ANIMAL SCIENCE

Description

General Information
The field of animal science encompasses the sciences related to animals and their contributions and interactions with humans. This program is designed particularly for students who are interested in pursuing careers associated with the livestock, poultry, meat and companion animal industries. The core curriculum gives students a balanced education in animal science, biological sciences, physical sciences, mathematics, communications, and humanities and social sciences.

Options

Each animal science student studies a core curriculum that provides a comprehensive look at animal biological systems, use of animal products, and current issues and careers in the animal industries. In addition to the core, there are seven different options from which students can choose an area of focus which meets their own individual interests and career objectives. These options include: Animal Biology & Biotechnology; Food Animal Production & Management; Business & Communications; Companion Animal Science; Equine Science; Meat Science; and Veterinary Animal Science.

Midwest Poultry Consortium

Students interested in any aspect of poultry science or avian biology may earn up to 24 credits through the Midwest Poultry Consortium's Undergraduate Center of Excellence in Madison, WI. The credits may be applied toward an animal science degree from the University of Nebraska. Further details are available from the Department of Animal Science.

3+2 year Veterinary Medicine/Animal Science B.S. Degree

Students pursuing a DVM degree at an accredited college of veterinary medicine may obtain a BS degree in animal science, granted by the University of Nebraska, upon successful completion of the first two years of the curriculum in veterinary medicine. To be eligible, students must have completed at least 90 credit hours of pre-professional courses, completed all Achievement-Centered Education course requirements and 20 credit hours in animal science courses at the University of Nebraska. 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, UNL. Students should discuss the program with their academic advisor.

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 UNL, or within the first calendar year at UNL, whichever takes longer, excluding foreign languages. Students have up to 60 credit hours to remove foreign language deficiencies. College-level course work 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.

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.
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.

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 is the maximum number of hours UNL will accept on transfer from a two-year college. Ninety is the maximum number of hours UNL 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 UNL 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 UNL.

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 UNL 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 UNL, 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 UNL 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, UNL. Students should discuss these degree programs with their academic advisor.

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

UNL Degree-Granting Programs
A UNL 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 Keamery.** 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).

UNL 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 UNL Degree-Granting Programs**

The CASNR cooperates with other institutions to provide course work that is applied towards a degree at the cooperating institution. Preprofessional programs offered by CASNR allow students to complete the first two or three years of a degree program at UNL 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 course work at Chadron State College and one year of specialized range science course work (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 UNL credits. At least 18 of the 30 credit hours must be in courses offered through CASNR\(^1\) (>299) including the appropriate ACE 10 degree requirement or an approved ACE 10 substitution offered through another UNL 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. UNL open enrollment and summer independent study courses count toward residency.

\(^1\) 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 course work under supervision and evaluation of a departmental faculty member.

**ACE Requirements**

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

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 UNL 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 UNL 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**

Majors in animal science will be able to:

1. Understand the biology and chemistry of the life sciences and apply the principles to animal nutrition, growth, reproduction, genetics and management of animals and their products.
2. Develop animal nutrition, growth, reproduction, genetics and management recommendations related to the specific animal or animal product in the career paths related to their selected option.
3. Propose solutions to problems in the production and/or management of animals or the animal products specific to their option.
4. Produce professional oral and written communications needed in the careers related to their specific option.

**Major Requirements**

**Major Core Requirements**

The following basic courses are required for majors in animal science. In addition, students must select and meet the requirements of one of the animal science options, depending on their own individual interests and career objectives.

**College Integrative Course (ACE 8)**

<table>
<thead>
<tr>
<th>SCIL 101</th>
<th>Science and Decision-Making for a Complex World</th>
<th>3</th>
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</table>

Credit Hours Subtotal: 3

**Departmental Requirements**
Animal Science Major Orientation Seminar 0
Fundamentals of Animal Biology and Industry and Fundamentals of Animal Biology and Industry Laboratory 4
Professional Development for Careers in Animal Science 1
Animal Nutrition and Feeding 3
Animal Breeding 4
Animal Science Seminar 1
Livestock Management on Range and Pasture 3
General Genetics 1
General Biology and General Biology Laboratory 4
General Biology and General Biology Laboratory 2
Genetics 1
Introduction to Statistics and Trigonometry 3
Applied Calculus and Introduction to Statistics
Calculus I
Interpersonal Communication
Business and Professional Communication
Technical Communication II
Sales Communication
Visual Communication and Presentation
Writing and Inquiry
Writing and Argument
Writing and Communities
Basic Business Communication
Technical Communication I
Technical Communication II
Livestock Management on Range and Pasture
General Genetics
General Biology
General Biology Laboratory
Fundamentals of Biology I
Fundamentals of Biology I laboratory
Experiential Learning for Career Development in Animal Sciences - Industry Experiences
Experiential Learning for Career Development in Animal Sciences - Undergraduate Teaching Experience
Experiential Learning for Career Development in Animal Sciences - Industry Experiences
Experiential Learning for Career Development in Animal Sciences - Undergraduate Teaching Experience
Experiential Learning for Career Development in Animal Sciences - Industry Experiences
Experiential Learning for Career Development in Animal Sciences - Undergraduate Teaching Experience
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
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<tbody>
<tr>
<td>ASCI 419 /</td>
<td>Meat Investigations</td>
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<tr>
<td>FDST 419</td>
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<tr>
<td>ASCI 490A</td>
<td>Animal Science Internship - Beeflot</td>
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<td></td>
<td>Feedlot Management</td>
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<tr>
<td>ASCI 499H</td>
<td>Honors Thesis</td>
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<tr>
<td>GRAS 490</td>
<td>Internship Experience in Grazing</td>
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<td></td>
<td>Livestock Systems</td>
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<tr>
<td>AECN 495A</td>
<td>Internship in Agricultural</td>
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<td></td>
<td>Financing and Banking</td>
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<td>AECN 495B</td>
<td>Internship in Food Products</td>
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<td></td>
<td>Marketing Management</td>
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<tr>
<td>AECN 495C</td>
<td>Internship in Agricultural and</td>
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<td></td>
<td>Public Policy</td>
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<tr>
<td>EAEP 395</td>
<td>Agribusiness Entrepreneurship</td>
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<tr>
<td></td>
<td>Internship</td>
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<tr>
<td>ASCI 311A</td>
<td>Equine Industry Study Tour</td>
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<tr>
<td>ASCI 311B</td>
<td>Meat Industry Study Tour</td>
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<tr>
<td>ASCI 311D</td>
<td>Pork Industry Study Tour</td>
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<tr>
<td>ASCI 311E</td>
<td>Beef Industry Study Tour</td>
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<tr>
<td>AGRI 310</td>
<td>Study Tours in International</td>
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<td></td>
<td>Agriculture</td>
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<tr>
<td>ASCI 300A</td>
<td>Principles of Meat Evaluation,</td>
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<td>Grading and Judging</td>
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<tr>
<td>ASCI 300B</td>
<td>Principles of Livestock Evaluation</td>
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<td></td>
<td>and Judging</td>
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<tr>
<td>ASCI 300D</td>
<td>Principles of Meat Animal</td>
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<td></td>
<td>Evaluation</td>
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<td>ASCI 300E</td>
<td>Principles of Horse Evaluation</td>
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<td>and Judging</td>
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<tr>
<td>ASCI 400A</td>
<td>Advanced Meat Grading and</td>
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<td>Evaluation and Judging</td>
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<td>ASCI 400B</td>
<td>Advanced Livestock Evaluation</td>
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<td>and Judging</td>
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<tr>
<td>ASCI 400E</td>
<td>Advanced Horse Evaluation</td>
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<td>and Judging</td>
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<tr>
<td>ASCI 361</td>
<td>Equestrian Team Horsemanship/Equitation</td>
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<tr>
<td>AGRI 456</td>
<td>Beef Cattle Merchandising</td>
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<td>AGRI 481</td>
<td>Beef Industry Scholars - Beef</td>
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<td>Summit</td>
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<tr>
<td>AGRI 482 /</td>
<td>Beef Industry Scholars - National</td>
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<td>AECN 482</td>
<td>Beef</td>
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<td>Industry Policy</td>
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<tr>
<td>AGRI 388 /</td>
<td>Employment Seminar</td>
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<td>NRES 388</td>
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<td>AGRI 389</td>
<td>Agricultural Concerns Seminar</td>
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<tr>
<td>Academic Quadrathon</td>
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Credit Hours Subtotal: 4

<table>
<thead>
<tr>
<th>Total ASCI Core Requirements</th>
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<tr>
<td>57-62</td>
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### Option Requirements

<table>
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<tr>
<th>Credit Hours Subtotal: 58</th>
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<tr>
<th>Total Credit Hours</th>
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<tr>
<td>120</td>
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1. BIOS 206 General Genetics requires both LIFE 120 Fundamentals of Biology I and LIFE 120L Fundamentals of Biology I laboratory and LIFE 121 Fundamentals of Biology II and LIFE 121L Fundamentals of Biology II Laboratory as prerequisites.

2. Students enrolled in the Biology or Veterinary Option are required to take LIFE 120 Fundamentals of Biology I and LIFE 120L Fundamentals of Biology I laboratory.

3. Proficiency at the college algebra level must be demonstrated either by a placement exam or through college course work. If MATH 103 College Algebra and Trigonometry is taken instead of MATH 102 Trigonometry, only 2 credit hours can be counted toward this requirement.

4. Students in the Veterinary Animal Sciences Option must take PHYS 141 Elementary General Physics I as a required course for admittance to the ISU CVM.

5. Pre-veterinary students should check that the selected course will fulfill their college of veterinary medicine admissions requirements.

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

7. Students completing the Business and Communications Option are required to take ALEC 202 Foundations of Leadership Theory and Practice or MNGT 311 Leadership, Communication and Teams.

8. Four (4) credits of experiential learning are required for each of the Animal Science Options. Students may select the 4 credits from any combination of courses in the following list.

9. A pre-experience learning plan must be completed and approved before the experience begins and an oral or poster presentation is required.

10. Part of the Nebraska Beef Industry Scholars Minor.

11. By permission or invitation only; these are intercollegiate competitive teams.

12. With enrollment in ASCI 496 Independent Study in Animal Science

### Also, select one of the following options:

#### Animal Biology and Biotechnology Option

This option is designed for students considering careers that deal with basic biological principles of animals and birds. Through careful use of electives, students can develop an emphasis in genetics, growth and muscle biology, nutrition, or physiology as they establish a basic background in biological principles and develop molecular and biotechnology laboratory skills. Completion of this option provides excellent preparation for graduate study, other professional programs including medical or dental school, and many other research-based careers.

<table>
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<tr>
<th>Departmental Requirements</th>
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<tbody>
<tr>
<td>ASCI 210 Animal Products</td>
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<tr>
<td>or ASCI 315 Animal Growth and Development</td>
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<tr>
<td>ASCI 340 Animal Physiological Systems</td>
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<tr>
<td>ASCI 341 Physiology and Management of</td>
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<tr>
<td>Reproduction</td>
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Select 14 credits of the following:

<table>
<thead>
<tr>
<th>Total Credit Hours</th>
<th>14</th>
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| ASCI 421 Advanced Animal Nutrition |
| ASCI 431 Advanced Animal Breeding  |
| ASCI 441 New Techniques in Reproductive Biology |
| ASCI 432 Genome Analysis          |
| ASCI 442 / BIOS 442 Endocrinology  |
| ASCI 443 Physiology of Animal Cells and Tissues |
| BIOS 432 / CHEM 432 Metabolism and Biological Information |
BIOC 433 / BIOS 433 / CHEM 433: Biochemistry Laboratory
BIOC 437 / BIOS 437: Research Techniques in Biochemistry
BIOC 442 / STAT 442: Computational Biology
BIOS 420 / MBIO 420: Molecular Genetics
BIOS 440 / MBIO 440: Microbial Physiology
BIOS 443 / MBIO 443: Immunology

Credit Hours Subtotal: 25

Natural Science
CHEM 109: General Chemistry I 4
CHEM 110: General Chemistry II 4
CHEM 251 & CHEM 253: Organic Chemistry I and Organic Chemistry I Laboratory 4
CHEM 252: Organic Chemistry II 3
BIOC 431 / BIOS 431 / CHEM 431: Structure and Metabolism 3
LIFE 121 & LIFE 121L: Fundamentals of Biology II and Fundamentals of Biology II Laboratory 4
BIOS 312 & BIOS 314: Microbiology and Microbiology Laboratory 4

Credit Hours Subtotal: 26

Total ASCI Core Requirements
Complete requirements: 57-62
Credit Hours Subtotal: 62

Option Requirements
Complete requirements: 51
Credit Hours Subtotal: 0

Free Electives
Select 7-12 hours 1 7-12
Credit Hours Subtotal: 7

Total Credit Hours: 120

1 Students planning to apply for post-graduate or professional programs should consult their academic advisor for specific program requirements.

