

GRAZING LIVESTOCK SYSTEMS

Description

Website: <http://gls.unl.edu>

University of Nebraska–Lincoln students pursuing the bachelor of science degree in grazing livestock systems will have the benefit of studying at a lead institution in integrative programs in animal science, range and forage science and agricultural economics. Nebraska has one of the most diverse and expansive grassland and rangeland resources in the country that supports a premiere beef industry. Grazing livestock systems students 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 grazing livestock systems (GLS) program awards scholarships annually to qualifying new and current GLS 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 studies, and 2 units of foreign language. Students must also meet performance requirements (ACT composite of 20 or higher OR combined

SAT score of 950 or higher 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. For students entering the PGA Golf Management degree program, a certified golf handicap of 12 or better (e.g., USGA handicap card) or written ability (MS Word file) equivalent to a 12 or better handicap by a PGA professional or high school golf coach is required. For more information, please visit: <http://pgm.unl.edu/requirements>.

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 foreign 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 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 insures that a student will meet the minimum curriculum requirements of the College.

Foreign Languages/Language Requirement

Two units of a foreign language are required. This requirement is usually met with two years of high school language.

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 (withdrew), 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>.

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 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
- 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 complete the Application for Degree form and provide transcripts to the Credentials Clerk, Office of the University Registrar, 107 Canfield Administration Building. Students should discuss these degree programs with their academic advisor.

Cooperative Degree Programs

Academic credit from the University and a cooperating institution is 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.

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. The University of Nebraska at Omaha (UNO) cooperates with CASNR in providing four-semester pre-agricultural sciences, pre-natural resources, pre-food science and technology, pre-

horticulture and pre-turfgrass and landscape management transfer programs.

A student enrolled in these programs may transfer all satisfactorily completed academic credits identified in the suggested program of study, and enter CASNR to study toward a degree program leading to a bachelor of science degree. The total program would require a minimum of four years or eight semesters (16 credit hours/semester or 120 credit hours).

Nebraska CASNR faculty teach horticulture and food science and technology courses at UNO to assist an urban population in better understanding the food processing, horticulture, and landscape horticulture industries.

For more information, contact the CASNR Dean's Office, 800-472-8800, ext. 2541.

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 CASNR¹ (>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 UNL and participate in prior-approved education abroad programs. University of Nebraska–Lincoln open enrollment and summer independent study courses count toward residence.

¹ Includes courses taught by CASNR faculty through interdisciplinary prefixes (e.g., LIFE, MBIO, ENVR, SCIL, EAEP, HRTM, ENSC) and CASNR crosslisted courses taught by non-CASNR faculty.

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 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. 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 Nebraska 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 grazing livestock 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. Conduct a survey of the range and pasture resources of a livestock operation, including plant identification, range and pasture condition

determination, site classification, and degree of plant and pasture utilization.

4. Analyze and interpret the forage, animal, and economic aspects of a ranch unit, including mapping of pastures and physical facilities.
5. Integrate range and pasture improvements such as grazing systems, range seeding, weed control, and hay and supplemental forage management with livestock management such as breeding systems, nutrition, insect, and disease control.
6. Develop a comprehensive management plan including marketing strategies and economic analysis for the ranch unit. Use computer-based decision support tools to develop and evaluate management strategies/systems for livestock enterprises.
7. 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.

Major Requirements

Core Requirements

College Integrative Courses

SCIL 101	Science and Decision-Making for a Complex World	3
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ASCI 451 / AGRO 445 / RNGE 445	Livestock Management on Range and Pasture (capstone)	3
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Mathematics and Statistics (beyond college algebra) (ACE 3)

Select 5 hours of the following: 5

MATH 102	Trigonometry	
MATH 103	College Algebra and Trigonometry ¹	
MATH 104	Applied Calculus	
MATH 106	Calculus I	
STAT 218	Introduction to Statistics	

Communications

Select one written communication (ACE 1) course of the following: 3

ENGL 150	Writing and Inquiry	
ENGL 151	Writing and Argument	
ENGL 254	Writing and Communities	
JGEN 120	Basic Business Communication	
JGEN 200	Technical Communication I	
JGEN 300	Technical Communication II	

Select one oral communication (ACE 2) course of the following: 3

ALEC 102	Interpersonal Skills for Leadership	
COMM 101	Communication in the 21st Century	
COMM 209	Public Speaking	
COMM 210	Communicating in Small Groups	
COMM 215	Visual Communication	
COMM 283	Interpersonal Communication	
COMM 286	Business and Professional Communication	
JGEN 300	Technical Communication II	
MRKT 257	Sales Communication	

