



DEGREE PROGRAMS IN

The College of Agriculture and Life Sciences

The North Carolina State University Department of Animal Science is one of the largest and most progressive departments of its kind in the United States.

The department is dedicated to excellence in teaching,

research and extension. Animal science is a broad field centered on the biology, production, management and care of animals.

Animal scientists are involved in all phases of domestic animal production, research, sales, service, business and education.

Career Opportunities

As an animal science student, your opportunities are boundless and diverse. You can study subjects such as physiology and genetics, including in vitro fertilization, transgenic animals and the manipulation of embryos, or you can concentrate on animal management, which could lead to a career in animal production. Animal science graduates from NC State University are qualified for positions in:

- research and development at pharmaceutical and biotechnology companies;
- livestock, horse or companion animal management;
- animal breeding and production;
- feed and animal health-care product sales and service;
- livestock marketing;
- consulting;
- state and federal departments of agriculture;
- breed associations;
- educational and financial institutions;
- livestock, horse and companion animal publications and other media;
- animal technical services;
- extension services;
- public relations.

Some graduates own their own animal enterprises. Animal science also provides an excellent background for students who wish to continue their education and become veterinarians or physicians. Animal scientists can be found across the nation and around the world in all phases of production, research, sales, service, business, health and education.

Course Work/Curriculum

As an animal science major at NC State University, you can earn an associate of applied science, bachelor of science, master of animal science, master of science or doctor of philosophy degree. In the two-year Agricultural Institute program, you can major in livestock and poultry management and earn an associate of applied science degree. In the four-year baccalaureate program, there are two curricula from which to choose, and both result in a bachelor of science in animal science degree. The science curriculum is designed for students with an interest in advanced study in disciplines such as physiology, nutrition and genetics. Many students in preveterinary medicine are enrolled in this curriculum. The industry curriculum is for students who are more interested in the business

or production aspects of animal science. It offers flexibility in complementing animal science courses with business, economic and applied science course work.

Students who are pursuing a career in animal science will take most of the following courses.

- Introduction to Animal Science
- Anatomy and Physiology
- Genetics
- Reproduction
- Nutrition
- Management of Companion Animals, Horses, Beef Cattle, Swine or Dairy Cattle
- Diseases
- Advanced Reproductive Physiology
- Selection of Domestic Animals
- Growth and Development
- Lactation, Milk and Nutrition

As part of the university's core requirements, you will also take classes in communications, physical and biological sciences, social sciences, humanities, economics and physical education.

There are opportunities for students to broaden their experiences through internships and special problems courses.

Laboratory sections of animal science courses acquaint students with the scientific basis as well as techniques and management practices for animal care and production. You will have an opportunity for hands-on experience with horses, livestock and companion animals.

Members of the Department of Animal Science teaching faculty serve as academic advisers, and students may select an adviser who specializes in their interest area. Advisers help students choose courses to fit their individual goals and objectives.

Graduate Study

The Department of Animal Science offers programs of graduate study leading to the master of animal science, master of science and doctor of philosophy degrees. Animal science offers an opportunity for training in diverse basic sciences and the integration of knowledge of these sciences into the framework of a living system. Students may major in animal science and in any one of the following disciplines: biotechnology, genetics, microbiology, nutrition or physiology. Animal science majors may specialize in one or more of these basic disciplines or in the more applied areas of management and production. The animal science major provides considerable flexibility for the student who prefers a multidisciplinary approach. Students who major in a basic discipline are not only educated in that discipline but are also able to integrate that knowledge into a living system (the whole animal). Minors can be obtained in many of the disciplines listed or in a variety of other areas. Animal science faculty participate in graduate programs in biotechnology, genetics, genomics, physiology and nutrition. Modern laboratories, specialized equipment and many different species of animals are available as research tools. A program of course work and a research project are developed for each student in accordance with his or her educational objectives.

Research

The primary research emphasis in the Department of Animal Science is to develop projects that lead to new technol-

ogy in the disciplines of physiology, nutrition, genetics, genomics, biotechnology, production and management. Our reproductive physiology group has developed a strong program in endocrinology with emphasis on the hypothalamic-pituitary-gonadal axis in farm animals. Our primary goal is to improve the reproductive efficiency of farm and companion animals. Research in biotechnology focuses on the production of new breeds of mammals by altering the genome, using techniques such as gene transfer and embryo micro-manipulation. The research goals of our nutrition faculty are to increase the efficiency of animal production and to improve the health of animals through nutritional research. The mission of our animal breeding and genetics research is to develop and evaluate theory and technology relevant to the genetic improvement of livestock. Our overarching goal is to study basic biological principles and to ask "Why?" then to determine how our research results can be applied for the betterment of both humans and animals.

Co-Curricular Activities

Opportunities abound outside the classroom as well. The Animal Science Club is for students interested in livestock and horses. The Companion Animal Club is for students interested in dogs, cats and other pets. The Collegiate Horseman's Association allows students to share their interest in horses. Students interested in dairy cattle may choose to join the Dairy Science Club. In addition, the interdepartmental Preveterinary Medical

Association, Rodeo Club and Equestrian Club are all popular with animal science students. Members of the Horse, Livestock and Dairy Judging teams travel to contests and gain valuable experience in animal evaluation.

Academic Quadrathlon Team members demonstrate their practical and scientific knowledge of animals at annual competitions conducted by the American Society of Animal Science at locations around the nation. Students can also gain valuable work experience through part-time jobs at NC State University's horse, beef cattle, swine, small ruminant, dairy cattle and metabolism educational units located within 6 miles of campus.

Career Services

In addition to faculty advisers who are available to provide information about career and employment opportunities, the College of Agriculture and Life Sciences Career Services Office is available to assist students and alumni. The Career Services Office provides students with information about summer internships and co-op opportunities in their career fields and assists them in applying for such positions. The Career Services Office also helps students write resumes and polish interview skills. The office arranges on-campus interviews for prospective graduates and publicizes employment opportunities through e-mail and the Web. Alumni are also able to take advantage of these services and are informed about employment prospects through a web site.

For more information:

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