Business and Communications Option
This option is designed for students considering careers with companies, financial institutions, government agencies, and other business entities that support the livestock production and processing industries. Through careful use of electives, students may receive minors in other business-related programs and develop specific expertise for positions in management, marketing, and public relations. Completion of this option provides students with a solid background in both animal science and business.

Departmental Requirements
ASCI 210: Animal Products 3
or ASCI 315: Animal Growth and Development
ASCI 240: Anatomy and Physiology of Domestic Animals 4
or ASCI 340: Animal Physiological Systems
ASCI 341: Physiology and Management of Reproduction 4
Select one of the following: 2-3
ASCI 200: Animal and Carcass Evaluation
ASCI 250: Animal Management
ASCI 251: Introduction to Companion Animals
ASCI 252: Introduction to the Horse Industry and Management
ASCI 254: Basic Swine Science
ASCI 271: Companion Animal Behavior
Select 4 credits of 300- and 400-level ASCI courses of the following: 4
ASCI 310: Fresh Meats
ASCI 315: Animal Growth and Development
ASCI 321: Companion Animal Nutrition
ASCI 322: Equine Nutrition
ASCI 342: Equine Reproduction
ASCI 354A: Swine Breeding & Gestation 1
ASCI 354B: Swine Farrowing Management 1
ASCI 354D: Swine Nursery Management 1
ASCI 354E: Employee Management for Swine Industry 1
ASCI 354F: Swine Environment Management 1
ASCI 370: Animal Welfare
ASCI 410: Processed Meats
ASCI 411: HACCP and Food Safety Systems for the Food Industry
ASCI 421: Advanced Animal Nutrition
ASCI 422: Advanced Feeding and Feed Formulation
ASCI 431: Advanced Animal Breeding
ASCI 432: Genome Analysis
ASCI 441: New Techniques in Reproductive Biology
ASCI 442: Endocrinology
ASCI 443: Physiology of Animal Cells and Tissues
ASCI 450: Horse Management
ASCI 453: Dairy Management
ASCI 455: Beef Cow-Calf Management
ASCI 457: Beef Feedlot Management

Credit Hours Subtotal: 17-18

Natural Sciences
Chemistry
Select from either of the following two chemistry series: 2 8-12
Series I:
CHEM 105: Chemistry in Context I
or CHEM 106: General Chemistry I
CHEM 106: Chemistry in Context II
Series II:
CHEM 109 & CHEM 110: General Chemistry I and General Chemistry II
CHEM 251 & CHEM 253: Organic Chemistry I and Organic Chemistry I Laboratory

Credit Hours Subtotal: 8
Business Courses

ACCT 200  Accounting for Business Decisions 3
or ACCT 201  Introductory Accounting I

Select a minimum of four courses representing at least three of the following four areas: 12

Finance

AECN 301  Farm Accounting, Analysis, and Tax Management
AECN 420  International Food and Agricultural Trade
AECN 452  Agricultural Finance
AECN 453  Agricultural and Rural Property Appraisal
ECON 303  An Introduction to Money and Banking
ENTR 275 / AECN 275 / AGRO 275 / EAEF 275 / HORT 275  Agribusiness Entrepreneurial Finance
ENTR 388 / ABUS 388 / AGRO 388 / EAEF 388 / HORT 388  Agribusiness Entrepreneurship
FINA 260  Personal Finance
FINA 300  Financial Decision Making

Management

AECN 201  Farm and Ranch Management
AECN 265 / NREE 265  Resource and Environmental Economics I
AECN 316  Agribusiness Management
AECN 401  Advanced Farm Management and Linear Programming
AECN 416  Advanced Agribusiness Management
ENTR 121 / MNGT 121  Introduction to Entrepreneurial Management
ENTR 321 / MNGT 321  Entrepreneurship and Innovation in Organizations
ENTR 322 / MNGT 322  Family Business
MNGT 300  Management Essentials For Contemporary Organizations
MNGT 360  Managing Behavior in Organizations
MNGT 361  Human Resource Management
SCMA 331  Operations and Supply Chain Management

Marketing

AECN 225 / EAP 225 / MKT 225  Agribusiness Entrepreneurship in Food Products Marketing
AECN 235  Introduction to Commodity Marketing
AECN 325 / MKT 325  Marketing of Agricultural Commodities
AECN 336  Grain Merchandising
AECN 425  Agricultural Marketing in a Multinational Environment
AECN 435  Advanced Agricultural Marketing Management
AECN 436  Commodity Price Forecasting
ENTR 388 / ABUS 388 / AGRO 388 / EAEF 388 / HORT 388  Agribusiness Entrepreneurship
MRKT 300  Contemporary Marketing
MRKT 341 / ABUS 341  Marketing
MRKT 345  Market Research
MRKT 346 / SCMA 346  Marketing Channels Management
MRKT 347  Marketing Communication Strategy
MRKT 350  Marketing Analytics
MRKT 425  Retailing Management

Law

AECN 256  Legal Aspects in Agriculture
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 456 / NREE 456  Environmental Law
AECN 457 / NREE 457 / WATS 457  Water Law
BLAW 300  Business, Government & Society
BLAW 371  Legal Environment

Credit Hours Subtotal: 15

Business Communications and Leadership

Animal Science Core, Communications & Interpersonal Skills
AECN 202  Foundations of Leadership Theory and Practice 3
or MNGT 311  Leadership, Communication and Teams

Additional Communication & Leadership Courses

Select one of the following: 3

AECN 302  Dynamics of Effective Leadership in Organizations
MNGT 365  Managing Diversity in Organizations
AECN 305  Presentation Strategies for Agricultural Audiences

Credit Hours Subtotal: 6

Total ASCI Core Requirements

Complete requirements: 57-62
Credit Hours Subtotal: 62

Option Requirements

Complete requirements: 46-51
Credit Hours Subtotal: 0

Free Electives

Select 7-17 credits 4
Credit Hours Subtotal: 12

Total Credit Hours: 120-121
1 Enrollment in these Swine Science online courses requires completion of ASCI 254 Basic Swine Science.

2 Chemistry Series I does not provide adequate preparation for advanced chemistry or graduate school within the life sciences. If you desire this advanced training, Series II is recommended.

3 Must meet Business Qualified prerequisites.

4 Students are encouraged to consult the Undergraduate Catalog for details regarding agribusiness and agricultural economics minors.

**Companion Animal Science Option**

Designed for students with a specific interest in companion animals. For students interested in pursuing a career in the companion animal industry, this option provides an overview of the general animal sciences in combination with concentrated study of animal behavior and human interactions along with companion animal breeding and genetics, nutrition, reproduction, care and management.

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 240</td>
<td>Anatomy and Physiology of Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>or ASCI 340</td>
<td>Animal Physiological Systems</td>
<td></td>
</tr>
<tr>
<td>Select one animal management course of the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ASCI 250</td>
<td>Animal Management</td>
<td></td>
</tr>
<tr>
<td>ASCI 251</td>
<td>Introduction to Companion Animals</td>
<td></td>
</tr>
<tr>
<td>ASCI 252</td>
<td>Introduction to the Horse Industry and Management</td>
<td></td>
</tr>
<tr>
<td>ASCI 341</td>
<td>Physiology and Management of Reproduction</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 321</td>
<td>Companion Animal Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Select a minimum of 7 credits of the following:</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>FDST 107 / ASCI 107</td>
<td>Introduction to the Companion Animal Food Industry</td>
<td></td>
</tr>
<tr>
<td>ASCI 171</td>
<td>Human-Companion Animal Interactions</td>
<td></td>
</tr>
<tr>
<td>ASCI 210</td>
<td>Animal Products</td>
<td></td>
</tr>
<tr>
<td>ASCI 271</td>
<td>Companion Animal Behavior</td>
<td></td>
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<tr>
<td>ASCI 315</td>
<td>Animal Growth and Development</td>
<td></td>
</tr>
<tr>
<td>ASCI 322</td>
<td>Equine Nutrition</td>
<td></td>
</tr>
<tr>
<td>ASCI 342</td>
<td>Equine Reproduction</td>
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</tr>
<tr>
<td>ASCI 370</td>
<td>Animal Welfare</td>
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</tr>
<tr>
<td>BIOS 462</td>
<td>Animal Behavior</td>
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<tr>
<td>NRES 211</td>
<td>Introduction to Conservation Biology</td>
<td></td>
</tr>
<tr>
<td>NRES 220 / BIOS 220 &amp; NRES 222 / BIOS 222</td>
<td>Principles of Ecology and Ecology Laboratory</td>
<td></td>
</tr>
<tr>
<td>NRES 311</td>
<td>Wildlife Ecology and Management</td>
<td></td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: 21

**Natural Sciences**

**Chemistry**

Select from either of the following two chemistry series: 1

**Series I:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 105</td>
<td>Chemistry in Context I</td>
<td></td>
</tr>
<tr>
<td>or CHEM 109</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHEM 106</td>
<td>Chemistry in Context II</td>
<td></td>
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</table>

**Series II:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 109</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 110</td>
<td>and General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 251</td>
<td>Organic Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 253</td>
<td>and Organic Chemistry I Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 312</td>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>VBMS 303</td>
<td>Principles and Prevention of Livestock Diseases</td>
<td></td>
</tr>
<tr>
<td>BIOS 111</td>
<td>The Biology of Microorganisms</td>
<td>11</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: 11

**Business Courses**

Select 9 credits from the “Business Courses” category listed in the Animal Science Business Option

Credit Hours Subtotal: 9

**Total ASCI Core Requirements**

Complete requirements 57-62

Credit Hours Subtotal: 62

**Option Requirements**

Complete requirements 41-46

Credit Hours Subtotal: 0

**Free Electives**

Select 12-22 credits

Credit Hours Subtotal: 12-22

Total Credit Hours 120

1 Chemistry Series I does not provide adequate preparation for advanced chemistry or graduate school within the life sciences. If you desire this advanced training, Series II is recommended.

**Equine Science Option**

Designed for students with a specific interest in the equine area. For students interested in pursuing a career in the equine industry this option provides a combination of general animal sciences with a concentrated study of equitation, evaluation, nutrition, reproduction, and management of equine.

