Crookston Campus

Equine Science B.S.

Agriculture and Natural Resources

Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2021
- Required credits to graduate with this degree: 120 to 124
- Required credits within the major: 77 to 92
- This program requires summer terms.
- Degree: Bachelor of Science

Graduates of UMC's equine science program understand and are able to meet the daily care, nutrition, health care, and exercise/training needs of horses in their care. They have the knowledge and skills necessary to succeed in equine or equine-related employment and have the business and management experience necessary to operate an equine or related business. The program balances the practical skills students need to work with and care for horses and the theory required to build a successful career. The focus is on the business and management aspects of the horse industry, thus providing a broad-based education which appeals to employers. Options also exist for students who wish to pursue graduate school or pre-veterinary studies.

Program outcomes for graduates:
demonstrate knowledge of theory and practical experience in physiology, nutrition, health, and reproduction of the horse;
demonstrate a working knowledge of equine ownership responsibility and husbandry;
be able to apply management theories and software and marketing strategies to equine and related enterprises;
demonstrate horsemanship and training skills in a variety of disciplines and discern what methods work most effectively with horses of different temperaments and breeding/conformation;
have practical skills and knowledge that will lead to a variety of employment opportunities in the equine industry.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

General Requirements

All students are required to complete general University and college requirements. For more information, see the graduation requirements.

Program Requirements

Students must complete 40 upper-division credits.

A maximum of two D grades are allowed for core courses required in the program, subplan/emphasis, and technology requirements. This includes grades earned at UMC or transferred in from another institution.

Equine Science Core

Take exactly 39 credit(s) from the following:

- ANSC 1004 - Introduction to Animal Science (4.0 cr)
- ANSC 2104 - Feeds and Feeding (4.0 cr)
- ANSC 3104 - Applied Animal Nutrition (4.0 cr)
- ANSC 3203 - Animal Anatomy and Physiology (4.0 cr)
- ANSC 3503 - Animal Health and Disease (3.0 cr)
- EQSC 1002 - Equine Careers and Husbandry Practices (1.0 cr)
- EQSC 1202 - Equine Evaluation (2.0 cr)
- EQSC 2102 - Horse Production (4.0 cr)
- EQSC 2110 - Topics in Farrier Science (1.0 cr)
- EQSC 3305 - Equine Reproductive Techniques (3.0 cr)
- EQSC 4102 - Equine Management (3.0 cr)
- GBUS 3107 - Legal Environment in Business (3.0 cr)

Pre-Internship Seminar

Information current as of March 28, 2024

GNAG 2899 - Pre-Internship Seminar (0.5 cr)
GNAG 3899 - Pre-Internship Seminar (0.5 cr)

Internship

Take 2 or more credit(s) from the following:
- GNAG 3900 - Internship (0.5 - 3.0 cr)

Post Internship Seminar

GNAG 3901 - Post Internship Seminar (0.5 cr)

Agriculture Electives

Students select electives in consultation with their advisor.
Take exactly 2 credit(s) from the following:
- AGEC
- AGRO
- ANSC
- ASM
- EQSC
- GNAG
- PUBH
- SOIL

Liberal Education

This program requires a minimum of 40 credits of liberal education and completion of the ten goal areas of the Minnesota Transfer Curriculum. The following are specific required liberal education courses.
Take exactly 5 course(s) totaling exactly 16 credit(s) from the following:
- BIOL 1009 - General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)
- COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
- COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
- ECON 2101 - Microeconomics [HI/BEH/SSC] (3.0 cr)
- COMM 1101 - Public Speaking [COMMUNICAT] (3.0 cr)

Technology

If applicable, the course taken from below may be used to satisfy both the program and technology requirements.
Take exactly 1 course(s) totaling exactly 3 credit(s) from the following:
- AGEC 2310 - Agribusiness Financial Records (3.0 cr)
- CA 1xxx
- CA 2xxx

Program Sub-plans

Students are required to complete one of the following sub-plans.

Equine Science

This emphasis leads graduates to equine careers, including management, training/showing, riding instruction, breeding/reproduction, feed production/sales, sales of equestrian equipment or pharmaceutical/health care products, and veterinary technician. Students receive classroom instruction and hands-on experiential learning. Focus is on the business/management aspect of the horse industry. Curriculum includes computer, communications, and sales training. Coursework includes riding instruction, nutrition, breeding, reproduction, horse production, evaluation, feeds, health/disease, management, training/showing, and facilities. Students can take courses specific to their interest.

