GRASSLAND SYSTEMS

Description

Website: https://grassland.unl.edu/grassland-systems

University of Nebraska–Lincoln students pursuing the bachelor of science degree in Grassland Systems will benefit from an interdisciplinary, holistic approach to the study of grasslands, rangelands, and prairies. Approximately 60% of Nebraska’s landmass is grassland which offers exceptional experiential learning opportunities. Students first develop a strong base with core courses in grassland systems, mathematics and statistics, communications, and natural sciences before advanced study in one of two options: grassland ecology and management (GECM) or grazing livestock systems (GLS).

Grassland Ecology and Management Option

The University of Nebraska is recognized as the birthplace of prairie ecology. Students pursuing the GECM option learn the principles and techniques needed to manage and monitor grasslands that provide wildlife habitat, conservation, livestock production, and other ecosystem services associated with diverse, resilient grasslands.

- For students excited about studying, managing, and conserving private and public grasslands.
- An integration of disciplines involved in the study, conservation, and utilization of grasslands.
- Foundation of the degree program is multiple use, emphasizing integrated grassland management for water, wildlife, forage, recreation, and aesthetics.
- Students learn through coursework, seminars, capstone experiences, and optional internships with state and federal agencies, research organizations, and private industry.
- Careers include stewardship of grassland resources on private and public lands including habitat management, grassland establishment and prairie restoration; and planning positions with environmental consulting firms, natural resources districts, and local, state and federal natural resource agencies.
- Curriculum meets the federal civil service requirements for rangeland management specialist positions in agencies such as the Natural Resources Conservation Service, Bureau of Land Management, and Forest Service.
- Breadth of the curriculum prepares students for postgraduate education in most disciplines related to natural resource sciences.

Grazing Livestock Systems Option

Nebraska has some of the most diverse and expansive grassland and rangeland resources in the country that supports a premier beef industry. Students choosing the GLS option will learn how to manage beef cattle production systems on grazing lands and other forage resources that are economically and ecologically sustainable.

- For students whose career interests involve the production of livestock utilizing harvested forages, pasture, and range as the principal feed resources.
- Careers include managers of livestock farms or ranches and public or private sector positions that assist in the management, education, and support of grazing livestock decision making.
- Students study principles of forage and range sciences, animal sciences, and management economics.
- Students also learn through seminars, capstone experiences, and a planned internship.
- Integration of disciplines is emphasized in developing production systems that will optimize economic returns consistent with management objectives, resource availability, and environmental health.
- Flexibility allows specialization in ruminant livestock, forage, and range management or economics, while preserving the systems orientation.

Other

Scholarships and Financial Aid

In addition to other scholarships a student might receive, the grassland systems program awards scholarships annually to qualifying new and current grassland systems students, based primarily on academic performance. For more information on these scholarships, contact the Center for Grassland Studies, 402-472-4101, grassland@unl.edu.

Academic Advising

Students are assigned a faculty advisor after admission into their program. The advisor serves as a resource regarding the degree, academic plans and progress, and career options. Students are encouraged to regularly consult with their advisor, especially before registering for classes.

College Requirements

College Admission

Requirements for admission into the College of Agricultural Sciences and Natural Resources (CASNR) are consistent with general University admission requirements (one unit equals one high school year): 4 units of English, 4 units of mathematics, 3 units of natural sciences, 3 units of social sciences, and 2 units of world language. Students must also meet performance requirements: a 3.0 cumulative high school grade point average OR an ACT composite of 20 or higher, writing portion not required OR a score of 1040 or higher on the SAT Critical Reading and Math sections OR rank in the top one-half of graduating class; transfer students must have a 2.0 (on a 4.0 scale) cumulative grade point average and 2.0 on the most recent term of attendance.

Admission Deficiencies/Removal of Deficiencies

Students who are admitted to CASNR with core course deficiencies must remove these deficiencies within the first 30 credit hours at the University of Nebraska–Lincoln, or within the first calendar year at Nebraska, whichever takes longer, excluding foreign languages. Students have up to 60 credit hours to remove world language deficiencies. College-level coursework taken to remove deficiencies may be used to meet degree requirements in CASNR.