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 240</td>
<td>Anatomy and Physiology of Domestic Animals</td>
<td>4</td>
</tr>
<tr>
<td>or ASCI 340</td>
<td>Animal Physiological Systems</td>
<td></td>
</tr>
<tr>
<td>Select one Animal Management course of the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ASCI 250</td>
<td>Animal Management</td>
<td></td>
</tr>
<tr>
<td>ASCI 251</td>
<td>Introduction to Companion Animals</td>
<td></td>
</tr>
<tr>
<td>ASCI 252</td>
<td>Introduction to the Horse Industry and Management</td>
<td></td>
</tr>
<tr>
<td>ASCI 260</td>
<td>Basic Equitation</td>
<td></td>
</tr>
<tr>
<td>or ASCI 360</td>
<td>Advanced Equitation</td>
<td></td>
</tr>
<tr>
<td>ASCI 252</td>
<td>Introduction to the Horse Industry and Management</td>
<td></td>
</tr>
<tr>
<td>ASCI 341</td>
<td>Physiology and Management of Reproduction</td>
<td>4</td>
</tr>
<tr>
<td>Select a minimum of 7 credits of the following:</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>ASCI 210</td>
<td>Animal Products</td>
<td></td>
</tr>
<tr>
<td>ASCI 271</td>
<td>Companion Animal Behavior</td>
<td></td>
</tr>
<tr>
<td>ASCI 315</td>
<td>Animal Growth and Development</td>
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<tr>
<td>ASCI 322</td>
<td>Equine Nutrition</td>
<td></td>
</tr>
<tr>
<td>ASCI 342</td>
<td>Equine Reproduction</td>
<td></td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: 21

**Natural Sciences**

**Chemistry**

Select from either of the following two chemistry series: 1

**Series I:**

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<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>CHEM 106</td>
<td>Chemistry in Context II</td>
<td></td>
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</table>

**Series II:**

<table>
<thead>
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<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 109</td>
<td>General Chemistry I</td>
<td></td>
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<tr>
<td>&amp; CHEM 110</td>
<td>and General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 251</td>
<td>Organic Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 253</td>
<td>and Organic Chemistry I Laboratory</td>
<td></td>
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</table>

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOS 312</td>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>VBMS 303</td>
<td>Principles and Prevention of Livestock Diseases</td>
<td></td>
</tr>
<tr>
<td>BIOS 111</td>
<td>The Biology of Microorganisms</td>
<td>11</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: 11

**Business Courses**

Select 9 credits from the “Business Courses” category listed in the Animal Science Business Option

Credit Hours Subtotal: 9

**Total ASCI Core Requirements**

Complete requirements 57-62

Credit Hours Subtotal: 62

**Option Requirements**

Complete requirements 41-46

Credit Hours Subtotal: 0

**Free Electives**

Select 12-22 credits

Credit Hours Subtotal: 12-22

Total Credit Hours 120
ASCI 450 Horse Management 3
Credit Hours Subtotal: 23

Experiential Learning (From the Animal Science Core)
ASCI 300E Principles of Horse Evaluation and Judging 2
or ASCI 400E Advanced Horse Evaluation and Judging
Credit Hours Subtotal: 0

Natural Sciences
Chemistry
Select from either of the following two chemistry series: \(^1\) 8-12
Series I:
CHEM 105 Chemistry in Context I
CHEM 106 Chemistry in Context II
Series II:
CHEM 109 General Chemistry I
CHEM 110 General Chemistry II
CHEM 251 Organic Chemistry I
CHEM 253 Organic Chemistry I Laboratory
Select one of the following: 3-4
BIOS 312 Microbiology
VBMS 303 Principles and Prevention of Livestock Diseases
BIOS 111 The Biology of Microorganisms
Credit Hours Subtotal: 11

Business Courses
Select courses from the "Business Courses" category listed in the Animal Science Business Option 9
Credit Hours Subtotal: 9

Total ASCI Core Requirements
Complete requirements 57-62
Credit Hours Subtotal: 62

Option Requirements
Complete requirements 43-48
Credit Hours Subtotal: 0

Free Electives
Select 10-20 credits 10-20
Credit Hours Subtotal: 15
Total Credit Hours 120

\(^1\) Chemistry Series I does not provide adequate preparation for advanced chemistry or graduate school within the life sciences. If you desire this advanced training, Series II is recommended.

Meat Science Option
This option is designed for students seeking careers associated with the meat and food industry, including research and product development, quality assurance, food safety, fresh meat processing, meat product manufacturing, equipment and ingredient technology, and government service. Students will build a solid foundation in product characteristics, product development, production, food safety, and marketing of fresh and processed meats.

Departmental Requirements
ASCI 210 Animal Products 3

ASCI 240 Anatomy and Physiology of Domestic Animals 4
or ASCI 340 Animal Physiological Systems
ASCI 310 Fresh Meats 3
ASCI 315 Animal Growth and Development 3-4
or ASCI 341 Physiology and Management of Reproduction
ASCI 410 Processed Meats 3
ASCI 411 HACCP and Food Safety Systems for the Food Industry 3
Credit Hours Subtotal: 19

Natural Sciences
Chemistry
Select from either of the following two chemistry series: \(^1\) 8-12
Series I:
CHEM 105 Chemistry in Context I
CHEM 106 Chemistry in Context II
Series II:
CHEM 109 General Chemistry I
CHEM 110 General Chemistry II
CHEM 251 Organic Chemistry I
CHEM 253 Organic Chemistry I Laboratory
Select one of the following: 3-4
BIOS 312 Microbiology
or BIOS 111 The Biology of Microorganisms
Credit Hours Subtotal: 11-12

Supporting Courses
Select 3 credits of ASCI or FDST at 200 level or above 3
Suggested courses:
ASCI 200 Animal and Carcass Evaluation
ASCI 213 / NUTR 213 Meat Specifications and Procurement
FDST 205 Food Composition and Analysis
Select 6 credits of ASCI or FDST at 300/400 level or above 6
Suggested courses:
ASCI 300A Principles of Meat Evaluation, Grading and Judging 2
ASCI 300B Principles of Livestock Evaluation and Judging 2
ASCI 300D Principles of Meat Animal Evaluation 2
ASCI 311B Meat Industry Study Tour
ASCI 419 Meat Investigations
FDST 301 Chemistry of Food
FDST 363 Heat and Mass Transfer
FDST 372 / NUTR 372 Food Safety and Sanitation
FDST 403 Food Quality Assurance
FDST 405 / BIOS 445 Food Microbiology
FDST 406 / BIOS 446 Food Microbiology Laboratory
FDST 460 Food Product Development Concepts I
Credit Hours Subtotal: 9

Business Courses
Select 3-6 credits \(^3\) 3-6
Credit Hours Subtotal: 3

Total ASCI Core Requirements
Complete requirements 57-62
Credit Hours Subtotal: 62

Option Requirements
Complete requirements 45-48
Credit Hours Subtotal: 0

Free Electives
Select 10-18 credits 10-18
Credit Hours Subtotal: 16

Total Credit Hours 120-121

1 Chemistry Series I does not provide adequate preparation for advanced chemistry or graduate school within the life sciences. If you desire this advanced training, Series II is recommended.

2 Only one allowed for credit here.

3 If student completes CHEM Series I: Select two courses from the "Business Courses" category listed in the Animal Science Business Option (6 cr).
If student completes CHEM Series II: Select one course from the "Business Courses" category listed in the Animal Science Business Option (3 cr).

NOTE: Experiential learning courses suggested from the following:
ASCI 300A Principles of Meat Evaluation, Grading and Judging,
ASCI 301B Meat Industry Study Tour, ASCI 395A Experiential Learning for Career Development in Animal Sciences - Industry Experiences (meat section),
ASCI 400A Advanced Meat Grading and Evaluation, ASCI 419 Meat Investigations

Food Animal Production and Management Option
This option is designed for students interested in careers related to the production and management of beef cattle, dairy cattle, horses, poultry, and swine. Although students may emphasize a particular industry or production system, the option provides a balanced study of animal nutrition, meat animal products, reproductive physiology, breeding and genetics, and business management of animal production systems. Completion of this option provides excellent preparation for those wishing to be involved in production agriculture and the abundance of allied industries that support animal agriculture.

Departmental Requirements
ASCI 200 Animal and Carcass Evaluation 3
ASCI 210 Animal Products 3
or ASCI 315 Animal Growth and Development
ASCI 240 Anatomy and Physiology of Domestic Animals 4
or ASCI 340 Animal Physiological Systems
ASCI 250 Animal Management 3
or ASCI 252 Introduction to the Horse Industry and Management
ASCI 341 Physiology and Management of Reproduction 4
Select a minimum of 4 credits of ASCI Management courses of the following:
ASCI 254 Basic Swine Science
ASCI 354A Swine Breeding & Gestation
ASCI 354B Swine Farrowing Management
ASCI 354D Swine Nursery Management
ASCI 354E Employee Management for Swine Industry
ASCI 354F Swine Environment Management
ASCI 450 Horse Management
ASCI 451 Livestock Management on Range and Pasture
ASCI 453 Dairy Management
ASCI 455 Beef Cow-Calf Management
ASCI 457 Beef Feedlot Management
Select two supporting courses of the following: 6-7
ASCI 310 Fresh Meats
ASCI 370 Animal Welfare
ASCI 410 Processed Meats
ASCI 411 HACCP and Food Safety Systems for the Food Industry
ASCI 422 Advanced Feeding and Feed Formulation
ASCI 432 Genome Analysis
ASCI 441 New Techniques in Reproductive Biology
ASCI 442 Endocrinology
ASCI 443 Physiology of Animal Cells and Tissues
MSYM 342 Animal Housing Systems
MSYM 475 Water Quality Strategy
AGRO 153 / HORT 153 / SOIL 153 Soil Resources
AGRO 240 / RNGE 240 Forage Crop and Pasture Management
AGRO 245 Introduction to Grassland Ecology and Management
AGRO 340 / RNGE 340 Range Management and Improvement
AGRO 440 / NRES 440 / RNGE 440 Great Plains Ecosystem

Credit Hours Subtotal: 27

Natural Sciences
Chemistry
Select from either of the following two chemistry series: 1 8-12
Series I:
CHEM 105 Chemistry in Context I
or CHEM 109 General Chemistry I
CHEM 106 Chemistry in Context II
Series II:
CHEM 109 General Chemistry I
& CHEM 110 and General Chemistry II
CHEM 251 Organic Chemistry I
& CHEM 253 and Organic Chemistry I Laboratory
Select one of the following: 3-4
BIOS 312 Microbiology
VBMS 303 Principles and Prevention of Livestock Diseases
BIOS 111 The Biology of Microorganisms

Credit Hours Subtotal: 11-12

Business Courses
### Animal Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AECN 201</td>
<td>Farm and Ranch Management</td>
<td>4</td>
</tr>
<tr>
<td>AECN 235</td>
<td>Introduction to Commodity Marketing</td>
<td>3</td>
</tr>
<tr>
<td>AECN 256</td>
<td>Legal Aspects in Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>AECN 265</td>
<td>Resource and Environmental Economics I</td>
<td>3</td>
</tr>
<tr>
<td>AECN 301</td>
<td>Farm Accounting, Analysis, and Tax Management</td>
<td>3</td>
</tr>
<tr>
<td>AECN 325</td>
<td>Marketing of Agricultural Commodities</td>
<td>3</td>
</tr>
<tr>
<td>AECN 336</td>
<td>Grain Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>AECN 345</td>
<td>Policy Issues in Agriculture and Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>AECN 357</td>
<td>Natural Resource and Environmental Law</td>
<td>3</td>
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<tr>
<td>AECN 435</td>
<td>Advanced Agricultural Marketing Management</td>
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**Credit Hours Subtotal:** 10

### Total ASCI Core Requirements

<table>
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<tr>
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<td>Credit Hours Subtotal:</td>
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### Option Requirements

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>Complete requirements</td>
<td>48-54</td>
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<tr>
<td>Credit Hours Subtotal:</td>
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</table>

### Free Electives

Select 4-15 credits

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Hours Subtotal:</td>
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</tr>
</tbody>
</table>

**Total Credit Hours:** 120-121

1. Chemistry Series I does not provide adequate preparation for advanced chemistry or graduate school within the life sciences. If you desire this advanced training, Series II is recommended.

### Veterinary Animal Sciences Option

This option is designed for students planning a career in veterinary medicine, and provides for completion of the pre-veterinary course requirements for application to the joint University of Nebraska/Iowa State University program for the doctorate of veterinary medicine (DVM) degree. However, it can easily be adapted to meet specific requirements for other colleges of veterinary medicine. Courses in animal management, nutrition, physiology and related areas complement the foundational science courses and provide a comprehensive background for careers in veterinary medicine. Completion of the option also provides excellent preparation for graduate study or other professional programs in the biological sciences. Students admitted to veterinary college after three years of undergraduate study may earn a bachelor of science degree through a 3+2 program (three years of undergraduate study plus two years of veterinary school).

