                 | 4          |
| SOIL 210                                                                       | Introduction to Soil Science                                                                        | 3          |
| SOIL 217                                                                       | Introduction to Meteorology & Climatology                                                           | 3          |
| Select one of the following:                                                   |                                                                                                     | 3          |
| SOIL 351                                                                       | Soil Ecology                                                                                        |            |
| SOIL 410                                                                       | Soils and Land Use                                                                                  |            |
| SOIL 444                                                                       | Soil Genesis and Survey                                                                             | 3          |
| ZOO 475                                                                        | Conservation Biology                                                                                | 3          |
| or ZOO 476                                                                     | Wildlife Ecology and Management                                                                     |            |
| <b>Degree Electives: Potential of a minimum of 17-18 credits to reach 132.</b> |                                                                                                     | <b>17</b>  |
| <b>Total Credits</b>                                                           |                                                                                                     | <b>132</b> |

## Minor Requirements

### Range Science Minor

#### Minor Requirements

Required Credits: 16

#### Required Courses

|                              |                                                |   |
|------------------------------|------------------------------------------------|---|
| RNG 225                      | Natural Resource & Agro-Ecosystems             | 3 |
| RNG 336                      | Introduction to Range Management               | 3 |
| RNG 450                      | Range Plants                                   | 3 |
| Select one of the following: |                                                | 3 |
| RNG 452                      | Geographic Information Systems in Range Survey |   |
| RNG 453                      | Rangeland Resources Watershed Management       |   |

|                                                                       |                          |           |
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| RNG 460                                                               | Plant Ecology            |           |
| RNG 456                                                               | Range Habitat Management | 3         |
| or RNG 458                                                            | Grazing Ecology          |           |
| <b>Elective Course: Seminar may be used to fulfill this elective.</b> |                          | <b>1</b>  |
| <b>Total Credits</b>                                                  |                          | <b>16</b> |

**Minor Requirements and Notes:**

- A minimum of 8 credits must be taken at NDSU.
- Students must earn a minimum 2.00 GPA for the minor requirements.