Deficiencies in the required entrance subjects can be removed by the completion of specified courses in the University or by correspondence.

The Office of Admissions, Alexander Building (south entrance), City Campus, provides information to new students on how deficiencies can be removed.
College Degree Requirements

Curriculum Requirements
The curriculum requirements of the College consist of three areas: ACE (Achievement-Centered Education), College of Agricultural Sciences and Natural Resources Core, and Degree Program requirements and electives. All three areas of the College Curriculum Requirements are incorporated within the description of the Major/Degree Program sections of the catalog. The individual major/degree program listings of classes ensures that a student will meet the minimum curriculum requirements of the College.

World Languages/Language Requirement
Two units of a world language are required. This requirement is usually met with two years of high school language.

Experiential Learning
All undergraduates in the College of Agricultural Sciences and Natural Resources must take an Experiential Learning (EL) designated course. This may include 0-credit courses designed to document co-curricular activities recognized as Experiential Learning.

Minimum Hours Required for Graduation
The College grants the bachelors degree in programs associated with agricultural sciences, natural resources, and related programs. Students working toward a degree must earn at least 120 semester hours of credit. A minimum cumulative grade point average of C (2.0 on a 4.0 scale) must be maintained throughout the course of studies and is required for graduation. Some degree programs have a higher cumulative grade point average required for graduation. Please check the degree program on its graduation cumulative grade point average.

Grade Rules
Removal of C-, D, and F Grades
Only the most recent letter grade received in a given course will be used in computing a student's cumulative grade point average if the student has completed the course more than once and previously received a grade or grades below C in that course.

The previous grade (or grades) will not be used in the computation of the cumulative grade point average, but it will remain a part of the academic record and will appear on any transcript.

A student can remove from his/her cumulative average a course grade of C-, D+, D, D-, or F if the student repeats the same course at the University of Nebraska and receives a grade other than P (pass), I (incomplete), N (no pass), W (withdrawn), or NR (no report). If a course is no longer being offered, it is not eligible for the revised grade point average computation process.

For complete procedures and regulations, see the Office of the University Registrar website at http://www.unl.edu/regrec/course-repeats (http://www.unl.edu/regrec/course-repeats/).

Pass/No Pass
Students in CASNR may take any course offered on a Pass/No Pass basis within the 24-hour limitation established by the Faculty Senate. However, a department may specify that the Pass/No Pass status of its courses be limited to non-majors or may choose to offer some courses for letter grades only.

GPA Requirements
A minimum cumulative grade point average of C (2.0 on a 4.0 scale) must be maintained throughout the course of studies and is required for graduation. Some degree programs have a higher cumulative grade point average required for graduation. Please check the degree program on its graduation cumulative grade point average.

Transfer Credit Rules
To be considered for admission a transfer student, Nebraska resident or nonresident, must have an accumulated average of C (2.0 on a 4.0 scale) and a minimum C average in the last semester of attendance at another college. Transfer students who have completed less than 12 credit hours of college study must submit either ACT or SAT scores.

Ordinarily, credits earned at an accredited college are accepted by the University. The College, however, will evaluate all hours submitted on an application for transfer and reserves the right to accept or reject any of them. Sixty (60) is the maximum number of hours the University will accept on transfer from a two-year college. Ninety (90) is the maximum number of hours the University will accept from a four-year college. Transfer credit in the degree program must be approved by the degree program advisor on a Request for Substitution Form to meet specific course requirements, group requirements, or course level requirements in the major. At least 9 hours in the major field, including the capstone course, must be completed at the University of Nebraska–Lincoln regardless of the number of hours transferred.

The College will accept no more than 10 semester hours of C-, D+, D, and D- grades from other schools. The C-, D+, D, and D- grades can only be applied to free electives. This policy does not apply to the transfer of grades from UNO or UNK to the University of Nebraska–Lincoln.