### Departmental Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 210</td>
<td>Animal Products</td>
<td>3</td>
</tr>
<tr>
<td>or ASCI 315</td>
<td>Animal Growth and Development</td>
<td></td>
</tr>
<tr>
<td>ASCI 340</td>
<td>Animal Physiological Systems</td>
<td>4</td>
</tr>
<tr>
<td>ASCI 341</td>
<td>Physiology and Management of Reproduction</td>
<td>4</td>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCI 250</td>
<td>Animal Management</td>
</tr>
<tr>
<td>ASCI 251</td>
<td>Introduction to Companion Animals</td>
</tr>
</tbody>
</table>

**Credit Hours Subtotal:** 17

### Natural Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 109</td>
<td>General Chemistry I</td>
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</tr>
<tr>
<td>CHEM 110</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 251</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 253</td>
<td>Organic Chemistry I Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 252</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

- BIOC 321   | Elements of Biochemistry                          | 3       |
- BIOC 431 / BIOS 431 / CHEM 431 | Structure and Metabolism |

**Credit Hours Subtotal:** 26

### Organicism Biology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIFE 121</td>
<td>Fundamentals of Biology II and Fundamentals of Biology II Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>&amp; LIFE 121L</td>
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<td></td>
</tr>
<tr>
<td>BIOS 312</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; BIOS 314</td>
<td>Microbiology Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHYS 141</td>
<td>Elementary General Physics I</td>
<td>5</td>
</tr>
</tbody>
</table>

**Credit Hours Subtotal:** 3

### Business Courses

Select one course from the "Business Courses" category listed in the Animal Science Business Option.

NOTE: Two writing courses (6 cr) and one oral communications course (3 cr) are required. Communications elective must be a writing course. Select appropriate course from listing given under "Core Requirements."

**Credit Hours Subtotal:** 3

### Total ASCI Core Requirements

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete requirements</td>
<td>57-62</td>
</tr>
<tr>
<td>Credit Hours Subtotal:</td>
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</table>

### Option Requirements

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Complete requirements</td>
<td>48-54</td>
</tr>
<tr>
<td>Credit Hours Subtotal:</td>
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### Free Electives

Select 4-15 credits

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Credit Hours Subtotal:</td>
<td>10</td>
</tr>
</tbody>
</table>

**Total Credit Hours:** 120

Additional Major Requirements

Animal science requirements are the same as outlined for the College of Agricultural Sciences and Natural Resources.

Requirements for Minor Offered By Department

Animal Science Minor (18 credits)

Requirements for Minor

Select one ASCI course at 100-level of the following: 3

- **ASCI 100** Fundamentals of Animal Biology and Industry
- **ASCI 151** Introductory Companion Animal Biology
- **ASCI 240** Anatomy and Physiology of Domestic Animals

Select one animal management 200-level course of the following: 2-3

- **ASCI 250** Animal Management
- **ASCI 251** Introduction to Companion Animals
- **ASCI 252** Introduction to the Horse Industry and Management
- **ASCI 254** Basic Swine Science

Select one additional 200-level course of the following: 2-3

- **ASCI 200** Animal and Carcass Evaluation
- **ASCI 210** Animal Products
- **ASCI 213** Meat Specifications and Procurement
- **ASCI 260** Basic Equitation
- **ASCI 271** Companion Animal Behavior

Select 5-7 credits of ASCI courses at 300/400 level of the following: 5-7

- 2 credits from experiential learning courses may be used.
- **ASCI 310** Fresh Meats
- **ASCI 321** Companion Animal Nutrition
- **ASCI 322** Equine Nutrition
- **ASCI 342** Equine Reproduction
- **ASCI 354A** Swine Breeding & Gestation
- **ASCI 354B** Swine Farrowing Management
- **ASCI 354D** Swine Nursery Management
- **ASCI 354E** Employee Management for Swine Industry
- **ASCI 354F** Swine Environment Management
- **ASCI 370** Animal Welfare
- **ASCI 422** Advanced Feeding and Feed Formulation

Credit Hours Subtotal: 18

Total Credit Hours 18

1 *Available online courses for those wishing to complete the minor online.*
ASCI 457 Beef Feedlot Management
Credit Hours Subtotal: 19-21
Total Credit Hours 19-21

ASCI 95 Animal Science Major Orientation Seminar
Prerequisites: Animal Science Major
Description: The Animal Science Major Orientation Seminar provides Animal Science majors an opportunity to interact with Animal Science Faculty and other Animal Science students in an encouraging and supportive environment during their first semester in the major. Weekly topics will include discussions with Animal Science faculty, academic success resources, intrapersonal and leadership development and academic and co-curricular planning. The course is required for all Animal Science majors regardless of when the major is declared.
Credit Hours: 0
Max credits per semester: 0
Max credits per degree: 0
Format: LEC
Groups: Introductory

ASCI 100 Fundamentals of Animal Biology and Industry
Description: Overview of the industries in animal science; fundamentals of animal biology related to their application in those industries; and trends and current issues related to production and consumption of animal products important for human welfare.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Prerequisite for: ASCI 100L

ASCI 100L Fundamentals of Animal Biology and Industry Laboratory
Prerequisites: Previous or concurrent enrollment in ASCI 100
Description: Introductory animal science laboratory designed to introduce basic principles of animal biology and management.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

ASCI 101 Introduction to Animal Sciences
Description: Survey of careers, internships, skills and information resources for students interested in animal sciences, animal health and veterinary medicine. General skills and information for success in college.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

ASCI 107 Introduction to the Companion Animal Food Industry
Crosslisted with: FDST 107
Description: The companion animal food industry, products, processes, and career opportunities.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

ASCI 150 Animal Production Skills
Description: Introductory course in skills related to proper care and management of production animals. Laboratory sessions develop fundamental skills of animal husbandry.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASCI 151 Introductory Companion Animal Biology
Description: Domestication, anatomy, care, nutrition, reproduction and welfare of dogs, cats, rabbits, and other companion animals.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASCI 171 Human-Companion Animal Interactions
Description: Roles of companion animals in society (therapy, research, and entertainment). The responsibilities of humans in these relationships.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASCI 181 Beef Industry Scholars - Freshman Seminar
Prerequisites: Acceptance into the Nebraska Beef Industry Scholars (NBIS) program.
Notes: ASCI 181 is 'Letter grade only'.
Description: Introduction to the Nebraska and United States beef industry. Discussion of issues by invited beef industry leaders and on-site visits of industry organizations.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC
Prerequisite for: ASCI 281

ASCI 200 Animal and Carcass Evaluation
Prerequisites: Sophomore standing.
Description: Comparative evaluation of animals and their carcasses and products. Basic animal growth and development and the characteristics of beef, pork, lamb, and poultry that determine carcass value. Federal and industry product standards. Introduction of economic selection objectives, measurements of animal performance, use of performance records to estimate genetic value and application of procedures of genetic evaluation.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASCI 201 Professional Development for Careers in Animal Science
Prerequisites: ASCI 100 and Sophomore Standing
Description: The course is designed for Animal Science majors to further develop the following: 1.) Critical thinking and problem solving skills as individuals and in groups, 2.) Ability to identify potential careers related to animals, 3.) Animal related career development goals and experiential learning plans, 4.) Ethics and values associated with animal related careers and 5.) A senior capstone project proposal.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC
**ASCI 210 Animal Products**  
**Prerequisites:** ASCI 100.  
**Description:** Knowledge of edible animal products with particular emphasis to meat products from livestock and poultry. Includes all aspects of the meat industry from slaughter to consumption. Methods of slaughter and fabrication, conversion of muscle to meat, processing techniques, preservation and storage, and consumer related topics discussed and demonstrated.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**ASCI 213 Meat Specifications and Procurement**  
**Crosslisted with:** NUTR 213  
**Notes:** ASCI/NUTR 213 is for those students who have an interest in a career in Culinary Science, Meat Science, and/or Dietetics.  
**Description:** Selecting and purchasing meat for the hotel, restaurant, institutional industry, and the retail markets.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**ASCI 240 Anatomy and Physiology of Domestic Animals**  
**Prerequisites:** BIOS 101 or equivalent and CHEM 105 or equivalent  
**Description:** Fundamentals of the anatomy and physiology of domestic animals.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC  
**Prerequisite for:** ASCI 315; ASCI 341; VBMS 303; VBMS 403; VBMS 410

**ASCI 250 Animal Management**  
**Prerequisites:** Sophomore standing.  
**Description:** Principles of managing animals in typical production systems. Basics of managing beef, dairy, horses, poultry, sheep, and swine through the life cycle for economic and efficient production.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  
**Prerequisite for:** ASCI 485

**ASCI 251 Introduction to Companion Animals**  
**Prerequisites:** ASCI 100 or 3 hrs biological sciences.  
**Description:** Overview of pets, their care, nutrition, reproduction behavior, and health issues; exploration of other ways in which these animals can be used (e.g., in therapy, teaching).  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**ASCI 252 Introduction to the Horse Industry and Management**  
**Description:** Provides an introduction to the equine industry including history and basic biology of the horse, proper care and acceptable management procedures, and current issues. An overview of basic equine anatomy and physiology will be discussed as it relates to managerial principles associated with proper hoof care, disease prevention, breeding and genetics, nutritional management, reproduction, and animal welfare.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**ASCI 254 Basic Swine Science**  
**Description:** Basic disciplines and concepts involved in swine production including: industry structure, trends and statistics; production phases and building; genetic improvement; reproduction; nutrition; health and bio-security; nutrient management; marketing and meat quality; and career opportunities in the swine industry. This course is taught by Iowa State University as part of the GPIDEA/Ag*IDEA course offerings. Registration with permission from your adviser and CASNR Online Education Office.  
**Credit Hours:** 2  
**Max credits per semester:** 2  
**Max credits per degree:** 2  
**Format:** LEC

**ASCI 260 Basic Equitation**  
**Prerequisites:** Sophomore standing  
**Description:** Study and application of basic equitation principles for the novice rider. Review of fundamental horse safety and horsemanship to include handling, grooming, equipping, riding western or English, and the relationship of riding to physical and mental well-being. Development of balanced seat, hands and posture at all the natural gaits of the horse. Emphasis will be on control of the horse through the use of the primary and secondary aids. Welfare and communication considerations in order to have effective horse-human relationships.  
**Credit Hours:** 2  
**Max credits per semester:** 2  
**Max credits per degree:** 2  
**Format:** LEC

**ASCI 271 Companion Animal Behavior**  
**Prerequisites:** ASCI 100 or 251 or course into introductory biology.  
**Description:** Companion animal behavior. Application of behavior principles to describe normal and problem behaviors of common companion animals.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC

**ASCI 281 Beef Industry Scholars - Issues**  
**Prerequisites:** ASCI 181  
**Notes:** Letter grade only  
**Description:** Nebraska beef industry and supporting organizations (the Nebraska Cattlemen and the Nebraska Beef Council). Tours, attending meetings, and discussion of issues by invited beef industry leaders.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Format:** LEC  
**Prerequisite for:** ASCI 311E
ASC 300A Principles of Meat Evaluation, Grading and Judging  
Prerequisites: ASC 200.  
Description: Comparative evaluation of meat characteristics of beef carcasses, beef primal cuts, pork carcasses, pork primal cuts, and lamb carcasses. Federal grade standards for beef carcass and application of USDA Institutional Meat Purchase Specifications.  
Credit Hours: 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LEC

ASC 300B Principles of Livestock Evaluation and Judging  
Prerequisites: Junior standing, ASC 200 recommended.  
Notes: Opportunity to become members of the University of Nebraska Livestock Judging Team.  
Description: Principles of livestock judging and presentation of oral reasons. Evaluation of body structure and composition differences in breeding and market livestock as related to their use in meat production. Live animal, performance records, genetic evaluations, and breeding livestock scenarios evaluated. Presentation of oral reasons to defend selection decisions.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASC 300D Principles of Meat Animal Evaluation  
Prerequisites: ASC 300B or permission.  
Notes: The University of Nebraska Meat Animal Evaluation Team will be selected from students in this course.  
Description: Further expertise in breeding animal, market animal, and carcass evaluation. Live animal and carcass grading and pricing.  
Credit Hours: 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LAB

ASC 300E Principles of Horse Evaluation and Judging  
Prerequisites: Junior standing recommended.  
Notes: A student enrolled in ASC 300E will have an opportunity to become a member of the University of Nebraska Horse Judging Team.  
Description: Conformation associated with equine structural form and performance standards. Evaluation of performance classes as governed by breed association standards and industry regulations. Presentation of oral reasons to defend selection decisions.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LAB

