

Animal Science

Department Information

- **Department Web Site:**
www.ndsu.edu/agriculture/academics/academic-units/animal-sciences/ (<http://www.ndsu.edu/agriculture/academics/academic-units/animal-sciences/>)
- **Credential Offered:**
B.S.; Minor
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/animal-science/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/animal-science/>)

The animal science major at North Dakota State University encompasses physiology, nutrition, genetics, reproduction, marketing, management and husbandry of livestock and companion animals; the important scientific understanding for the utilization of animal products; and experiences necessary for leadership in, and advocacy for, industries providing animals and animal products that benefit humans.

The faculty and staff conduct teaching, research and extension programs to support production and utilization of many types of animals, including beef and dairy cattle, sheep, swine, horses and poultry, as well as those providing other types of food and fiber, companion animals and animals in zoos.

The Curriculum

Three study options are available for the animal science major.

Animal Production, Management and Husbandry – This option is designed for students wanting a background in the principles of animal management and husbandry. It includes broad training in animal husbandry, production and management.

Animal Biomedical Science – This option offers students a more scientific approach to animal science, preparing them for positions in research, teaching or veterinary medicine. Students receive an animal science degree while meeting academic requirements for application to veterinary schools.

Animal Agribusiness – This option is designed for students desiring a background in the business and economic principles of the livestock industry.

High School Preparation

High school preparation should include course work in biology, chemistry, English and algebra.

Career Opportunities

Animal science students qualify for many varied occupations that involve animal and agriculture business, livestock products and land management. Graduates find employment in career fields such as nutrition and pharmaceutical sales and support; areas of Extension; financial lending; the promotion, management and sale of livestock and meat; and farm, ranch and natural resource management. Students may also choose to continue their education in graduate school, veterinary school, or other graduate-level professional programs.

Extra-Curricular Activities

Animal science students belong to a variety of clubs including Saddle and Sirloin, Dairy Club, Rodeo Club, Pre-Vet Club, Horseman's Association, Collegiate Cattlewomen, Range Club, Anthrozoology Club, and Collegiate FFA. The Saddle and Sirloin club is the largest club on campus, and sponsors events such as the Little International Livestock Show, the Hall of Fame Banquet, and Kiddie Days. In addition to clubs, students participate in intercollegiate contests including livestock, meat, and dairy evaluation teams; equestrian and rodeo teams; and academic quadrathlon.

Financial Aid and Scholarships

Part-time work and work-study programs are available at the equine center, in several different livestock units, and in animal science laboratories within the department. Over \$50,000 in departmental scholarships are awarded to Equine Science, Animal Science and Veterinary Technology students annually. In addition, the College of Agriculture, Food Systems, and Natural Resources awards scholarships each year to incoming freshman and current NDSU students. Contact the Office of the Dean, College of Agriculture, Food Systems, and Natural Resources, for more information on college scholarships <https://www.ag.ndsu.edu/academics/scholarships> (<https://www.ag.ndsu.edu/academics/scholarships>)

Student loan, grant and work-study information is available from the Office of Financial Aid and Scholarships, and One Stop <https://www.ndsu.edu/onestop/finaid/>

Sample Program Guide

IMPORTANT DISCLAIMER: This guide is not an official curriculum. This guide is a sample four-year degree plan of how students might plan this major with other degree requirements to complete their education in four years. Student plans will vary from this sample due to a variety of factors, such as, but not limited to, start year, education goals, transfer credit, and course availability. To ensure proper degree completion, enrolled students should utilize Degree Map (<https://www.ndsu.edu/registrar/degreemap/>) and Schedule Planner (<https://www.ndsu.edu/onestop/degree-map-and-planning/>) in Campus Connection and consult regularly with academic advisors to ensure graduation requirements are being met.

This sample plan of study applies to the Animal Production, Management, and Husbandry study option.

Freshman			
Fall	Credits	Spring	Credits
ANSC 101 ¹		1 ANSC 240	3
ANSC 114		3 BIOL 111 & BIOL 100L ³	4
CHEM 117 & 117L ²		4 COMM 110	3
ENGL 110		3 ENGL 120	3
MATH 103		3 Gen Ed Humanities & Fine Arts and Cultural Diversity	3
Gen Ed Wellness		2	
		16	16
Sophomore			
Fall	Credits	Spring	Credits
AGEC 242		3 AGECE 244	3
ANSC 218		3 BIOC 260	4
ANSC 230, 231, or 232 ⁴		2 PLSC 315	3
ECON 201		3 STAT 330	3
MICR 202 & 202L		3 Gen Ed Humanities & Fine Art	3
		14	16
Junior			
Fall	Credits	Spring	Credits
ANSC 300		3 ANSC 324	3
ANSC 323		3 ANSC 340	3
ANSC 357		3 ANSC 380	2
ANSC 370		3 ANSC 463 & 463L	4
NRM/PLSC/RNG/SOIL Elective		3 Gen Ed Upper Division Writing	3
		15	15
Senior			
Fall	Credits	Spring	Credits
ANSC 379, 393, or 396 ⁵		2 ANSC 478	3
ANSC 482 or 488 ⁶		3 ANSC 480, 484, or 486 ⁶	3
Gen Ed Social & Behavioral Sciences		3 Electives	8
NRM/PLSC/RNG/SOIL Elective		3	
Elective		3	
		14	14

Total Credits: 120

1

ANSC 102 or VETS 101 are also accepted, but ANSC 101 is preferred for this option.