Joint Academic Transfer Programs
The College of Agricultural Sciences and Natural Resources has agreements with many institutions to support joint academic programs. The transfer programs include dual degree programs and cooperative degree programs. Dual degree programs offer students the opportunity to receive a degree from a participating institution and also to complete the requirements for a bachelor of science degree in CASNR. Cooperative programs result in a single degree from either the University of Nebraska–Lincoln or the cooperating institution.

Dual Degree Programs
A to B Programs
The A to B Program, a joint academic program offered by the CASNR and participating community colleges, allows students to complete the first two years of a degree program at the participating community college and continue their education and study in a degree program leading toward a bachelor of science degree.

The A to B Program provides a basic knowledge plus specialized coursework. Students transfer into CASNR with junior standing.

Depending on the community college, students enrolled in the A to B Program may complete the requirements for an associate of science at the community college, transfer to the University of Nebraska–Lincoln, and work toward a bachelor of science degree.

Participating community colleges include:

- Central Community College
- Metropolitan Community College
- Mid-Plains Community College
• Nebraska College of Technical Agriculture
• Nebraska Indian Community College
• Northeast Community College
• Southeast Community College
• Western Nebraska Community College

3+2 Programs
Two specialized degree programs in animal science and veterinary science are offered jointly with an accredited college or school of veterinary medicine. These two programs permit CASNR animal science or veterinary science students to receive a bachelor of science degree from the University of Nebraska–Lincoln with a degree in animal science or veterinary science after successfully completing two years of the professional curriculum in veterinary medicine at an accredited veterinary school. Students who successfully complete the 3+2 Program, must provide transcripts and complete the Application for Degree form via MyRED. Students without MyRED access may apply for graduation in person at Husker Hub in the Canfield Administration Building, or by mail. Students should discuss these degree programs with their academic advisor.

Cooperative Degree Programs
Academic credit from the University and a cooperating institution are applied towards a four-year degree from either the University of Nebraska–Lincoln (University degree-granting program) or the cooperating institution (non-University degree-granting program). All have approved programs of study.

UNL Degree-Granting Programs
A University of Nebraska–Lincoln degree-granting program is designed to provide students the opportunity to complete a two-year program of study at one of the four-year institutions listed below, transfer to CASNR, and complete the requirements for a bachelor of science degree.

Chadron State College. Chadron State College offers a 2+2 program leading to a grassland ecology and management degree program and a transfer program leading to a bachelor of science in agricultural education in the teaching option.

Wayne State College. Wayne State College offers a 3+1 program leading to a bachelor of science in plant biology in the ecology and management option and a 3+1 program leading to a bachelor of science in Applied Science.

University of Nebraska at Kearney. Transfer programs are available for students pursuing degree programs leading to a bachelor of science degree.

University of Nebraska at Omaha. Transfer programs are available for students pursuing degree programs leading to a bachelor of science degree.

Non University of Nebraska–Lincoln Degree-Granting Programs
CASNR cooperates with other institutions to provide coursework that is applied towards a degree at the cooperating institution. Pre-professional programs offered by CASNR allow students to complete the first two or three years of a degree program at the University prior to transferring and completing a degree at the cooperating institution.

Chadron State College–Range Science. The 3+1 Program in range science allows Chadron State College students to pursue a range science degree through Chadron State College. Students complete three years of coursework at Chadron State College and one year of specialized range science coursework (32 credit hours) at CASNR.

Dordt College (Iowa)–Agricultural Education: Teaching Option. This program allows students to pursue an Agricultural Education Teaching Option degree leading toward a bachelor of science in agricultural education. Students at Dordt College will complete 90 credit hours in the Agricultural Education: Teaching Option Transfer Program.

Residency
Students must complete at least 30 of the total hours for their degree using University of Nebraska–Lincoln credits. At least 18 of the 30 credit hours must be in courses offered through CASNR (<299) including the appropriate ACE 10 degree requirement or an approved ACE 10 substitution offered through another Nebraska college and excluding independent study regardless of the number of hours transferred. Credit earned during education abroad may be used toward the residency requirement if students register through the University of Nebraska–Lincoln and participate in prior-approved education abroad programs. The University of Nebraska–Lincoln open enrollment and summer independent study courses count toward residence.