ASC 310 Fresh Meats  
Prerequisites: ASC 210 or permission.  
Description: Fresh meat from beef, pork, lamb, and poultry. Characteristics of muscle, meat technology, preservation, merchandising concepts, and markets.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC

ASC 311A Equine Industry Study Tour  
Description: Study tour of livestock and/or meat/food processors. Provide an understanding of the industry's operations and problems.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASC 311B Meat Industry Study Tour  
Description: Study tour of livestock and/or meat/food processors. Provide an understanding of the industry's operations and problems.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASC 311D Pork Industry Study Tour  
Description: Study tour of livestock and/or meat/food processors. Provide an understanding of the industry's operations and problems.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASC 311E Beef Industry Study Tour  
Prerequisites: ASC 281  
Notes: Supplements to the class include invited speakers. A summer tour is required. Letter grade only  
Description: Identify beef cattle related enterprises that represent the breadth of the cattle industry. Prioritize these enterprises as candidates for inclusion in the summer tour.  
Credit Hours: 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC  
Prerequisite for: ASC 381

ASC 315 Animal Growth and Development  
Prerequisites: ASC 240  
Description: Provide insight into the growth and development of the structural tissues in animals. The physiological, genetic, nutritional, and environmental factors that can affect growth and development of animals will be discussed in terms of both livestock and domestic animals.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC

ASC 320 Animal Nutrition and Feeding  
Prerequisites: ASC 240 or equivalent, CHEM 106 or equivalent  
Description: Fundamentals of nutrition and feeding of domestic livestock, nutrients and nutrient requirements, characteristics of feedstuffs, methods of feeding, and the feed industry.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Prerequisite for: ASC 450; ASC 455; ASC 457
ASCI 321 Companion Animal Nutrition
Prerequisites: ASCI 320 or equivalent.
Description: Digestive anatomy and physiology of companion animals including dogs, cats, small mammals, and exotic species. Unique nutrient requirements, pet food formulation, and regulations.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASCI 322 Equine Nutrition
Description: Equine nutrition including digestive anatomy and physiology. Nutritional requirements of horses as related to growth, reproduction, and performance. The relationship of nutrition to disease and environment. Management practices and application of current equine nutritional research.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASCI 330 Animal Breeding
Prerequisites: AGRO 215 or BIOS 206; STAT 218 or equivalent
Description: Principles of animal breeding and their application to livestock improvement. Material includes explanations of genetic variation as a cause of variation in animal performance, characterization of the effects of selection, inbreeding and crossbreed- ing, and application of these procedures to development of breeding programs to improve efficiency of production.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: ASCI 450; ASCI 455

ASCI 340 Animal Physiological Systems
Prerequisites: LIFE 120/121, CHEM 109/110, MATH 102
Description: A comprehensive look at the major physiological systems that comprise the mammalian body. Anatomical organization and functionality of the nervous system, muscle, cardiovascular system, respiratory system, digestive system, urinary system, reproductive system, endocrine system, and immune system. Labs offer hands-on learning experiences through dissections, clinical demonstrations, and interactive multimedia.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: VBMS 410

ASCI 341 Physiology and Management of Reproduction
Prerequisites: ASCI 240
Description: Comparative anatomy and physiology of reproduction in domestic animals. Endocrine regulation of reproductive function, patterns of reproduction, economic consequences of sub-optimal reproductive performance, environmental influences on reproductive efficiency, application of selected techniques for controlling reproduction. Laboratory provides application of techniques used in reproductive management.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: ASCI 450; ASCI 455

ASCI 342 Equine Reproduction
Prerequisites: ASCI 240 or equivalent. ASCI 341 recommended.
Description: Anatomy and physiology of stallion and mare reproductive systems. Estrous detection systems, artificial and natural breeding techniques, infertility, semen collection and processing, reproductive management, and record keeping.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASCI 343 Meat CulinologyTMIII: Foodservice Applications
Crosslisted with: NUTR 343
Prerequisites: ASCI/NUTR 210 or ASCI/NUTR 213 or ASCI/NUTR 310.
Description: Cookery principles and methods role in maintaining meat yield and quality characteristics. Cookery techniques to maximize guest satisfaction and insure foodservice and/or restaurant financial integrity. Flavor enhancement and cookery technology application in center of the plate concept development.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASCI 354A Swine Breeding & Gestation
Description: Concepts related to: reproductive physiology and endocrinology of boars and sows; genetic selection programs; development programs for future replacement gilts and boars; semen collection, evaluation, and preparation; detection of estrus and artificial insemination; pregnancy diagnosis; feeding and house programs for gestating sows; environmental management; records; diseases; and development of quality assurance programs for identifying and solving reproductive problems. This course is taught by North Carolina State University and is part of the GPIDEA/AgIDEA courses offerings. Registration with permission from your advisor and CASNR Online Education.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

ASCI 354B Swine Farrowing Management
Description: Advanced integration and application of reproductive management concepts during farrowing and lactation. Identification of production trends; formulation of strategies to improve productivity; and parturition and neonatal management. This course is taught by the University of Missouri and is part of the GPIDEA/AgIDEA course offerings. Registration with permission from your advisor and CASNR Online Education Office.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC
ASCI 354D Swine Nursery Management
Description: Overview of the critical management, housing, and financial considerations relevant to the successful operation of a swine nursery, grow-finish, or wean to finish enterprise, including: nutrient requirements; building and facility management; and marketing. This course is taught by Penn State as part of the GPIDEA/Ag*IDEA course offerings. Registration with permission from your advisor and CASNR Online Education Office.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

ASCI 354E Employee Management for Swine Industry
Description: Effective employee management in swine production units. Assist students in understanding the principles, policies, and practices related to procurement, development, maintenance, and utilization of employees. This course is taught by Virginia Tech University and is part of the GPIDEA/Ag*IDEA consortium. Registration is with permission from your advisor and CASNR Online Education Office.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

ASCI 354F Swine Environment Management
Description: Response of swine to thermal environment, ventilation system design and analysis, heating and cooling systems and examples of various designs for all phases of production. Trouble shooting ventilation systems and energy analysis of production units. This course is taught by Iowa State University as part of the GPIDEA/Ag*IDEA consortium. Registration with permission from your adviser and CASNR Online Education Office.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

ASCI 360 Advanced Equitation
Prerequisites: Junior standing, ASCI 260 and/or permission.
Description: Study and application of maneuvers basic to performance excellence. Assigned student mounts expected to show satisfactory progress toward standards of excellence in Western and English performance.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASCI 361 Equestrian Team Horsemanship/Equitation
Description: Application of equestrian horsemanship and equitation skills through practices and horsemanship competitions in the Intercollegiate Horse Show Association. May be repeated for a total of 4 credit hours.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 4
Format: LAB

ASCI 370 Animal Welfare
Prerequisites: Junior standing or permission.
Description: In-depth exploration of the issues involved in animal use. The historical, biological, ethical, and social aspects of human/animal interactions in Western culture.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASCI 381 Beef Industry Scholars - Practicum
Prerequisites: Acceptance into the Nebraska Beef Industry Scholars (NBIS) program; ASCI 311E, ALEC 417
Description: Financial risk management, beef processing, animal health, and related emerging issues.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC
Prerequisite for: ASCI 481

ASCI 395A Experiential Learning for Career Development in Animal Sciences - Industry Experiences
Description: Extension and application of the animal science curriculum within the context of industry (e.g., internship), extension and service, research, or teaching experience.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Format: FLD
Prerequisite for: ASCI 482, AECN 482

ASCI 395B Extension and Service Experiences
Description: Extension and application of the animal science curriculum within the context of industry (e.g., internship), extension and service, research, or teaching experience. A faculty adviser for the area of interest must be identified prior to registering for the course.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Format: FLD
Prerequisite for: ASCI 482, AECN 482

ASCI 395D Research Experiences
Description: Extension and application of the animal science curriculum within the context of industry (e.g., internship), extension and service, research, or teaching experience. A faculty adviser for the area of interest must be identified prior to registering for the course.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Format: IND
ASC 395E Experiential Learning for Career Development in Animal Sciences - Undergraduate Teaching Experience
Description: Extension and application of the animal science curriculum within the context of industry (e.g., internship), extension and service, research, or teaching experience.
Credit Hours: 1-6
Min credits per semester: 1
Max credits per semester: 6
Max credits per degree: 6
Format: IND

ASC 399 Independent Study in Animal Science
Prerequisites: Permission.
Description: Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.
Credit Hours: 1-5
Min credits per semester: 1
Max credits per semester: 5
Max credits per degree: 12
Format: IND

ASC 400A Advanced Meat Grading and Evaluation
Prerequisites: ASCI 300A.
Description: Comparative evaluation of the meat characteristics of beef, pork, and lamb that affect product merit and the scientific basis of the factors that influence the relative value. Federal meat grades and their application, industry grading system and their application, and application of Institutional Meat Purchase Specifications. Application of the above topics, as well as critical decision making and written justification of meat product merit, practiced in-depth.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASC 400B Advanced Livestock Evaluation and Judging
Prerequisites: ASCI 300B or equivalent experience.
Notes: The University of Nebraska Senior Livestock Judging Team will be selected from students in this course.
Description: Livestock judging and evaluation applying principles learned in ASCI 300B. Field trips to commercial and purebred livestock operations and exhibitions. Network with producers to learn varied livestock production philosophies. Develop a proficiency in brief, concise oral presentation of reasons for making a decision.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

ASC 400E Advanced Horse Evaluation and Judging
Prerequisites: ASCI 300E or equivalent, recommended.
Notes: The University Horse Judging Team is selected from students enrolled in ASCI 400E. Field trips are a major component of the course.
Description: Advanced horse judging and analysis. Evaluate conformation and score multiple performance events. The development and presentation of concise oral reasons to defend placing decisions.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LAB

ASC 410 Processed Meats
Crosslisted with: ASCI 810
Prerequisites: ASCI 210 or equivalent. Junior standing or permission.
Notes: 3 cr II classroom. 3 cr I, II, III web.
Description: ASCI 485 is for majors in the College of Agricultural Sciences and Natural Resources with an interest in careers in livestock production units, the meat industry, or related agribusiness.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASC 411 HACCP and Food Safety Systems for the Food Industry
Prerequisites: An understanding of food production and processing operations. Recommended: ASCI 310, 410, and FDST 205; or NUTR 343.
Description: Principles, implementation, sanitation, and standard operating procedures that function to support the Hazard Analysis and Critical Control Point (HACCP) System. Food safety hazards and their relationship to food borne illness in the meat and food industry.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASC 419 Meat Investigations
Crosslisted with: ASCI 819, FDST 419, FDST 819
Prerequisites: ASCI 210 or permission.
Description: Conduct independent research and study meat industry problems in processing, production, storage, and preparation of meat and meat products.
Credit Hours: 1-3
Min credits per semester: 1
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASC 421 Advanced Animal Nutrition
Crosslisted with: ASCI 821
Prerequisites: ASCI 320.
Description: Advanced course dealing with the nutrition of domestic animals. In-depth coverage of nutrients, nutrient metabolism, and nutrient requirements. Biochemical and physiological functions of nutrients in life processes.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

