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

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

Description

This option is designed for:

- Students interested in a career in the scientific or technical fields within the equine industry, including nutrition, rehabilitation, reproduction, and research.
- Students interested in pursuing graduate studies, including veterinary school.

This option combines equine classes with a more intensive science curriculum, which includes animal behavior, reproduction, and nutrition.

In addition to the standard core courses for all Equine Studies majors, students in Equine Management take courses in anatomy and physiology, chemistry, nutrition, reproduction, and statistics. Students then select 20 approved credits to allow them to focus in the areas most relevant to their desired career. Those courses may include classes in forages, equine training, animal behavior, animal rights, animal cognition, and infectious diseases. Students in this option may also use these 20 credits to take courses required to apply to veterinary school, including organic chemistry, microbiology, biochemistry, physics, and calculus.

Requirements

A minimum grade of C-minus or better must be earned in all Equine Studies courses required by the major.

### Code | Title |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSC 411</td>
<td>Freshman Seminar in Equine Science</td>
</tr>
<tr>
<td>ANSC 437</td>
<td>Equine Husbandry Techniques</td>
</tr>
<tr>
<td>ANSC 504</td>
<td>Equine Physiology</td>
</tr>
<tr>
<td>ANSC 522</td>
<td>Intermediate Horsemanship Theory</td>
</tr>
<tr>
<td>or ANSC 405</td>
<td>Theory of Horsemanship</td>
</tr>
<tr>
<td>ANSC 600</td>
<td>Field Experience</td>
</tr>
<tr>
<td>ANSC 612</td>
<td>Genetics of Domestic Animals</td>
</tr>
<tr>
<td>or GEN 604</td>
<td>Principles of Genetics</td>
</tr>
<tr>
<td>ANSC 665</td>
<td>Principles of Horse Trials Management</td>
</tr>
<tr>
<td>ANSC 725</td>
<td>Equine Sports Medicine</td>
</tr>
<tr>
<td>ANSC 796</td>
<td>Equine Senior Seminar</td>
</tr>
<tr>
<td>ANSC 797</td>
<td>Equine Capstone Experience</td>
</tr>
<tr>
<td>BIOL 411</td>
<td>Introductory Biology: Molecular and Cellular</td>
</tr>
<tr>
<td>BIOL 412</td>
<td>Introductory Biology: Evolution, Biodiversity and Ecology</td>
</tr>
<tr>
<td>ENGL 501</td>
<td>Introduction to Creative Nonfiction</td>
</tr>
<tr>
<td>or ENGL 419</td>
<td>How to Read Anything</td>
</tr>
<tr>
<td>or ENGL 502</td>
<td>Professional and Technical Writing</td>
</tr>
<tr>
<td>or ENGL 503</td>
<td>Persuasive Writing</td>
</tr>
<tr>
<td>or ANSC 543</td>
<td>Technical Writing in Animal Sciences</td>
</tr>
<tr>
<td>EREC 411</td>
<td>Environmental and Resource Economics Perspectives</td>
</tr>
<tr>
<td>or ECON 402</td>
<td>Principles of Economics (Micro)</td>
</tr>
</tbody>
</table>

**Equine Science Requirements**

- ANSC 609 Principles of Animal Nutrition | 4 |
- or MUTR 750 Nutritional Biochemistry |
- ANSC 724 Reproductive Management and Artificial Insemination |
- or ANSC 701 Physiology of Reproduction |
- BIOL 528 General Zoology I |
- CHEM 403 | General Chemistry I |
- & CHEM 404 | General Chemistry II |

**Equine Science Electives:** Choose 20 credits from the following:

- AAS 432 Introduction to Forage and Grassland Management |
- ANSC 426 Equine Conformation and Lameness |
- ANSC 500 Equine Assisted Activities and Therapies |
- ANSC 507 Survey of Equine Training Techniques |
- ANSC 538 Equine Handling/Longeing |
- ANSC 602 Animal Rights and Societal Issues |
- ANSC 605 Supervised Teaching Experience |
- ANSC 701 Physiology of Reproduction |
- ANSC 724 Reproductive Management and Artificial Insemination |
- ANSC 750 Collaborative Farm Design and Development |
- BMCB 658 General Biochemistry |
- & BMCB 659 General Biochemistry Lab |
- BMS 503 General Microbiology |
- & BMS 504 General Microbiology Laboratory |
- BMS 623 Histology: Microscopic Cellular Structure and Function |
- BMS 703 Infectious Disease and Health |
- BMS 704 Pathologic Basis of Disease |
- BMS 712 Experiences in Applied Veterinary Diagnostics |
- BMS 718 Mammalian Physiology |
- CHEM 651 Organic Chemistry I |
- & CHEM 653 and Organic Chemistry Laboratory |
- CHEM 652 Organic Chemistry II |
- & CHEM 664 and Organic Chemistry Laboratory |
- EDUC 500 Exploring Teaching |
- MATH 424 Calculus for Life Sciences |
- NSB 727 Animal Communication |
- NUTR 750 Nutritional Biochemistry |
- PHYS 401 Introduction to Physics I |
- PHYS 402 Introduction to Physics II |
- PSYC 720 Animal Cognition |
- ZOOL 613 Animal Behavior |
- ZOOL 736 Genes and Behavior