Online and Distance Education
There are many opportunities to earn college credit online through the University of Nebraska–Lincoln. Some of these credits may be applicable not only as elective credits but also toward the fulfillment of the College’s education requirements. Credits earned online may count toward residency. However, certain offerings may not be counted toward scholarship requirements or academic recognition criteria.

For further information, contact:
Office of Online and Distance Education
University of Nebraska–Lincoln
305 Brace Labs
Lincoln, NE 68588-0109
402-472-4681
http://online.unl.edu/

Independent Study Rules
Students wishing to take part in independent studies must obtain permission; complete and sign a contract form; and furnish copies of the contract to the instructor, advisor, departmental office, and the Dean’s Office. The contract should be completed before registration. Forms are available in 103 Agricultural Hall or online at the CASNR website.

Independent study projects include research, literature review or extension of coursework under the supervision and evaluation of a departmental faculty member.

Students may only count 12 hours of independent study toward their degrees and no more than 6 hours can be counted during their last 36 hours earned, excluding senior thesis, internships, and courses taught under an independent study number.

Other College Degree Requirements
Capstone Course Requirement
A capstone course is required for each CASNR degree program. A capstone course is defined as a course in which students are required to
integrate diverse bodies of knowledge to solve a problem or formulate a policy of societal importance.

**ACE Requirements**

All students must fulfill the Achievement Centered Education (ACE) requirements. Information about the ACE program may be viewed at ace.unl.edu (https://ace.unl.edu/).

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an advisor to satisfy ACE outcomes 1, 2, 3, 4, 6, and 10 with the college requirements.

**Catalog Rule**

Students must fulfill the requirements stated in the catalog for the academic year in which they are first admitted to the University of Nebraska—Lincoln or when they were first admitted to a Joint Academic Transfer Program. Students transferring from a community college, but without admission to a Joint Academic Transfer Program, may be eligible to fulfill the requirements as stated in the catalog for an academic year in which they were enrolled at the community college prior to attending the University of Nebraska-Lincoln. This decision should be made in consultation with academic advisors, provided the student a) was enrolled in a community college during the catalog year they are utilizing, b) maintained continuous enrollment at the previous institution for 1 academic year or more, and c) continued enrollment at the University of Nebraska-Lincoln within 1 calendar year from their last term at the previous institution. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled as a degree-seeking student at the University of Nebraska—Lincoln in the College of Agricultural Sciences and Natural Resources. Students must complete all degree requirements from a single catalog year. The catalog which a student is utilizing, b) maintained continuous enrollment at the previous institution for 1 academic year or more, and c) continued enrollment at the University of Nebraska-Lincoln within 1 calendar year from their last term at the previous institution. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled as a degree-seeking student at the University of Nebraska—Lincoln in the College of Agricultural Sciences and Natural Resources. Students must complete all degree requirements from a single catalog year. The catalog which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

**Learning Outcomes**

Graduates of Grassland Systems will be able to:

1. Plan and manage for multiple ecosystem services, including livestock production, wildlife habitat, biodiversity, and conservation on private and public grasslands.
2. Describe the interrelationships of ecological factors and processes with an emphasis on vegetation, fire, grazing animals, economics, and wildlife.
3. Critically analyze management systems, integrate a wide range of interrelated inputs and disciplines into a single process or system, and make decisions based on properly-collected information and sound reasoning and communicate them effectively to peers and stakeholders.

Grassland Ecology and Management graduates will be able to:

1. Conduct grassland surveys, use ecological site descriptions, develop prescriptions for grazing, prescribed fire and vegetation management, design grassland plantings, use current geospatial technologies, analyze quantitative field data, and interpret results of data analyses.
2. Use ecological principles to analyze and interpret the interactions of the plant, animal, soil, climate, and economic aspects of prairies and rangelands.
3. Integrate conservation strategies that ensure sustained productivity and resilience of grasslands with livestock production, recreation and other grassland-based enterprises.
4. Develop a comprehensive management plan for a unit of private or public grassland, including both ecological and economic considerations. Use decision support tools and technologies to develop and analyze management systems and strategies.