ASC 422 Advanced Feeding and Feed Formulation
Crosslisted with: ASCI 822
Prerequisites: ASCI 320 or equivalent.
Description: Feeding practices for domestic animals. Applied animal nutrition and feed formulation.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ASCI 431 Advanced Animal Breeding  
Crosslisted with: ASCI 831  
Prerequisites: ASCI 330  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 432 Genome Analysis  
Crosslisted with: ASCI 832  
Prerequisites: AGRO 215 and BIOC 321 or equivalent  
Description: Theoretical and practical aspects of: structure and function of eukaryotic genomes; genome sequencing and assembling, polymorphism and isoform detection and genotyping; gene and genome annotation; strategies used to identify genetic variants responsible for phenotypic differences; and personalized genomics, social and ethical aspects associated with genomic information.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 441 New Techniques in Reproductive Biology  
Crosslisted with: ASCI 841  
Prerequisites: ASCI 341 or equivalent.  
Description: Mammalian early embryonic development. Basic aspects of embryology and development biology. Modern technologies in animal reproductive biology, in vitro maturation and fertilization, embryo transfer, cloning, assisted reproductive technologies, transgenic animals, and embryonic stem cells.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 442 Endocrinology  
Crosslisted with: ASCI 842, BIOS 442, BIOS 842, VBMS 842  
Prerequisites: A course in vertebrate physiology and/or biochemistry.  
Description: Mammalian endocrine glands from the standpoint of their structure, their physiological function in relation to the organism, the chemical nature and mechanisms of action of their secretory products, and the nature of anomalies manifested with their dysfunction.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 443 Physiology of Animal Cells and Tissues  
Crosslisted with: ASCI 843  
Prerequisites: LIFE 120; LIFE 121; ASCI 240 or BIOS 213; BIOC 321  
Description: Molecular, cellular, and tissue dependent functions of neurons, skeletal and smooth muscle, vasculature, and immune cells. Cellular regulation of important physiological processes including blood flow, gas exchange, inorganic solute homeostasis, acid-base balance, water balance, appetite control, and thermal regulation will also be studied. Understand cellular and molecular processes that ensure homeostasis and promote integration of physiological systems.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 450 Horse Management  
Prerequisites: Senior standing or permission; ASCI 320, ASCI 330 or ASCI 341  
Description: Light horse production. Nutrition, reproduction, management, housing, and principle usage of light horses.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 451 Livestock Management on Range and Pasture  
Crosslisted with: AGRO 445, AGRO 845, ASCI 851, RNGE 445  
Prerequisites: ASCI 250 and AGRO 240 or 340; AECN 201 recommended.  
Description: Analyzing the plant and animal resources and economic aspects of pasturage. Management of pasture and range for continued high production emphasized.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 453 Dairy Management  
Crosslisted with: ASCI 453H  
Prerequisites: Senior standing and ASCI 250, or permission. ASCI 240, 320 and 330 recommended.  
Description: Management of a dairy enterprise for efficient production of a quality product. Emphasis on specific problems in breeding, feeding, reproduction, facilities, herd health, and in harvesting and marketing of milk and related economic considerations.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  

ASCI 453H Dairy Management  
Crosslisted with: ASCI 453  
Prerequisites: Senior standing and ASCI 250, or permission. ASCI 240, 320 and 330 recommended.  
Description: Management of a dairy enterprise for efficient production of a quality product. Emphasis on specific problems in breeding, feeding, reproduction, facilities, herd health, and in harvesting and marketing of milk and related economic considerations.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC
ASCI 455 Beef Cow-Calf Management  
**Prerequisites:** Senior standing or permission; ASCI 320; ASCI 330 or 341  
**Description:** Integrated management specific to the beef cow-calf enterprise necessary to achieve biologic and economic efficiency.  
**Credit Hours:** 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASCI 456 Beef Cattle Merchandising  
**Prerequisites:** Senior standing, ASCI 300B and 330 recommended.  
**Notes:** Students enrolled in ASCI 456 are responsible for planning and conducting the annual UNL bull sale.  
**Description:** Develop skills to merchandise breeding cattle including advertising, genetic and phenotype selection, data collection, and conducting a bull sale.  
**Credit Hours:** 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LEC

ASCI 457 Beef Feedlot Management  
**Prerequisites:** Senior standing or permission; ASCI 320  
**Description:** Advanced preparation in the feeding of cattle for slaughter. Emphasis on the nutrition and management of feedlot cattle and related health and economic considerations. Covers the beef enterprise from weaning to market and relates closely to beef cow-calf production.  
**Credit Hours:** 2  
Max credits per semester: 2  
Max credits per degree: 2  
Format: LEC

ASCI 481 Beef Industry Scholars - Beef Summit  
**Prerequisites:** Acceptance into the Nebraska Beef Industry Scholars (NBIS) program; ASCI 381  
**Notes:** ASCI 481 requires working with the Nebraska Cattlemen and the instructor to develop the summit. Letter grade only  
**Description:** Identification of a major issue confronting the Nebraska beef industry. Organize a Nebraska summit meeting to discuss and bring the identified issue to resolution.  
**Credit Hours:** 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LEC  
**Prerequisite for:** ASCI 482, AECN 482

ASCI 482 Beef Industry Scholars - National Beef Industry Policy  
**Crosslisted with:** AECN 482  
**Prerequisites:** ASCI 481; ASCI 395A or ASCI 395B  
**Notes:** ASCI 482 requires attending the National Cattlemen’s Beef Association (NCBA) annual convention and then, communicating the new policy and issues to local organizations and undergraduate student groups. Letter grade only.  
**Description:** Discuss and dissect issues from the NCBA convention researching the pros and cons of current and proposed policy.  
**Credit Hours:** 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LEC

ASCI 482 Animal Systems Analysis  
**Prerequisites:** Senior standing; ASCI 250; AECN 201; or permission  
**Notes:** ASCI 485 is for majors in the College of Agricultural Sciences and Natural Resources with an interest in careers in livestock production units, the meat industry, or related agribusiness.  
**Description:** Goal setting, information gathering, and application of problem solving methods in animal science. Develops ability to analyze and solve problems in all segments of animal science by integration of information from all pertinent disciplines and sources.  
**Credit Hours:** 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
ACE: ACE 10 Integrated Product

ASCI 486 Animal Biological Systems  
**Prerequisites:** ASCI 210, 240 and 320; AGRO 215 or BIOS 205.  
**Notes:** Capstone course. ASCI 486 is for seniors with an interest in careers involving animal science disciplines, animal biology, and related fields.  
**Description:** How to integrate information from the animal science disciplines to understanding animals as biological systems. The processes of growth, adaptation, and lactation. Analyzing the interrelationship of each discipline within animal production. Using case studies, scenarios, and problem solving assignments to examine how alterations in nutrition and metabolism, genetic makeup, endocrine profile and/or the environment impact or effect the animal as a whole.  
**Credit Hours:** 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Offered: FALL  
ACE: ACE 10 Integrated Product

ASCI 490A Animal Science Internship - Beef Feedlot Management  
**Prerequisites:** ACCT 201; AECN 325 and 452; ASCI 422 and 457; and permission.  
**Description:** Management internship in a beef feedlot. Organizational and financial structure of the beef feedlot and experience in making decisions related to: animal production, marketing, business management, and personnel management.  
**Credit Hours:** 1-3  
Max credits per semester: 1  
Max credits per degree: 3  
Format: FLD

ASCI 491 Animal Science Seminar  
**Prerequisites:** Senior standing.  
**Description:** Student-led discussion of selected current topics significant to the livestock, poultry, and meat industry. Concerns and issues of society as they relate to local, national, and international animal agriculture.  
**Credit Hours:** 1  
Max credits per semester: 1  
Max credits per degree: 1  
Format: LEC
ASCI 496 Independent Study in Animal Science
Crosslisted with: ASCI 896
Prerequisites: 12 hrs animal science or closely related areas and permission.
Description: Individual or group projects in research, literature review, or extension of course work under the supervision and evaluation of a departmental faculty member.
Credit Hours: 1-5
Min credits per semester: 1
Max credits per semester: 5
Max credits per degree: 12
Format: IND

ASCI 499H Honors Thesis
Prerequisites: Admission to the University Honors Program and AGRI 299H recommended.
Description: Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.
Credit Hours: 3-6
Min credits per semester: 3
Max credits per semester: 6
Max credits per degree: 6
Format: IND

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.

Animal Science - Animal Biology & Biotechnology

14 HR TERM 1

ACE 4 Life Science
complete LIFE 120, LIFE 120L
4hr

Animal Science Core
complete ASCI 100, ASCI 100L
4hr

Animal Sci Orientation
complete ASCI95#
0hr

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

College Course/ACE 10

3hr

ACE 5 Humanities
complete 1 from ACE5
3hr

Complete an ACE 5, 7, or 8 requirement this term.

15 HR TERM 2

ACE 2 Oral Comm
complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109
3hr

ACE 1 Written
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300
3hr

ACE 7 Arts
complete 1 from ACE7
3hr

Complete an ACE 5, 7, or 8 requirement this term.

Chemistry/Microbiology
complete LIFE 121, LIFE 121L
4hr

College Algebra Reqt
complete MATH 102
2hr

MATH 102 becomes critical to your success in the major if not completed in the second term of enrollment.

14 HR TERM 3

Animal Science Core
complete ASCI 340, ASCI 210
7hr

Chemistry/Microbiology
complete CHEM 109
Chemistry/Microbiology
complete CHEM 109

ACE 8 Ethical Principles
complete 1 from ACE8

Complete an ACE 5, 7, or 8 requirement this term.

15 HR TERM 4

Genetics
complete AGRO 215

Chemistry/Microbiology
complete CHEM 110

ACE 6 Economics
complete 1 from AECN 141, ECON 211, ECON 212

Professional Development
complete ASCI 201

ASCI 201 becomes critical to your success in the major if not completed by the fifth term of enrollment.

Electives
complete Any Course

17 HR TERM 5

Animal Science Core
complete ASCI 341

Animal Science Core
complete ASCI 330

16 HR TERM 7

College Course/ACE 10
complete ASCI 486
Animal Science - Business & Communications

### 16 HR TERM 1

#### College Course/ACE 10

**Complete SCIL 101**

8hr

#### Animal Science Core

**Complete ASCI 100, ASCI 100L**

4hr

#### ACE 4 Life Science

**Complete 2 from BIOS 101, BIOS 101L, LIFE 120, LIFE 120L**

4hr

#### College Algebra Reqnt

**Complete MATH 102**

2hr

**MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.**

#### ACE 5 Humanities

**Complete 1 from ACE5**

3hr

**Complete an ACE 5, 7, or 8 requirement this term.**

#### Animal Sci Orientation

**Complete ASCI95#**

0hr

**ASC 95 becomes critical to your success in the major if not completed in the first term of enrollment.**

### 15 HR TERM 2

#### ACE 6 Economics

**Complete 1 from AECN 141, ECON 211, ECON 212**

3hr

#### ACE 3 Mathematics

**Complete STAT 218**
ACE 1 Written
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300

ACE 7 Arts
complete 1 from ACE7

Complete an ACE 5, 7, or 8 requirement this term.

Animal Science Core
complete ASCI 210

14 HR TERM 3
Intro Animal Science
complete either ASCI 251 or ASCI 252

ACE 4 Chemistry
complete either CHEM 109 or CHEM 105

CHEM 109 becomes critical to your success in the major if not completed by the fourth term of enrollment.

Electives
complete Any Course

Accounting
complete ACCT 200

16 HR TERM 4
Genetics
complete either AGRO 215 or BIOS 206

ACE 4 Chemistry/Org Chem
complete CHEM 251, CHEM 253

Industry Study Tours
complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E

Communications Leadership
complete either ALEC 202 or MNGT 311

ACE 2 Oral Comm
complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109

Professional Development
complete ASCI 201

ASCI 201 becomes critical to your success in the major if not completed by the fifth term of enrollment.

Animal Science Core
complete ASCI 240

16 HR TERM 5
Animal Science Core
complete ASCI 341

Animal Science Core
complete ASCI 330

ACE 4 Chemistry/Org Chem
complete CHEM 251, CHEM 253

Industry Study Tours
complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E

Communications Leadership
complete either ALEC 202 or MNGT 311
15 HR TERM 6

Animal Science Core

complete ASCI 320

Supporting Business

complete 1 from AECN 201, AECN 225, AECN 235, AECN 256, AECN 265, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 321, ENTR 322, ENTR 275, ENTR 388, FINA 260, FINA 300, MNGT 121, MNGT 300, MNGT 321, MNGT 322, MNGT 360, MNGT 361, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

Animal/Meat Eval Exp

complete 1 from ASCI 400B, AGRI 388, AGRI 389, ASCI 496, ASCI 300A, ASCI 300B, ASCI 300D, ASCI 300E, ASCI 400A, ASCI 400E, ASCI 361, ASCI 456, ASCI 481, ASCI 482

Recommended to take an Experiential Learning course this term.