2

CHEM 117 and 117L can be replaced by CHEM 121 and 121L, respectively. If a student transfers in or takes CHEM 121 instead of CHEM 117, then CHEM 122 and CHEM 140 or 240 must be taken to ensure adequate pre-requisites for BIOC 260 are met.

3

BIOL 150 and BIOL 150L are also accepted, but BIOL 111 and BIOL 100L are preferred for this option.

4

ANSC 235 is also accepted, but requires additional pre-requisites not included on this plan of study.

5

ANSC 396 (Internship Experience) is recommended, but students can also take ANSC 379 (Global Seminar) or ANSC 393 (Undergraduate Research) experiences.

6

Two industry and production courses are required for this option. Fall course options include ANSC 482 and 488, whereas spring course options include ANSC 480, 484, and 486.

Sample Program Guide

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This sample plan of study applies to the Biomedical Science option. This option is recommended for students interested in pursuing a Doctor of Veterinary Medicine degree and/or students interested in graduate degree programs.

Freshman			
Fall	Credits	Spring	Credits
ANSC 102 ¹		1 ANSC 114	3
ANSC 218		3 BIOL 151 & 151L	4
BIOL 150 & 150L		4 CHEM 122 & 122L	4
CHEM 121 & 121L		4 ENGL 110	3
MATH 103 or 105 ²		3 Gen Ed Wellness	2
		15	16
Sophomore			
Fall	Credits	Spring	Credits
ANSC 240		3 BIOC 260	4
ENGL 120		3 COMM 110	3
CHEM 341 & 341L ³		4 ECON 201	3
MICR 350 & 350L		5 PLSC 315	3
		STAT 330	3
		15	16
Junior			
Fall	Credits	Spring	Credits
ANSC 300		3 ANSC 324	3

ANSC 323	3 ANSC 463 & 463L	4
ANSC 357	3 Gen Ed Upper Division Writing	3
PHYS 211 & 211L ⁴	4 Biomedical Science Elective (e.g., CHEM 342) ⁴	3
Gen Ed Humanities & Fine Arts and Cultural Diversity	3 Elective (e.g. PHYS 212) ⁴	3
16		16
Senior		
Fall	Credits	Spring
ANSC 379, 393, or 396 ⁵	2 ANSC 478	3
ANSC 444	3 ANSC 480, 484, or 486 ⁶	3
Gen Ed Social & Behavioral Sciences	3 Gen Ed Humanities & Fine Arts	3
Electives ⁴	6 Elective ⁴	3
14		12

Total Credits: 120

1

ANSC 101 or VETS 101 are also accepted, but ANSC 102 is preferred for this option.

2

MATH 105, 107, or 146 are required to satisfy PHYS 211 pre-requisites and are accepted in place of MATH 103. The series suggests only MATH 105 is necessary to meet PHYS 211 pre-requisites, but MATH 107 and 146 are also accepted if transferred in or student is placed as eligible to take those courses. A student that does not place into MATH 105 or transfer in MATH 103 must start with MATH 103 to meet pre-requisite requirements of MATH 105.

3

CHEM 341L is not required for this option's degree plan, but is recommended as part of the CHEM 341 and 341L sequence to meet veterinary medicine school admission requirements. Students should review specific school requirements to determine if CHEM 341L and subsequent organic chemistry courses such as CHEM 342 and CHEM 342L are necessary.

4

PHYS 120 and PHYS 120L are also accepted, but do not satisfy veterinary medicine school admission requirements. PHYS 211 and PHYS 211L are therefore recommended for students pursuing admission to veterinary medicine schools, which impacts MATH requirements noted earlier. Additional courses may be needed to satisfy veterinary medicine schools, but are school specific. Students should review specific school admission requirements and use electives to meet those admission requirements if not required on this option's degree plan.

5

ANSC 396 (Internship Experience) is recommended, but students can also take ANSC 379 (Global Seminar) or ANSC 393 (Undergraduate Research) experiences.

6

One industry and production course is required for this option. Fall course options include ANSC 482 and 488, whereas spring course options include ANSC 480, 484, and 486.