

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	Credits
Core Equine Studies Requirements		
ANSC 411	Freshman Seminar in Equine Science	1
ANSC 437	Equine Husbandry Techniques	4
ANSC 504	Equine Physiology	4
ANSC 522	Intermediate Horsemanship Theory	3
or ANSC 405	Theory of Horsemanship	
ANSC 547	Equine Stable Management	3
ANSC 600	Field Experience ¹	1-4
ANSC 612	Genetics of Animals	4
or GEN 604	Principles of Genetics	
ANSC 665	Principles of Horse Trials Management ¹	2
ANSC 725	Equine Sports Medicine	4
ANSC 796	Equine Senior Seminar	2
ANSC 797	Equine Capstone Experience	4
BIOL 411	Introductory Biology: Molecular and Cellular	4
BIOL 412	Introductory Biology: Evolution, Biodiversity and Ecology	4
ENGL 501	Introduction to Creative Nonfiction	4
or ENGL 419	How to Read Anything	
or ENGL 502	Professional and Technical Writing	
or ENGL 503	Persuasive Writing	
or ANSC 543	Technical Writing in Animal Sciences	
EREC 411	Environmental and Resource Economics Perspectives	4
or ECON 402	Principles of Economics (Micro)	

Equine Science Requirements

ANSC 511 & ANSC 512	Anatomy and Physiology and Anatomy and Physiology ¹	8
ANSC 609	Principles of Animal Nutrition ¹	4
or NUTR 750	Nutritional Biochemistry	
ANSC 724	Reproductive Management and Artificial Insemination	4
or ANSC 701	Physiology of Reproduction	
BIOL 528	Applied Biostatistics I	4
CHEM 403 & CHEM 404	General Chemistry I and General Chemistry II	8
Equine Science Electives: Choose 20 credits from the following:		
AAS 432	Introduction to Forage and Grassland Management	3
ANSC 426	Equine Conformation and Lameness	4
ANSC 500	Equine Assisted Activities and Therapies	4
ANSC 507	Survey of Equine Training Techniques	3
ANSC 538	Equine Handling/Longeing	1
ANSC 602	Animal Rights and Societal Issues	4
ANSC 695	Supervised Teaching Experience	1-2
ANSC 701	Physiology of Reproduction	4
ANSC 724	Reproductive Management and Artificial Insemination	4
ANSC 750	Collaborative Farm Design and Development	4
BMCB 658 & BMCB 659	General Biochemistry and General Biochemistry Lab	5
BMS 503 & BMS 504	General Microbiology and General Microbiology Laboratory	5
BMS 623	Histology: Microscopic Cellular Structure and Function	4
BMS 703	Infectious Disease and Health	4
BMS 704	Pathologic Basis of Disease	4
BMS 712	Experiences in Applied Veterinary Diagnostics	2
BMS 718	Mammalian Physiology	4
CHEM 651 & CHEM 653	Organic Chemistry I and Organic Chemistry Laboratory	5
CHEM 652 & CHEM 654	Organic Chemistry II and Organic Chemistry Laboratory	5
EDUC 500	Exploring Teaching	4
MATH 424B	Calculus for Life Sciences	4
NSB 727	Animal Communication	4
NUTR 750	Nutritional Biochemistry	4
PHYS 401	Introduction to Physics I	4
PHYS 402	Introduction to Physics II	4
PSYC 720	Animal Cognition	4
ZOOL 613	Animal Behavior	5
ZOOL 736	Genes and Behavior	4

¹ Waived for TSAS equine management graduates

Degree Plan

Sample Student Schedule by Semester - Equine Science - 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		
BIOL 412	Introductory Biology: Evolution, Biodiversity and Ecology	4

CHEM 404	General Chemistry II	4
ENGL 401	First-Year Writing	4
MATH 424B	Calculus for Life Sciences	4
Credits		16

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		18

Spring

ANSC 512	Anatomy and Physiology	4
CHEM 652 & CHEM 654	Organic Chemistry II and Organic Chemistry Laboratory	5
ENGL 501	Introduction to Creative Nonfiction	4
Discovery Course		4
Credits		17

Third Year**Fall**

ANSC 504	Equine Physiology	4
ANSC 547	Equine Stable Management	3
ANSC 612	Genetics of 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	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) or 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

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		
ANSC 426	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		16
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
----------------------	---	---

Discovery Course		4
Credits		20

Spring

ANSC 512	Anatomy and Physiology	4
ENGL 501	Introduction to Creative Nonfiction	4
EREC 411	Environmental and Resource Economics Perspectives	4
Discovery Course		4

Credits		16
----------------	--	-----------

Third Year**Fall**

ANSC 504	Equine Physiology	4
ANSC 612	Genetics of Animals	4
ANSC 665	Principles of Horse Trials Management	2
ZOOL 613	Animal Behavior (Elective)	5
Discovery Course		4

Credits		19
----------------	--	-----------

Spring

BMS 503 & BMS 504	General Microbiology and General Microbiology Laboratory	5
Discovery Course		4
Major Elective		4
Major Elective		4

Credits		17
----------------	--	-----------

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
BMS 718	Mammalian Physiology (Elective)	4
Elective		4

Credits		18
----------------	--	-----------

Spring

ANSC 602	Animal Rights and Societal Issues (Elective)	4
ANSC 724	Reproductive Management and Artificial Insemination	4
ANSC 797	Equine Capstone Experience	4
Choice of Major Requirement		4

Credits		16
----------------	--	-----------

Total Credits		140-143
----------------------	--	----------------

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.
- 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.

Equine Science option:

- Demonstrate practical application of equine anatomy and an understanding of the equine limb beyond the requirements for all equine majors.
- Demonstrate knowledge of veterinary care beyond the basic level required of all equine studies majors, and demonstrate the ability to apply this knowledge to real-world emergency and management situations.
- Demonstrate proficiency with basic equine health procedures and equipment.
- Demonstrate knowledge of equine nutrition, feeding, and parasite management beyond the basic level required of all equine studies majors, and demonstrate the ability to apply this knowledge to real-world management situations.
- Demonstrate knowledge of equine dental care.
- Demonstrate knowledge of equine genetics and reproduction.