**Major Requirements**

Grassland Systems Core Requirements (shared by both options)

**College Integrative Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIL 101</td>
<td>Science and Decision-Making for a Complex World</td>
<td>3</td>
</tr>
</tbody>
</table>

**Mathematics and Statistics (beyond college algebra) (ACE 3)**

Select at least 5-6 hours from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 102</td>
<td>Trigonometry</td>
</tr>
<tr>
<td>MATH 103</td>
<td>College Algebra and Trigonometry I</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Applied Calculus (ACE 3)</td>
</tr>
<tr>
<td>MATH 106</td>
<td>Calculus I (ACE 3)</td>
</tr>
<tr>
<td>STAT 218</td>
<td>Introduction to Statistics (ACE 3)</td>
</tr>
</tbody>
</table>

**Communications**

Select one Written Communication (ACE 1) course from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 150</td>
<td>Writing and Inquiry</td>
</tr>
<tr>
<td>ENGL 151</td>
<td>Writing and Argument</td>
</tr>
<tr>
<td>ENGL 254</td>
<td>Writing and Communities</td>
</tr>
<tr>
<td>JGEN 120</td>
<td>Basic Business Communication</td>
</tr>
<tr>
<td>JGEN 200</td>
<td>Technical Communication I</td>
</tr>
<tr>
<td>JGEN 300</td>
<td>Technical Communication II</td>
</tr>
</tbody>
</table>

Select one Oral Communication (ACE 2) course from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEC 102</td>
<td>Interpersonal Skills for Leadership</td>
</tr>
<tr>
<td>COMM 101</td>
<td>Communication in the 21st Century</td>
</tr>
<tr>
<td>COMM 209</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>COMM 210</td>
<td>Communicating in Small Groups</td>
</tr>
<tr>
<td>COMM 215</td>
<td>Visual Communication</td>
</tr>
<tr>
<td>COMM 283</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>COMM 286</td>
<td>Business and Professional Communication</td>
</tr>
<tr>
<td>MRKT 257</td>
<td>Sales Communication</td>
</tr>
<tr>
<td>NRES 301</td>
<td>Environmental Communication Skills</td>
</tr>
<tr>
<td>TMFD 121</td>
<td>Visual Communication with Animation</td>
</tr>
<tr>
<td>ALEC 202</td>
<td>Foundations of Leadership Theory and Practice</td>
</tr>
<tr>
<td>ALEC 207 / ADPR 207</td>
<td>Communicating Science with Public Audiences</td>
</tr>
<tr>
<td>ALEC 302</td>
<td>Dynamics of Effective Leadership in Organizations</td>
</tr>
<tr>
<td>ALEC 305</td>
<td>Presentation Strategies to Communicate Agricultural and Environmental Sciences</td>
</tr>
<tr>
<td>ALEC 350</td>
<td>Agriculture, the Environment &amp; Science in the Media</td>
</tr>
<tr>
<td>MNGT 311</td>
<td>Leadership, Communication and Teams</td>
</tr>
</tbody>
</table>

**Select one Communications and Interpersonal Skills elective course from the following:**

Any course from the above listings not used to fulfill the ACE 1 or ACE 2 requirements.

- ALEC 202: Foundations of Leadership Theory and Practice
- ALEC 207 / ADPR 207: Communicating Science with Public Audiences
- ALEC 302: Dynamics of Effective Leadership in Organizations
- ALEC 305: Presentation Strategies to Communicate Agricultural and Environmental Sciences
- ALEC 350: Agriculture, the Environment & Science in the Media
- MNGT 311: Leadership, Communication and Teams

**Natural Sciences**

Select one of the following: (ACE 4)

