ANIMAL SCIENCE MAJOR: EQUINE STUDIES OPTION (B.S.)

https://colsa.unh.edu/agriculture-nutrition-food-systems/program/bs/animal-science-equine-studies-option

Description

The Animal Science: Equine Studies option is designed to provide students with a foundation in the sciences, a breadth within the animal science discipline, and the depth to serve the equine industry. Through a hands-on curriculum, equine studies students receive training in areas important to pursuing a successful career in equine management and to pursue additional training leading to the M.S. or Ph.D. degree in equine science or its related disciplines. The UNH Equine facilities include a 40-stall barn, indoor and outdoor riding arenas, 3 regulation-size dressage competition arenas, an outdoor competition course, laboratory, and artificial insemination rooms as well as classrooms and conference space.

Requirements

Degree Requirements

Minimum Credit Requirement: 128 credits

Minimum Residency Requirement: 32 credits must be taken at UNH

Minimum GPA: 2.0 required for conferral*

Core Curriculum Required: Discovery & Writing Program Requirements

Foreign Language Requirement: No

All Major, Option and Elective Requirements as indicated.

*Major GPA requirements as indicated.

Major Requirements

Students will be required to earn a C- or better in the foundation courses and all required courses for the animal science major to receive credit toward graduation. Students failing to do this will need to retake the course in order to receive credit.

A. Foundation Science Courses required for all Animal Science majors

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 411</td>
<td>Introductory Biology Molecular and Cellular</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 412</td>
<td>Introductory Biology Evolution, Biodiversity and Ecology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 528</td>
<td>Applied Biostatistics I</td>
<td>4</td>
</tr>
<tr>
<td>BMCB 501</td>
<td>Biological Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>BMS 503</td>
<td>General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>&amp; BMS 504</td>
<td>and General Microbiology Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 404</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
</tbody>
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B. Animal Science Core Courses required for all ANSC:Equine Studies option majors

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ANSC 406</td>
<td>Careers in Animal Science</td>
<td>1</td>
</tr>
<tr>
<td>ANSC 511</td>
<td>Animal Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 512</td>
<td>Animal Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 543</td>
<td>Technical Writing in Animal Sciences</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 602</td>
<td>Animal Rights and Societal Issues</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 609</td>
<td>Principles of Animal Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 612</td>
<td>Genetics of Animals</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 625</td>
<td>Animal Diseases</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 724</td>
<td>Reproductive Management and Artificial Insemination</td>
<td>4</td>
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C. Equine Core Courses required for all ANSC:Equine Studies option majors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS 432</td>
<td>Introduction to Forage and Grassland Management</td>
<td>3</td>
</tr>
<tr>
<td>ANSC 427</td>
<td>Introduction to Equine Science</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 522</td>
<td>Ethical Horsemanship - Considerations and Theory</td>
<td>3</td>
</tr>
<tr>
<td>ANSC 526</td>
<td>Equine Conformation, Movement, and Performance</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 538</td>
<td>Equine Handling/Longeing</td>
<td>1</td>
</tr>
<tr>
<td>ANSC 647</td>
<td>Equine Stable Management</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 665</td>
<td>Agricultural &amp; Equine Event Design, Planning and Management</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 704</td>
<td>Advanced Equine Physiology and Lameness</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 797</td>
<td>Equine Capstone Experience</td>
<td>4</td>
</tr>
</tbody>
</table>

D. Equine Elective Courses

All Equine Option students will complete ≥ 8 elective credits of the courses listed below. Some courses are not offered every academic year. Students will work with their advisor to plan accordingly and customize their course selection to support their career goals and interests.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS 597</td>
<td>Applied Animal Science Work Experience</td>
<td>1-4</td>
</tr>
<tr>
<td>ANSC 622</td>
<td>Further Explorations in Horsemanship Theory</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 641</td>
<td>Principles of Dressage Instruction</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 642</td>
<td>Principles of Jumping Instruction</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 643</td>
<td>Principles of Therapeutic Riding Instruction</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 695</td>
<td>Supervised Teaching Experience</td>
<td>2</td>
</tr>
<tr>
<td>ANSC 799</td>
<td>Honors Senior Thesis</td>
<td>1-4</td>
</tr>
</tbody>
</table>

E. Professional Internship or Related Work Experience

Equine Studies option students will demonstrate evidence of a substantive work or internship experience in the equine industry. In collaboration with their advisors, students will select an appropriate setting based on their professional and career interests. Students will document this work via either credit-based ANSC 600 Field Experience or no-credit AAS 597 Applied Animal Science Work Experience.

1 Students interested in graduate school should take 2 semesters of Organic Chemistry (CHEM 651/CHEM 653 and CHEM 652/CHEM 654) and one semester of General Biochemistry (BMCB 658/BMBC 659) in place of BMCB 501.