Comm/Interpersonal Skills

complete 1 from ALEC 102, ALEC 202, ALEC 207, ALEC 302, ALEC 305, ALEC 350, ALEC 480, COMM 101, COMM 209, COMM 212, COMM 215, COMM 283, COMM 286, COMM 325, ENGL 150, ENGL 151, ENGL 254, JGEN 103, JGEN 120, JGEN 200, JGEN 220H, JGEN 300, MNGT 311, MNGT 365, MRKT 257, TMFD 121

Addtl Comm Leadership

complete 1 from ALEC 302, ALEC 305, MNGT 365

13 HR TERM 8

Animal Science Core

complete ASCI 491

College Course/ACE 10

complete ASCI 485

Supporting Business

complete 2 from AECN 201, AECN 225, AECN 235, AECN 256, AECN 265, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 321, ENTR 322, ENTR 275, ENTR 388, FINA 260, FINA 300, MNGT 121, MNGT 300, MNGT 321, MNGT 322, MNGT 360, MNGT 361, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

ACE 9 Global/Human Divers

complete 1 from ACE9

Graduation Requirements

1. Performance Measure: 2.00 GPA required for graduation.
2. ***Total Credits Applying Toward 120 Total Hours***
## Animal Science - Companion Animal Science

### 16 HR TERM 1

**College Course/ACE 10**

- complete SCIL 101

**Animal Science Core**

- complete either ASCI 100 or ASCI 100L

**ACE 4 Life Science**

- complete 2 from BIOS 101, BIOS 101L, LIFE 120, LIFE 120L

**College Algebra Reqt**

- complete MATH 102

MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.

**ACE 5 Humanities**

- complete 1 from ACE5

Complete an ACE 5, 7, or 8 requirement this term.

**Animal Sci Orientation**

- complete ASCI95#

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

### 16 HR TERM 2

**ACE 6 Economics**

- complete 1 from AECN 141, ECON 211, ECON 212

**ACE 3 Mathematics**

- complete STAT 218

### 16 HR TERM 3

**Animal Science Core**

- complete ASCI 251

**ACE 4 Chemistry**

- complete either CHEM 105 or CHEM 109

CHEM 109 becomes critical to your success in the major if not completed by the fourth term of enrollment.

**Electives**

- complete Any Course

### 16 HR TERM 4

**ACE 2 Oral Comm**

- complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109

**ACE 8 Ethical Principles**

- complete 1 from ACE8

Complete an ACE 5, 7, or 8 requirement this term.
Companion Animal Elect

complete 1 from ASCI 107, ASCI 171, ASCI 210, ASCI 271, ASCI 315, ASCI 322, ASCI 342, ASCI 370, BIOS 462, NRES 211, NRES 220, NRES 222, NRES 311

Genetics

complete either AGRO 215 or BIOS 206

ACE 4 Chemistry/Org Chem

complete CHEM 110

CHEM 106 is also acceptable this term.

Animal Science Core

complete ASCI 240

Professional Development

complete ASCI 201

ASCI 201 becomes critical to your success in the major if not completed by the fifth semester of enrollment.

17 HR TERM 5

Animal Science Core

complete ASCI 341

Animal Science Core

complete ASCI 330

ACE 4 Chemistry/Org Chem

complete CHEM 251, CHEM 253

Industry Study Tours

complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E

Recommended to take an Experiential Learning course this term.

Supporting Business

complete 1 from ACCT 200, ACCT 201, ACCT 202, AECN 201, AECN 225, AECN 235, AECN 256, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, B LAW 300, B LAW 371, ECON 303, ENTR 121, ENTR 275, ENTR 321, ENTR 322, ENTR 388, FINA 250, FINA 300, MNGT 300, MNGT 360, MNGT 361, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

14 HR TERM 6

Animal Science Core

complete ASCI 320

Companion Animal Elect

complete 1 from ASCI 107, ASCI 171, ASCI 210, ASCI 271, ASCI 315, ASCI 322, ASCI 342, ASCI 370, BIOS 462, NRES 211, NRES 220, NRES 222, NRES 311

Microbiology

complete either BIOS 312 or VBMS 303

Animal/Meat Eval Exp

complete 1 from AGRI 388, AGRI 389, ASCI 496, ASCI 300A, ASCI 300B, ASCI 300D, ASCI 300E, ASCI 400A, ASCI 400B, ASCI 400E, ASCI 361, ASCI 456, ASCI 481, ASCI 482

Recommended to take an Experiential Learning course this term.

Comm/Interpersonal Skills

complete 1 from ALEC 102, ALEC 202, ALEC 207, ALEC 302, ALEC 305, ALEC 350, ALEC 480, COMM 101, COMM 209, COMM 212, COMM 215, COMM 283, COMM 286, COMM 325, ENGL 150, ENGL 151, ENGL 254, JGEN 103, JGEN 120, JGEN 200, JGEN 220H, JGEN 300, MNGT 311, MNGT 365, MRKT 257, TMFD 121

12 HR TERM 7

Companion Animal Elect

complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E
complete 1 from ASCI 107, ASCI 171, ASCI 210, ASCI 271, ASCI 315, ASCI 322, ASCI 342, ASCI 370, BIOS 462, NRES 211, NRES 220, NRES 222, NRES 311

Electives
complete Any Course

6hr

ACE 9 Global/Human Divers
complete 1 from ACE9

3hr

Complete an ACE 5, 7, 8, or 9 requirement this term.

13 HR TERM 8

Animal Science Core
complete ASCI 491

1hr

Supporting Business
complete 2 from ACCT 200, ACCT 201, ACCT 202, AECN 201, AECN 225, AECN 235, AECN 256, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 275, ENTR 321, ENTR 322, ENTR 388, FINA 260, FINA 300, MNGT 300, MNGT 360, MNGT 361, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

6hr

Electives
complete Any Course

3hr

College Course/ACE 10
complete ASCI 485

3hr

College Course/ACE 10
complete SCIL 101

3hr

Animal Science Core
complete ASCI 100, ASCI 100L

4hr

ACE 4 Life Science
complete 2 from BIOS 101, BIOS 101L, LIFE 120, LIFE 120L

4hr

College Algebra Reqt
complete MATH 102

2hr

MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.

ACE 5 Humanities
complete 1 from ACE5

3hr

Complete an ACE 5, 7, or 8 requirement this term.

Animal Sci Orientation
complete ASCI95#

0hr

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

16 HR TERM 2

ACE 6 Economics
complete 1 from AECN 141, ECON 211, ECON 212

3hr

ACE 3 Mathematics
complete STAT 218

3hr

ACE 1 Written
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300

3hr

Animal Science - Equine Science

Icon Legend: Critical

16 HR TERM 1
ACE 7 Arts
complete 1 from ACE7

Complete an ACE 5, 7, or 8 requirement this term.

ACE 3 Math/Statistics
complete MSYM 109

16 HR TERM 3
Animal Science Core
complete either ASCI 260 or ASCI 360

Animal Management
complete ASCI 252

ACE 4 Chemistry
complete either CHEM 105 or CHEM 109

CHEM 109 becomes critical to your success in the major if not completed by the fourth term enrollment.

ACE 8 Ethical Principles
complete 1 from ACE8

Complete an ACE 5, 7, or 8 requirement this term.

Genetics
complete either AGRO 215 or BIOS 206

13 HR TERM 4
ACE 4 Chemistry/Org Chem
complete CHEM 110

CHEM 106 is also acceptable this term.

15 HR TERM 5
Animal Science Core
complete ASCI 341

Animal Science Core
complete ASCI 330

ACE 4 Chemistry/Org Chem
complete CHEM 251, CHEM 253

Supporting Business
complete 1 from ACCT 200, ACCT 201, ACCT 202, AECN 201, AECN 225, AECN 235, AECN 256, AECN 265, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 275, ENTR 321, ENTR 388, FINA 260, FINA 300, MNGT 300, MNGT 360, MNGT 361, MNGT 365, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

14 HR TERM 6
**15 HR TERM 8**

Animal Science Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>complete ASCI 491</td>
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Animal Nutr Development

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College Course/ACE 10

<table>
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<tr>
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<th>Hours</th>
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<tbody>
<tr>
<td>complete ASCI 485</td>
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Supporting Business

<table>
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<td>complete 2 from ACCT 200, ACCT 201, ACCT 202, AECN 201, AECN 225, AECN 235, AECN 256, AECN 265, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 455, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 275, ENTR 321, ENTR 322, ENTR 388, FINA 260, FINA 300, MNGT 300, MNGT 360, MNGT 361, MNGT 365, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331</td>
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Electives

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<td>complete Any Course</td>
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Graduation Requirements

1. Performance Measure: 2.00 GPA required for graduation.
2. ***Total Credits Applying Toward 120 Total Hours***

**16 HR TERM 7**

Animal Science Core

<table>
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<tr>
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<td>complete ASCI 450</td>
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ACE 9 Global/Human Divers

<table>
<thead>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>complete 1 from ACE9</td>
<td>3</td>
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Complete an ACE 5, 7, 8, or 9 requirement this term.

Electives

<table>
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<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>complete Any Course</td>
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Animal Nutr Development

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<th>Hours</th>
</tr>
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<tr>
<td>complete ASCI 271</td>
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**16 HR TERM 1**

College Course/ACE 10

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<thead>
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<th>Hours</th>
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<td>complete SCIL 101</td>
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Animal Science Core

<table>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>complete ASCI 100, ASCI 100L</td>
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</table>

**Animal Science - Food Animal Production & Management**

Icon Legend: Critical
ACE 4 Life Science
complete 1 from BIOS 101, BIOS 101L, LIFE 120, LIFE 120L

College Algebra Reqt
complete MATH 102

MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.

ACE 5 Humanities
complete 1 from ACE5

Complete an ACE 5, 7, or 8 requirement this term.

Animal Sci Orientation
complete ASCI95#

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

15 HR TERM 2
ACE 6 Economics
complete 1 from AECN 141, ECON 211, ECON 212

ACE 3 Mathematics
complete STAT 218

ACE 1 Written
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300

ACE 7 Arts
complete 1 from ACE7

Complete an ACE 5, 7, or 8 requirement this term.

Animal Science Reqd
complete ASCI 210

15 HR TERM 3
Animal Science Reqd
complete ASCI 200

ACE 4 Chemistry
complete either CHEM 105 or CHEM 109

CHEM 109 becomes critical to your success in the major if not completed by the fourth term of enrollment.

Supporting Business
complete AECN 201

Genetics
complete either AGRO 215 or BIOS 206

18 HR TERM 4
ACE 4 Chemistry/Org Chem
complete CHEM 110

CHEM 106 is also acceptable this term.

ACE 2 Oral Comm
complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109

ACE 8 Ethical Principles
complete 1 from ACE8

Complete an ACE 5, 7, or 8 requirement this term.

Animal Science Core
complete ASCI 240
Professional Development

complete ASCI 201

4hr

ASCI 201 becomes critical to your success in the major if not completed by the fifth term of enrollment.

14 HR TERM 5

Animal Science Core

complete ASCI 341

4hr

Animal Science Core

complete ASCI 330

4hr

ACE 4 Chemistry/Org Chem

complete CHEM 251, CHEM 253

4hr

Intern/Ext/Research/Teach


2hr

Recommended to take a Experiential Learning course this term.

14 HR TERM 6

Animal Science Core

complete ASCI 320

3hr

Microbiology

complete VBMS 303

3hr

Industry Study Tours

complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E

2hr

Recommended to take a Experiential Learning course this term.

16 HR TERM 7

ACE 3 Math/Statistics

complete MSYM 109

4hr

Supporting Business

complete AECN 325

3hr

Animal Science Mngt

complete ASCI 457

3hr

Supporting Courses

complete 1 from AGRO 340, AGRO 440, ASCI 310, ASCI 370, ASCI 410, ASCI 411, ASCI 422, ASCI 432, ASCI 441, ASCI 442, ASCI 443, MSYM 342, MSYM 475

3hr

ACE 9 Global/Human Divers

complete 1 from ACE9

3hr

Complete an ACE 5, 7, 8, or 9 requirement this term.