- CHEM 105A: Chemistry in Context I
- CHEM 105L: and Chemistry in Context I Laboratory
- CHEM 106A: and Chemistry in Context II
- CHEM 106L: and Chemistry in Context II Laboratory
- CHEM 109A: General Chemistry I
- CHEM 109L: and General Chemistry I Laboratory
- CHEM 110A: and General Chemistry II
- CHEM 110L: and General Chemistry II Laboratory

Select one of the following: 4-5

- AGST 109: Physical Principles in Agriculture and Life Sciences
- PHYS 141: Elementary General Physics I
- PHYS 151: Elements of Physics

**Grassland Systems**

- AECN 141: Introduction to the Economics of Agriculture (ACE 6)
- PLAS 153 / SOIL 153: Soil Resources
- PLAS 215: Genetics
- PLAS 245 / NRES 245: Introduction to Grassland Ecology and Management
- PLAS 440 / GRAS 440 / NRES 440 / RNGE 440: Great Plains Ecosystem

Select one course each from ACE outcomes 5, 7, 8, and 9 12

**Credit Hours Subtotal:** 62

**Total Credit Hours:** 62

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1. If MATH 103 is taken, only 2 hours can be counted toward this requirement.
ASCI 451 / PLAS 445 / GRAS 445 / RNGE 445  
Livestock Management on Range and Pasture (ACE 10)  

Natural Sciences  
Select one CASNR approved life science from the following:  
- PLAS 131 & PLAS 132: Plant Science and Agronomic Plant Science Laboratory  
- BIOS 101 & BIOS 101L: General Biology and General Biology Laboratory  
- LIFE 120 & LIFE 120L: Fundamentals of Biology I and Fundamentals of Biology I laboratory  

Credit Hours Subtotal: 7

Specific Major Requirements  
Livestock Systems  
- AECN 201: Farm and Ranch Management  
- AECN 235 / MRKT 235: Introduction to Commodity Marketing  
- PLAS 240 / GRAS 240 / RNGE 240: Forage Crop and Pasture Management  
- ASCI 100 & ASCI 100L: Fundamentals of Animal Biology and Industry and Fundamentals of Animal Biology and Industry Laboratory  
- ASCI 240: Anatomy and Physiology of Domestic Animals  
- ASCI 320: Animal Nutrition and Feeding  
- ASCI 330: Animal Breeding and Genetics  
- ASCI 341: Physiology and Management of Reproduction  

Agricultural Economics Electives  
Select one course in two of the following three areas:  
- AECN 325 / MRKT 325: Marketing of Agricultural Commodities  
- AECN 401: Advanced Farm Management and Linear Programming  
- AECN 435: Advanced Agricultural Marketing Management  

Agricultural Financial Analysis:  
- AECN 301: Farm Accounting, Analysis, and Tax Management  
- AECN 452: Agricultural Finance  
- AECN 453: Agricultural and Rural Property Appraisal  

Natural Resources, Policy, and Legal Environment:  
- AECN 256: Legal Aspects in Agriculture  
- AECN 265 / NREE 265: Resource and Environmental Economics I  
- AECN 345: Policy Issues in Agriculture and Natural Resources  
- AECN 357 / NREE 357: Natural Resource and Environmental Law  

AECN 445 / NREE 445: Agricultural and Natural Resource Policy Analysis  
AECN 465 / NREE 465 / WATS 465: Resource and Environmental Economics II  

Credit Hours Subtotal: 35

Internship  
- GRAS 490: Internship Experience in Grazing Livestock Systems (planning)  
- GRAS 490: Internship Experience in Grazing Livestock Systems  

Credit Hours Subtotal: 4

Free Electives  
Select 9-12 hours  

Credit Hours Subtotal: 12

Total Credit Hours: 58

Requirements for Minors Offered by Department  

Grazing Livestock Systems Minor  

Requirements  
- AECN 201: Farm and Ranch Management  
- PLAS 240 / GRAS 240 / RNGE 240: Forage Crop and Pasture Management  
- ASCI 250: Animal Management  