1 Waived for TSAS equine management graduates

### Degree Plan

#### Sample Student Schedule by Semester - Equine Science - Pre-Vet Intent

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANSC 402</td>
<td>Horsemanship Lab</td>
<td>1</td>
</tr>
<tr>
<td>ANSC 411</td>
<td>Freshman Seminar in Equine Science</td>
<td>1</td>
</tr>
<tr>
<td>ANSC 437</td>
<td>Equine Husbandry Techniques</td>
<td>4</td>
</tr>
<tr>
<td>ANSC 522</td>
<td>Intermediate Horsemanship Theory</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 411</td>
<td>Introductory Biology: Molecular and Cellular</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 412</td>
<td>Introductory Biology: Evolution, Biodiversity and Ecology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 404</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 401</td>
<td>First-Year Writing</td>
<td>4</td>
</tr>
</tbody>
</table>
**Equine Studies Major: Equine Science Option (B.S.)**

**MATH 424B** Calculus for Life Sciences 4

**Second Year**

**Fall**
- ANSC 511 Anatomy and Physiology 4
- ANSC 538 Equine Handling/Longeing 1
- BIOL 528 Applied Biostatistics I 4
- CHEM 651 & CHEM 653 Organic Chemistry I and Organic Chemistry Laboratory 5
- EREC 411 Environmental and Resource Economics Perspectives 4

**Credits** 16

**Spring**
- ANSC 512 Anatomy and Physiology 4
- CHEM 652 & CHEM 654 Organic Chemistry II and Organic Chemistry Laboratory (Elective) 5
- ENGL 501 Introduction to Creative Nonfiction 4

**Discovery Course** 4

**Credits** 18

**Third Year**

**Fall**
- ANSC 504 Equine Physiology 4
- ANSC 547 Equine Stable Management 3
- ANSC 612 Genetics of Domestic Animals 4
- ANSC 665 Principles of Horse Trials Management 2
- PHYS 401 Introduction to Physics I 4

**Credits** 17

**Spring**
- BMCB 658 & BMCB 659 General Biochemistry and General Biochemistry Lab 5
- BMS 503 & BMS 504 General Microbiology and General Microbiology Laboratory (Elective) 5
- PHYS 402 Introduction to Physics II 4

**Discovery Course** 4

**Credits** 18

**Summer**
- ANSC 600 or ANSC 795W Field Experience or Investigations 1-4

**Credits** 1-4

**Fourth Year**

**Fall**
- ANSC 609 Principles of Animal Nutrition 4
- ANSC 725 Equine Sports Medicine 4
- ANSC 796 Equine Senior Seminar 2
- ZOOL 613 or BMS 718 Animal Behavior (Elective) and Mammalian Physiology 5

**Discovery Course** 4

**Credits** 19

**Spring**
- ANSC 602 Animal Rights and Societal Issues (Elective) 4
- ANSC 724 Reproductive Management and Artificial Insemination 4

ANSC 797 Equine Capstone Experience 4

**Discovery Course** 4

**Credits** 16

**Total Credits** 139-142

**Dairy Program Courses**

Some students pursuing veterinary school admission are interested in enrolling in courses with the UNH Dairy Program. In particular, the Cooperative Real Education in Agricultural Management (CREAM) program is a popular enrichment course. CREAM is highly competitive to get into, and equine students must take it before their senior year due to conflicts with required equine courses.

It is suggested that interested students apply to the CREAM program in their freshman year, and that they plan to take AAS 425 Introduction to Dairy Herd Management, in the fall of their sophomore year. While it is unlikely that a freshman applicant to CREAM will be selected, priority in future semesters is given to students who have both previously applied and who have taken dairy courses. Students should then apply again to CREAM in their sophomore year to hopefully gain admission in their junior year. Advisors will work with effected students to modify the timeline for other courses in order to accommodate CREAM in the schedule.

**Sample Student Schedule by Semester - Equine Science - (Non Pre-Vet Intent)**

**Course**

**Title**

**Credits**

**First Year**

**Fall**
- ANSC 402 Horsemanship Lab 1
- ANSC 411 Freshman Seminar in Equine Science 1
- ANSC 437 Equine Husbandry Techniques 4
- ANSC 522 Intermediate Horsemanship Theory 3
- BIOL 411 Introductory Biology: Molecular and Cellular 4
- CHEM 403 General Chemistry I 4

**Credits** 17

**Spring**
- BMCB 403 Equine Conformation and Lameness 4
- BIOL 412 Introductory Biology: Evolution, Biodiversity and Ecology 4
- CHEM 404 General Chemistry II 4
- ENGL 401 First-Year Writing 4

**Credits** 18

**Second Year**

**Fall**
- AAS 432 Introduction to Forage and Grassland Management 3
- ANSC 511 Anatomy and Physiology 4
- ANSC 538 Equine Handling/Longeing 1
- ANSC 547 Equine Stable Management 3
- BMS 503 & BMS 504 General Microbiology and General Microbiology Laboratory (Elective) 5

**Credits** 16

**Fourth Year**

**Fall**
- ANSC 609 Principles of Animal Nutrition 4
- ANSC 725 Equine Sports Medicine 4
- ANSC 796 Equine Senior Seminar 2
- ZOOL 613 or BMS 718 Animal Behavior (Elective) 5

**Discovery Course** 4

**Credits** 19

**Spring**
- ANSC 602 Animal Rights and Societal Issues (Elective) 4
- ANSC 724 Reproductive Management and Artificial Insemination 4

ANSC 797 Equine Capstone Experience 4

**Discovery Course** 4

**Credits** 16

**Total Credits** 139-142
### Student Learning Outcomes

All students who graduate from the B.S. in Equine Studies program will be able to:

- Identify, explain, and demonstrate safe, effective, and humane equine handling and stable management skills.