15 HR TERM 8

Animal Science Core

complete ASCI 491

1hr

Supporting Business

complete 1 from AECN 256, AECN 265, AECN 345, AECN 357

3hr
### Animal Science Mngt
complete ASCI 455

2hr

### College Course/ACE 10
complete ASCI 485

3hr

### Supporting Courses
complete 1 from AGRO 340, AGRO 440, ASCI 310, ASCI 370, ASCI 410, ASCI 411, ASCI 422, ASCI 432, ASCI 441, ASCI 442, ASCI 443, MSYM 342, MSYM 475

3hr

### Electives
complete Any Course

3hr

### Graduation Requirements
1. Performance Measure: 2.00 GPA required for graduation.
2. ***Total Credits Applying Toward 120 Total Hours***

### Animal Science - Meat Science
**Icon Legend: Critical**

### 13 HR TERM 1

**College Course/ACE 10**
complete SCIL 101

3hr

**Animal Science Core**
complete either ASCI 100 or ASCI 100L

4hr

**ACE 4 Life Science**
complete 1 from BIOS 101, BIOS 101L, LIFE 120, LIFE 120L

4hr

**College Algebra Reqt**
complete MATH 102

2hr

MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.

**Animal Sci Orientation**
complete ASCI95#

NaNhr

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

### 16 HR TERM 2

**ACE 6 Economics**
complete 1 from AECN 141, ECON 211, ECON 212

3hr

**ACE 3 Math/Statistics**
complete MSYM 109, STAT 218

7hr

**ACE 5 Humanities**
complete 1 from ACE5

3hr

Complete an ACE 5, 7, or 8 requirement this term.

**ACE 1 Written**
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300

3hr

### 17 HR TERM 3

**Animal Science Core**
complete ASCI 210, ASCI 240

7hr

**Comm/Interpersonal Skills**
complete 1 from ALEC 207, ALEC 302, ALEC 350, COMM 101, COMM 209, COMM 212, COMM 286, ENGL 150, ENGL 151, ENGL 254, JGEN 103, JGEN 120, JGEN 220H, MNGT 311, MNGT 365, TMFD 121, ALEC 202, COMM 209, ALEC 305, ALEC 207, COMM 286, COMM 212

3hr

**ACE 7 Arts**
complete 1 from ACE7

3hr
Complete an ACE 5, 7, or 8 requirement this term.

**ACE 4 Chemistry**

complete CHEM 109

4hr

CHEM 109 becomes critical to your success in the major if not completed by the fourth term of enrollment.

**15 HR TERM 4**

**Genetics**

complete either AGRO 215 or BIOS 206

**ACE 4 Chemistry/Org Chem**

complete CHEM 110

4hr

**ACE 2 Oral Comm**

complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109

3hr

**ASC/WFST Elective**

complete either ASCI 200 or FDST 205

3hr

**Professional Development**

complete ASCI 201

1hr

ASCI 201 becomes critical to your success in the major if not completed by the fifth term of enrollment.

**12 HR TERM 5**

**Animal Science Core**

complete ASCI 310

3hr

**ACE 4 Chemistry/Org Chem**

complete CHEM 251, CHEM 253

NaNhr

**Animal/Meat Eval Exp**

complete ASCI 300A or ASCI 400A

2hr

Other acceptable Experiential Learning courses for this semester are ASCI 311B, 395A, or 419.

**Animal Science Core**

complete ASCI 320, ASCI 330

7hr

**14 HR TERM 6**

**Animal Science Core**

complete 2 from ASCI 315, ASCI 341, ASCI 410

6hr

Complete either ASCI 315 or 341 and ASCI 410.

**Microbiology**

complete either BIOS 111 or BIOS 312

3hr

**Intern/Ext/Research/Teach**

complete either ASCI 395A or ASCI 419

2hr

Other acceptable Experiential Learning courses for this semester are ASCI 300A or 400A.

**Supporting Business**

complete 1 from ACCT 200, ACCT 201, ACCT 202, AECN 201, AECN 225, AECN 235, AECN 256, AECN 265, AECN 301, AECN 316, AECN 325, AECN 336, AECN 345, AECN 357, AECN 401, AECN 416, AECN 420, AECN 425, AECN 435, AECN 436, AECN 445, AECN 452, AECN 453, AECN 456, AECN 457, BLAW 300, BLAW 371, ECON 303, ENTR 121, ENTR 275, ENTR 321, ENTR 322, ENTR 388, FINA 260, FINA 300, MNGT 300, MNGT 300, MNGT 360, MNGT 361, MRKT 300, MRKT 341, MRKT 345, MRKT 346, MRKT 347, MRKT 350, MRKT 425, SCMA 331

3hr

**15 HR TERM 7**

**College Course/AEC 10**

complete ASCI 486

3hr

**Animal Science Core**

complete ASCI 411
Animal Science - Veterinary Animal Sciences

14 HR TERM 1

College Course/ACE 10
complete SCIL 101

3hr

ACE 5 Humanities
complete 1 from ACE5

3hr

Animal Science Core
complete ASCI 100L, ASCI 100

4hr

ACE 4 Life Science
complete either LIFE 120 or LIFE 120L

4hr

Animal Sci Orientation
complete ASCI95#

0hr

ASCI 95 becomes critical to your success in the major if not completed in the first term of enrollment.

15 HR TERM 2

ACE 2 Oral Comm
complete 1 from ALEC 102, COMM 101, COMM 209, COMM 215, COMM 283, COMM 286, JGEN 300, MRKT 257, TMFD 121, COMM 109

3hr

ACE 1 Written
complete 1 from ENGL 150, ENGL 151, ENGL 254, JGEN 120, JGEN 200, JGEN 300

3hr

Graduation Requirements
1. Performance Measure: 2.00 GPA required for graduation.
2. ***Total Credits Applying Toward 120 Total Hours***
<table>
<thead>
<tr>
<th>Term</th>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACE 7 Arts</td>
<td>3hr</td>
<td>Complete an ACE 5, 7, or 8 requirement this term.</td>
</tr>
<tr>
<td></td>
<td>complete 1 from ACE7</td>
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<td></td>
<td>Life Science</td>
<td>4hr</td>
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</tr>
<tr>
<td></td>
<td>complete LIFE 121, LIFE 121L</td>
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</tr>
<tr>
<td></td>
<td>College Algebra Reqt</td>
<td>2hr</td>
<td>MATH 102 becomes critical to your success in the major if not completed by the second term of enrollment.</td>
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<tr>
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<td>complete MATH 102</td>
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<td><strong>13 HR TERM 3</strong></td>
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<tr>
<td></td>
<td>ACE 4 Chemistry</td>
<td>4hr</td>
<td>CHEM 109 becomes critical to your success in the major if not completed by the fourth term of enrollment.</td>
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<tr>
<td></td>
<td>complete CHEM 109</td>
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<tr>
<td></td>
<td>ACE 6 Economics</td>
<td>3hr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>complete 1 from AECN 141, ECON 211, ECON 212</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Animal Science Core</td>
<td>3hr</td>
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<td></td>
<td>complete ASCI 210</td>
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<td></td>
<td>Professional Development</td>
<td>1hr</td>
<td>ASCI 201 becomes critical to your success in the major if not completed by the fifth term of enrollment.</td>
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<tr>
<td></td>
<td>complete ASCI 201</td>
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<td><strong>17 HR TERM 5</strong></td>
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<td>ACE 8 Ethical Principles</td>
<td>3hr</td>
<td>Complete an ACE 5, 7, or 8 requirement this term.</td>
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<td>complete 1 from ACE8</td>
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<td>Animal Science Core</td>
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<tr>
<td></td>
<td>complete ASCI 341</td>
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<tr>
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<td>Animal Science Core</td>
<td>3hr</td>
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<tr>
<td></td>
<td>complete ASCI 330</td>
<td></td>
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<tr>
<td></td>
<td>Chemistry/Org Chem</td>
<td>4hr</td>
<td></td>
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<tr>
<td></td>
<td>complete CHEM 251, CHEM 253</td>
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<tr>
<td></td>
<td>Intern/Ext/Researc/Teach</td>
<td>2hr</td>
<td>Recommended to take an Experiential Learning course this term.</td>
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<tr>
<td></td>
<td>Written/Oral Comm</td>
<td>3hr</td>
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<tr>
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<td>complete 1 from COMM 101, COMM 109, COMM 209, COMM 283, COMM 286, ENGL 150, ENGL 151, JGEN 120, JGEN 200, JGEN 300</td>
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<td>Animal Science Core</td>
<td>3hr</td>
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<tr>
<td></td>
<td>complete ASCI 340</td>
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<tr>
<td><strong>15 HR TERM 4</strong></td>
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<tr>
<td></td>
<td>Genetics</td>
<td>4hr</td>
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<tr>
<td></td>
<td>complete AGRO 215</td>
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<tr>
<td></td>
<td>Chemistry/Org Chem</td>
<td>3hr</td>
<td></td>
</tr>
</tbody>
</table>
14 HR TERM 6

Animal Science Core
complete ASCI 320 3hr

Biochemistry
complete BIOC321# 3hr

Chemistry/Org Chem
complete CHEM 252 3hr

Electives
complete Any Course 3hr

Industry Study Tours
complete 1 from AGRI 310, ASCI 311A, ASCI 311B, ASCI 311D, ASCI 311E 2hr

Recommended to take an Experiential Learning course this term.

16 HR TERM 7

College Course/ACE 10
complete ASCI 486 3hr

Microbiology/Lab
complete BIOS 312, BIOS 314 4hr

ASCI/VBMS 400 Level
complete Any Animal Science Course at the 400 Level, Any Veterinary Science Course at the 400 Level 6hr

18 HR TERM 8

Animal Science Core
complete ASCI 491 1hr

ASCI/VBMS 400 Level
complete Any Animal Science Course at the 400 Level, Any Veterinary Science Course at the 400 Level 6hr

Elem Gen Physics
complete PHYS 141 5hr

Electives
complete Any Course 6hr

Graduation Requirements
1. Performance Measure: 2.00 GPA required for graduation.
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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
- Nutritionist, Dekalb Feeds - Ely IA
- Pet Care Technician Manager, Nebraska Animal Medical Center - Lincoln NE
- 4-H Extension Assistant, Nebraska Extension - Omaha NE
- Operations Management Associate, Cargill Meat Solutions - Schuyler NE
- Animal Behaviorist, Capital Humane Society - Lincoln NE
- Horse Trainer and Riding Instructor, Self-Employed - Lincoln NE
- Cattle Health Assistant, Adams Land and Cattle Co. - Broken Bow NE
- Farm Manager, Rock Creek Swine - Nebraska City NE
- Animal Protein Manager, Cargill - Wichita KS
- Herdsman/cattle manager, Rippe Gelbviah - Hubbell NE

Internships
- Beef Sales Intern, Cargill Meat Solutions - Witchita KS
- Kentucky Equine Management Internship, Adena Springs - Paris KY
- Intern, Henry Doorly Zoo - Omaha NE
• Feedlot Intern, Rhea Cattle Co. - Arlington NE
• Clydesdale Handler Intern, Anheuser-Busch - St. Louis MO
• Animal Welfare Intern, Nebraska Humane Society - Omaha NE
• Communications and Marketing Intern, American Hereford Association - Blue Rapids KS
• Feedlot Intern, U.S. Meat Animal Research Center - Clay Center NE
• Animal Care Intern, Willowbrook Wildlife Center - Glen Ellyn IL
• Equine Racetrack Practitioner Intern, Arapahoe Park Racetrack - Aurora CO

Grad Schools
• Ruminant Nutrition, University of Nebraska-Lincoln - Lincoln NE
• Professional Program of Veterinary Medicine, University of Nebraska-Lincoln - Lincoln NE
• Animal biology, University of CA-Davis - Davis CA
• Masters in Conservation Medicine, Tufts University - Medford MA
• Range Management Program, Texas Christian University - Fort Worth TX
• Animal Breeding and Genetics, University of Nebraska-Lincoln - Lincoln NE
• Animal Science, Physiology, University of Nebraska - Lincoln NE
• Masters of Science in Leadership Education: Leadership Development Emphasis, University of Nebraska-Lincoln - Lincoln NE
• Agriculture Economics, MS, Oklahoma State - Stillwater OK
• Poultry Nutrition, University of Nebraska - Lincoln NE