Select a minimum of 5 hours from the following:  
- AECN 325 / MRKT 325: Marketing of Agricultural Commodities  
- AECN 401: Advanced Farm Management and Linear Programming  
- AECN 435: Advanced Agricultural Marketing Management  
- PLAS 440 / GRAS 440 / NRES 440 / RNGE 440: Great Plains Ecosystem  
- ASCI 320: Animal Nutrition and Feeding  
- ASCI 330: Animal Breeding and Genetics  
- ASCI 455: Beef Cow-Calf Management  

Credit Hours Subtotal: 18

Total Credit Hours: 18

Grassland Ecology and Management Minor  

PLAS 153 / SOIL 153: Soil Resources  
- PLAS 245 / NRES 245: Introduction to Grassland Ecology and Management  

Credit Hours Subtotal: 4

Total Credit Hours: 18
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAS 340 / GRAS 340 / RNGE 340</td>
<td>Range Management and Improvement</td>
<td>3</td>
</tr>
<tr>
<td>PLAS 440 / GRAS 440 / NRES 440 / RNGE 440</td>
<td>Great Plains Ecosystem</td>
<td>3</td>
</tr>
<tr>
<td>Select two of the following (5 hr. minimum):</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>PLAS 242 / GRAS 242 / RNGE 242</td>
<td>North American Wildland Plants</td>
<td></td>
</tr>
<tr>
<td>PLAS 442 / GRAS 442 / NRES 442 / RNGE 442</td>
<td>Wildland Plants</td>
<td></td>
</tr>
<tr>
<td>PLAS 444 / GRAS 444 / NRES 444 / RNGE 444</td>
<td>Ecosystem Monitoring and Assessment</td>
<td></td>
</tr>
<tr>
<td>NRES 438</td>
<td>Grassland Conservation: Planning and Management</td>
<td></td>
</tr>
<tr>
<td>NRES 496</td>
<td>Independent Study</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credit Hours**: 18

**PLEASE NOTE**
This document represents a sample 4-year plan for degree completion with this major. Actual course selection and sequence may vary and should be discussed individually with your college or department academic advisor. Advisors also can help you plan other experiences to enrich your undergraduate education such as internships, education abroad, undergraduate research, learning communities, and service learning and community-based learning.

### Grassland Systems - Grazing Livestock Systems

### Grassland Systems - Grassland Ecology & Management

### Career Information

*The following represents a sample of the internships, jobs and graduate school programs that current students and recent graduates have reported.*

#### Jobs of Recent Graduates
- Manager, L&L Farms - Upland, NE
- Associate, Farm Credit Services of America - Omaha, NE
- Sales and Associate, Leroy Voss - Pioneer Seed & Precision Planting - Bruning, NE
- Record Keeping Analyst, Jerry Fullerton - Cody, NE
- Elevator Superintendent Trainee, Scoular Grain Company - Venango, NE
- Data Management and Seedstock Development, Lone Creek Cattle Company - Lincoln, NE
- Cattle Operations Manager, Tri R Farms - Springview, NE
- Cattle Health Assistant, Adams Land and Cattle Co. - Broken Bow, NE
- Farmer/Rancher, Jagels Farms - Davenport, NE
- Senior Sales Associate, Tanker Main Exchange - Oklahoma City, OK

#### Internships
- Intern, Spencer Herefords - Brewster, NE
- Pen Rider, Darr Feedlot - Cozad, NE
- Intern, Ranch Practicum, University of Nebraska-Lincoln Nebraska - Lincoln, NE
- Intern, Sandhills Publishing - Lincoln, NE
- Range & Forage Science Research Assistant, University of Nebraska-Lincoln - Lincoln, NE
- Research Technician Intern, Animal Science Dept, University of Nebraska-Lincoln - Lincoln, NE
- Intern, Otter Creek Organic Farm - Avoca, WI
- Intern, Plum Thicket Farms - Gordon, NE
- Intern, Lindskov-Thiel Ranch - Isabel, SD

#### Graduate & Professional Schools
- Master's in Animal Science, West Texas A&M - Canyon, TX
- Ph.D., Ruminant Nutrition, University of Nebraska-Lincoln - Lincoln, NE