Equine Science Emphasis Core

Take 9 - 10 course(s) totaling exactly 29 credit(s) from the following:
- AGEC 2310 - Agribusiness Financial Records (3.0 cr)
- AGEC 3540 - Farm Business Management (3.0 cr)
- AGEC 3310 - Advanced Agribusiness Financial Records (3.0 cr)
- CHEM 1401 - Elementary Bioorganic Chemistry [PHYS SCI] (4.0 cr)
- EQSC 2112 - Riding Instructor Training (3.0 cr)
- EQSC 3413 - Horse Training and Showing (3.0 cr)
- MATH 1031 - College Algebra [MATH THINK] (3.0 cr)
- Choose one of the following:
  - ANSC 3023 - Animal Breeding (3.0 cr)
  or BIOL 3022 - Principles of Genetics (3.0 cr)
- Choose one of the following:
  - CHEM 1001 - Introductory Chemistry [PHYS SCI] (4.0 cr)
  or CHEM 1061 - Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)
  CHEM 1065 - Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)

Equine Science Electives

Take 7 or more credit(s) from the following:

- EQSC 1000 - Light Horse Driving (2.0 cr)
- EQSC 1100 - Western Equitation (3.0 cr)
- EQSC 1200 - Hunt Seat & Dressage Equitation (3.0 cr)
- EQSC 1300 - Saddle Seat Equitation (2.0 cr)
- EQSC 2001 - Concepts in Dressage Equitation (3.0 cr)
- EQSC 3441 - Topics in Advanced Western Equitation (3.0 cr)
- EQSC 3443 - Topics in Advanced Equitation Over Fences (3.0 cr)

Agricultural Electives

Students must complete enough agriculture electives (selected in consultation with their advisor) to meet the 120 credit graduation requirement. The number of credits needed will depend on the LE course selections.

Pre-Veterinary Medicine

The pre-veterinary medicine emphasis meets the course entry requirements for admission to the University of Minnesota College of Veterinary Medicine; however, similar entry requirements among colleges of veterinary medicine, coupled with sufficient flexibility within the curriculum, allow graduates to meet the admission requirements for many other institutions. Students who graduate are well prepared to pursue their career goal of becoming a veterinarian. Students are exposed to traditional classroom instruction, as well as hands-on/experiential learning in the laboratory.

Pre-Veterinary Medicine Core

Take exactly 16 course(s) totaling exactly 48 credit(s) from the following:

- ANSC 3023 - Animal Breeding (3.0 cr)
- ANSC 3304 - Reproductive Physiology (4.0 cr)
- BIOL 2012 - General Zoology (4.0 cr)
- BIOL 2032 - General Microbiology (4.0 cr)
- BIOL 3022 - Principles of Genetics (3.0 cr)
- CHEM 1061 - Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)
- CHEM 1062 - Chemical Principles II (3.0 cr)
- CHEM 1065 - Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)
- CHEM 1066 - Chemical Principles II Laboratory (1.0 cr)
- CHEM 2301 - Organic Chemistry I (3.0 cr)
- CHEM 2310 - Organic Chemistry Laboratory I (2.0 cr)
- CHEM 3021 - Biochemistry I (3.0 cr)
- MATH 1150 - Introduction to Statistics [MATH THINK] (3.0 cr)
- PHYS 1101 - Introductory College Physics I [PHYS SCI] (4.0 cr)
- PHYS 1102 - Introductory College Physics II [PHYS SCI] (4.0 cr)
- Choose one of the following:
  - MATH 1031 - College Algebra [MATH THINK] (3.0 cr)

  or MATH 1142 - Survey of Calculus [MATH THINK] (3.0 cr)

Pre-Veterinary Medicine Electives

Take 3 or more credit(s) from the following:

- EQSC 1000 - Light Horse Driving (2.0 cr)
- EQSC 1100 - Western Equitation (3.0 cr)
- EQSC 1200 - Hunt Seat & Dressage Equitation (3.0 cr)
- EQSC 1300 - Saddle Seat Equitation (2.0 cr)
- EQSC 2001 - Concepts in Dressage Equitation (3.0 cr)
- EQSC 3441 - Topics in Advanced Western Equitation (3.0 cr)
- EQSC 3443 - Topics in Advanced Equitation Over Fences (3.0 cr)

Agricultural Electives

Students must complete enough agriculture electives (selected in consultation with their advisor) to meet the 124 credit graduation requirement. The number of credits needed will depend on the LE course selections.