2 ENGL 501 Introduction to Creative Nonfiction, ENGL 502 Professional and Technical Writing, ENGL 503 Persuasive Writing or ENGL 419 How to Read Anything.

Total Credits: 91
### Degree Plan

#### First Year

**Fall**
- ANSC 427 Introduction to Equine Science 4
- BIOL 411 Introductory Biology: Molecular and Cellular 4
- CHEM 403 General Chemistry I 4
- Discovery Course or Elective 1 4

Credits 16

**Spring**
- BIOL 412 Introductory Biology: Evolution, Biodiversity and Ecology 4
- CHEM 404 General Chemistry II 4
- ENGL 401 First-Year Writing (WI) 4
- Discovery course or Elective 1 4

Credits 16

#### Second Year

**Fall**
- AAS 432 Introduction to Forage and Grassland Management 3
- ANSC 511 Animal Anatomy and Physiology I 4
- ANSC 522 Ethical Horsemanship - Considerations and Theory (WI) 3
- ANSC 538 Equine Handling/Longeing 1
- Elective 4

Credits 15

**Spring**
- ANSC 406 Careers in Animal Science 1
- ANSC 512 Animal Anatomy and Physiology II 4
- ANSC 526 Equine Conformation, Movement, and Performance 4
- ANSC 543 Technical Writing in Animal Sciences (WI) 2
- Discovery 4

Credits 15

#### Third Year

**Fall**
- ANSC 612 Genetics of Animals 4
- ANSC 625 Animal Diseases 4
- ANSC 647 Equine Stable Management 4
- BMS 503 General Microbiology and General Microbiology Laboratory 5

Credits 17

**Spring**
- ANSC 609 Principles of Animal Nutrition 4
- ANSC 665 Agricultural & Equine Event Design, Planning and Management 2
- BMCB 501 Biological Chemistry 4
- Discovery course 4
- Elective 4

Credits 18

**Fourth Year**

**Fall**
- ANSC 704 Advanced Equine Physiology and Lameness 4
- BIOL 528 Applied Biostatistics I 4
- Elective 4
- Discovery course 4

Credits 16

**Spring**
- ANSC 602 Animal Rights and Societal Issues (WI) 4
- ANSC 724 Reproductive Management and Artificial Insemination 4
- ANSC 797 Equine Capstone Experience 4
- Discovery course 4

Credits 16

Total Credits 129

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1 ANSC 402 Horsemanship is a popular elective for ANSC: EQU students; the course requires permission of the instructor.

### Student Learning Outcomes

As part of the foundation and core courses, all Animal Science students will gain a fundamental knowledge of the disciplines of:

**Anatomy & physiology**

- Students will be able to recognize the complimentary relationship of anatomic structure and function and accurately describe the basic physiologic processes of mammalian organ systems.

**Nutrition**

- Students will be able to identify, compare, contrast, and link different concepts regarding animal feeding and metabolism of carbohydrates, lipids, and protein in major livestock species and equine.

**Genetics**

- Students will understand basic principles and applications of inheritance, the difference between qualitative and quantitative genetics, and be able to discuss the various disciplines within genetics.

**Disease**

- Students will understand the modes of transmission of infectious diseases, recognize signs of illness associated with notable diseases in livestock species, and be able to appropriately apply general concepts of disease prevention and biosecurity to a variety of management situations.

**Reproduction**

- Students will comprehend the mechanisms and endocrine control of gametogenesis, fertilization, pregnancy, and lactation and understand the variety of factors that can influence reproductive success.

**Animal Ethics**
• Students will recognize the numerous ways that humans use, benefit from, and conflict with non-human animals and have an awareness of the variety of motivations and influences that drive these relationships.

Critical Analysis & Communication

• Students will be able to develop critical questions that facilitate their independent investigation of topics related to animal science and demonstrate an integration of discipline specific knowledge through engaging in experiential education opportunities.
• Students will be able to conduct literature searches using relevant databases to critically evaluate both academic and popular press resources pertinent to the animal sciences.
• Students will be able to construct well-supported, effectively organized written arguments to express informed perspectives on animal science related topics. These writings will demonstrate professional style, appropriate mechanics (grammar, punctuation, and spelling), and the correct use of citations.

By completing the Equine Core, students will be able to:

• Identify, explain, and demonstrate safe, effective, and humane equine handling and stable management skills.
• Identify, explain, and demonstrate equine health management practices and basic equine first aid.
• Explain guidelines for equine nutrition, feeding, and parasite management.
• Demonstrate technical proficiency with English tack, boots, bandages, and blankets.
• Demonstrate safe, competent longeing technique using a trained horse.
• Demonstrate an understanding of the principles of riding practices in equestrian sport.
• Communicate effectively, in written and verbal form, about professional topics in the equine industry.