

# Animal, Dairy, and Veterinary Sciences, BS

**Emphases:** Animal and Dairy Science; Biotechnology; Bioveterinary Science; Equine Science and Management

**Department:** Animal, Dairy, and Veterinary Sciences Department

**College:** College of Agriculture and Applied Sciences

## Overview

### About This Degree

The animal, dairy, and veterinary sciences degree includes all aspects of animal science, from livestock management to reproductive research and cloning. Students have many opportunities for hands-on experiences in feeding, breeding, handling, managing, and grooming animals by working with beef and dairy cattle, horses, sheep, and swine. The department has access to lab facilities and equipment allowing research in all of these areas and in studying animal reproduction, nutrition, and disease. Its Center for Integrated Biosystems has been recognized for its cloning expertise twice by *Popular Science* magazine. Students are able to gain research experience alongside professors in the following areas: animal health, animal nutrition, animal reproduction and development, animal breeding, cytogenetics, livestock and dairy management, molecular genetics, parasitology, toxicology, and virology.

## Career Options

With a degree in animal, dairy and veterinary sciences, you will be qualified for the following careers:

### Animal and Dairy Science Emphasis

- Livestock production
- Livestock feeds: production, sales, and distribution
- Meat or dairy foods: production, product development, quality control, distribution and marketing, livestock promotion and marketing, breed organizations, livestock publications, livestock sales, market reporting, feed/slaughter inspection
- Sales: feed, pharmaceuticals, agricultural chemicals, livestock supplies
- Management: livestock production enterprises, sales/marketing companies, food production/distribution
- State and federal government agencies: USDA, ARS, BLM, NRCS
- Corporate agribusiness

### Biotechnology Emphasis

- Laboratory technical support
- Animal caretakers
- Research scientists
- Genetics and Animal Breeding
- Population genetics
- Molecular genetics
- Epigenetics
- Reproductive management
- Endocrinology
- Cloning
- Embryo technology
- Nutrition
- Feeding programs
- Nutrition/reproduction interactions
- Nutrition/health/immunity interactions
- Environmental physiology

### Bioveterinary Science Emphasis

- This program is designed primarily for those students who intend to apply to veterinary or graduate school.

### Equine Science and Management Emphasis

- Equine training and management
- Breeding technology
- Sales of equine supplies

- Equine marketing and promotions

[Career Services](#) provides counseling and information on hundreds of job and internship opportunities and even helps students apply and interview.

## What it takes

### Admissions Requirements

In addition to Utah State University's [admissions requirements](#), the animal, dairy and veterinary sciences program has additional requirements:

- **Freshmen:** New freshmen admitted to USU in good standing qualify for admission to this major.
- **Transfer Students:** Students with less than 60 semester credits transferring from other institutions need a 2.2 transfer GPA. Students with 60 or more semester credits need a 2.75 total GPA to be admitted to the bioveterinary science emphasis.

International students have [additional admissions requirements](#).

### Major Requirements

[Click here](#) to see course requirements for the **Bachelor of Science**.

## Contact

### Advising

All new USU students participate in a [New Student Orientation](#) program, where they receive detailed information about major requirements, registering for classes, and other important advising information.

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Advisor

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## Get Involved

### Professional Organizations, Honor Societies, and Clubs

**American Society of Animal Science:** The purpose of this society is to discover, disseminate, and apply knowledge for the sustainable use of animals for food and other human needs.

**American Society of Dairy Science:** This society provides leadership in scientific and technical support to sustain and grow the global dairy industry through generation, dissemination, and exchange of information and services.

**Animal Science Club:** This club provides interested students with opportunities to become exposed to animal agriculture through traveling to different operations across the country, judging livestock, and holding an annual calf sale and steer jackpot. The club also provides its members with the chance to become better citizens through service and leadership opportunities and interaction with each other and members of the animal industry.

**Sheep and Goat Club:** The USU sheep and goat club is aimed at helping students learn more about the sheep industry and improve the relationship of the university undergraduate students with the sheep and wool industries. The club also assists students with placement in internships and career opportunities.

**Pre-Vet Club:** The USU pre-vet club is a club designed for students interested in veterinary medicine. The club holds monthly activities and meetings to help in the veterinary school application process, invites students in the major to become acquainted, and holds presentations about veterinary schools.

**Equestrian Club:** This is an organization that provides students the opportunity to use their knowledge of horses to compete on a collegiate level.

**Rodeo Club:** The USU rodeo club promotes academic success as well as success in athletic competition. The club holds activities each month, puts on a large rodeo once a year, and encourages members to compete in rodeos.

**Alpha Epsilon Delta:** This is the national health pre-professional honor society dedicated to the encouragement and recognition of excellence in pre-professional health scholarship, including medicine, dentistry, veterinary, and others. The society welcomes all students engaged in the pursuit of a professional healthcare career. AED offers opportunities for intellectual and professional development, provides a forum for students with common interests, and extends a program of service to benefit the college/university community.

## Labs, Centers, Research

With the second oldest [undergraduate research](#) program in the nation, USU offers students a wide range of opportunities to gain hands-on research experience. The [Undergraduate Research and Creative Opportunities](#) program allows students to apply for grants and receive funding. USU's [Honors Program](#) prepares students for excellent graduate programs by helping them build relationships with professors, participate in research projects, take smaller, more intensive classes, and develop leadership skills.