TMFD 121	Visual Communication and Presentation	
Select one communications and interpersonal skills elective course of the following:		3

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 to Public Audiences	
ALEC 302	Dynamics of Effective Leadership in Organizations	
ALEC 305	Presentation Strategies for Agricultural Audiences	
ALEC 350	Agriculture, the Environment & Science in the Media	
ALEC 480	Capstone Experience in Agricultural and Environmental Sciences Communication	
COMM 212	Debate	
COMM 325	Interviewing	
JGEN 103	Media Literacy	
JGEN 120	Basic Business Communication	
MNGT 311	Leadership, Communication and Teams	
MNGT 365	Managing Diversity in Organizations	

Natural Sciences

AGRO 215 / HORT 215 / TLMT 215	Genetics	4
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Select one CASNR approved life sciences sequence of the following: 4

AGRO 131 / HORT 131 & AGRO 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	
Select one of the following: (ACE 4)		8-12

CHEM 105 & CHEM 106	Chemistry in Context I and Chemistry in Context II	
CHEM 109 & CHEM 110 & CHEM 251 & CHEM 253	General Chemistry I and General Chemistry II and Organic Chemistry I and Organic Chemistry I Laboratory	

Select one of the following: 4-5

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

Economics, Humanities and Social Sciences

AECN 141	Introduction to the Economics of Agriculture (ACE 6)	3
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Select one course each from ACE outcomes 5, 7, 8, and 9 12

Credit Hours Subtotal: 56

Specific Major Requirements

Agricultural Sciences

ASCI 100 & ASCI 100L	Fundamentals of Animal Biology and Industry and Fundamentals of Animal Biology and Industry Laboratory	4
ASCI 240	Anatomy and Physiology of Domestic Animals	4
ASCI 320	Animal Nutrition and Feeding	3
ASCI 330	Animal Breeding and Genetics	4
ASCI 341	Physiology and Management of Reproduction	4
AGRO 153 / HORT 153 / SOIL 153	Soil Resources	4
AGRO 240 / RNGE 240	Forage Crop and Pasture Management	3
AGRO 245 / NRES 245	Introduction to Grassland Ecology and Management	3
AGRO 340 / RNGE 340	Range Management and Improvement	3
AGRO 440 / RNGE 440 / NRES 440	Great Plains Ecosystem	3
AECN 201	Farm and Ranch Management	4
AECN 235	Introduction to Commodity Marketing	3
<i>AECN Electives</i>		
Select one course in two of the following three blocks: 6		
Farm Management & Marketing:		
AECN 301	Farm Accounting, Analysis, and Tax Management	
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, & 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:		48

Internship

GRAS 490	Internship Experience in Grazing Livestock Systems (planning)	1
GRAS 490	Internship Experience in Grazing Livestock Systems	3
Credit Hours Subtotal:		4
Free Electives		
Select 8-13 hours		8-13
Credit Hours Subtotal:		12
Total Credit Hours		120

¹ If MATH 103 is taken, only 2 credit hours can be counted toward this requirement.

NOTE: Students interested in federal employment in range management must take AGRO 442/RNGE 442 Wildland Plants and AGRO 444/RNGE 444 Ecosystem Monitoring and Assessment.

Requirements for Minor Offered by Department

Requirements

AECN 201	Farm and Ranch Management	4
AGRO 240 / RNGE 240	Forage Crop and Pasture Management	3
ASCI 250	Animal Management	3
ASCI 451 / AGRO 445 / RNGE 445	Livestock Management on Range and Pasture	3
Select a minimum of 5 hours from the following:		5
AGRO 340 / RNGE 340	Range Management and Improvement	
AGRO 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	
AECN 325 / MRKT 325	Marketing of Agricultural Commodities	
AECN 401	Advanced Farm Management and Linear Programming	
AECN 435	Advanced Agricultural Marketing Management	
Credit Hours Subtotal:		18
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.

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, UNL Nebraska Ranch Practicum - NE
- Intern, Sandhills Publishing - Lincoln NE
- Range & Forage Science Research Assistant, UNL Range and Forage Science - Lincoln NE
- Research Technician Intern, UNL Animal Science Dept - Lincoln NE
- Intern, Otter Creek Organic Farm - Avoca WI
- Intern, Plum Thicket Farms - Gordon NE
- Intern, Lindskov-Thiel Ranch - Isabel SD

Graduate & Professional Schools

- M.S. in Animal Science, West Texas A&M - Canyon TX
- Ph.D. Ruminant Nutrition, University of Nebraska - Lincoln - Lincoln NE