**Animal Science Building Laboratories:** These laboratories support research in biochemical toxicology and molecular biology. Equipment includes incubators, fume hoods, high-performance liquid chromatographs, microscopes, electrophoresis units, computers, centrifuges, and other equipment standard to a research laboratory.

**Animal Science Farm:** The Animal Science Farm provides facilities for cattle, sheep, swine, and horses. Facilities also include a home for the farm manager, a pavilion for teaching and Cooperative Extension activities, and handling facilities for the various species of livestock.

**Biotechnology Center:** This center houses modern research laboratories for faculty and their students from a variety of academic disciplines. Among these faculty members are members of the ADVS Department who have expertise in animal molecular genetics, viral disease diagnostics, reproductive physiology, and embryo cloning.

**Caine Dairy Center:** The Caine Dairy Center is considered one of the nation's most modern dairy research facilities. The center features a state-of-the-art milking parlor, a heated pavilion for judging cows and teaching, a 60-cowtie stall barn, a feed preparation and behavior research area, and a feeding research unit for 72 cows in loose housing, which has eight stalls for research involving fistulated or catheterized animals. There is also outdoor cow housing with a capacity of 128 animals, which is equipped with meteorological instruments for continuous recording of climatic data. Additionally, the center features heifer and dry cow housing, individual, portable calf housing hutches, and a waste-handling system and lagoons.

**Center for Integrated BioSystems:** The CIB leads a progressive, interdisciplinary effort in research, core services, and education serving agriculture and life sciences. The CIB is where the first hybrid animal, a mule, was cloned, and was named one of "30 Awesome College Labs" by Popular Science magazine. The CIB has a research program with several active projects in diverse areas of life science that encompass plant, animal, and microbe functional genomics.

**Energy Laboratory:** This lab seeks to develop solutions to America's most intractable energy problems through scientific and technological innovation. It provides a cohesive framework permitting faculty, students, and partnering institutions to focus on contemporary energy-related research issues.

**Equine Education Center:** This modern equine facility accommodates 40 head of horses with two tack rooms, wash racks, feed rooms, two classrooms, and office space that provides a working environment experience. Large indoor and outdoor arenas accommodate more classes, Extension events, and horse shows and clinics. A breeding barn will be a part of the new facility, as donations allow for its eventual completion, to provide students with experience in handling stallions, collecting and evaluating semen, teasing and inseminating mares, and foaling.

**Institute for Antiviral Research:** The IAR is comprised of a recognized team of scientists representing a spectrum of disciplines, who are researching ways to control viral diseases. The IAR has been involved with the pre-clinical development of several FDA-approved drugs, including Tamiflu, which was recently used to combat H1N1. The main

areas of emphasis are respiratory diseases such as influenza and infections caused by emerging viruses, including West Nile virus.

**Laboratory Animal Research Center:** The LARC is a controlled laboratory that utilizes animals in teaching and research. The proper care of animals is of utmost importance as it relates to the effectiveness of research and the safety of the animals and researchers.

**Matthew Hillyard Agricultural Research and Teaching Center:** This center provides teaching, research, Cooperative Extension, and professional service to support the animal industries of Utah, the surrounding region, the nation, and the international community. The facility features a veterinary clinic, a teaching laboratory, and a harvest facility.

**North Logan Farm:** The North Logan Farm facility consists of land, equipment, buildings, and animals (beef and dairy cattle, sheep, goats, horses, and mink) that are used for research, teaching, service, and animal husbandry activities.

**Skaggs Laboratory:** This lab is divided into various areas depending on the particular research: rumen microbiology, energy, protein and mineral analysis, forage analysis, rumen acid production, and in situ work. The facility also contains post doctorate and graduate student offices and a conference room/classroom.

**USDA ARS Poisonous Plant Research Laboratory:** The Poisonous Plant Research Laboratory identifies toxic plants, and its interdisciplinary teams of chemists, geneticists, pathologists, physiologists, plant and range scientists, toxicologists and veterinarians provide an interdisciplinary approach of applied and basic research to develop solutions to intoxication.

**Utah Agricultural Experiment Station:** The UAES is part of a network of researchers and facilities at the nation's land-grant universities and is committed to improving agriculture and managing natural resources for the people of Utah. At research facilities on the USU campus and throughout the state, UAES supports hundreds of research projects that promote agriculture and human nutrition and enhance the quality of rural life.

**Utah Veterinary Diagnostic Laboratory:** The UVDL is a cooperative effort by USU and Utah Department of Agriculture and Food. The laboratory provides timely, in-depth, cost-efficient, veterinary diagnostic services to safeguard animal health, protect the agricultural economy, and shield the public against diseases transmissible from animals to humans.

**Veterinary Diagnostics and Infectious Disease Research Group:** VDID draws on the strength of USU's College of Agriculture to tackle a \$1-billion-a-year market in the United States for animal disease screening and diagnostics.

**Veterinary Science/Bacteriology Building:** This building contains several fully equipped microbiology labs, a cell culture laboratory, a drug preparation laboratory, a glassware sterilization/preparation room, and several other labs and equipment rooms used to conduct research.