



Animal and Food Sciences

DEPARTMENT OF ANIMAL AND FOOD SCIENCES

The Animal and Food Sciences Major at UD

The Animal and Food Sciences major applies the principles of biology, chemistry and biochemistry to animal agriculture and food systems. The program encompasses a wide range of instruction, including animal nutrition; animal health and molecular biology; food science and its interactions with animal agriculture, physiology, genetics, and reproduction; and dairy, livestock and poultry management. Depending on a student's interest, he or she may choose electives that direct their studies toward production systems; food safety; molecular biology and genetics; and equine and companion animals.

Program Highlights

At Delaware, Animal and Food Sciences majors have the opportunity to work closely with the department's faculty, which includes leading scholars in the fields of animal nutrition and physiology, immunology, virology, molecular biology, animal production, management, food science, and food safety. All major courses and laboratories are taught by faculty, ensuring that students have easy access to these specialists. Beginning with the first semester, students work hands-on with animals, at the University's on-site, 350-acre teaching and research complex. Many students also participate in internships, study abroad, and research experiences. They also participate in the Animal Science Club or the Food Science Club for their social, educational, and professional development activities.

For students desiring to increase the challenges of their undergraduate education, the Honors Program, the Dean's Scholar Program and the Degree with Distinction option offer unique opportunities to go beyond normal college expectations. Students in the Honors Program take special sections of select courses, providing greater depth,

discussion and understanding of the subject. As Dean's Scholars, outstanding students with specific interests not met in a stated major may be freed from regular course requirements to create a curriculum specific to their interests and goals. The Degree with Distinction is awarded to students who complete a research project and a thesis, which is defended before a faculty committee.

Faculty Research Interests

Our faculty are involved in a variety of cutting-edge research projects, with which undergraduates may become involved. For example, we are studying the pathogenesis of avian influenza and tracking its spread from migratory water fowl. Faculty also have been part of a consortium for functional mapping of growth regulating genes in the broiler chicken and leaders in poultry genomics and bioinformatics. In the dairy field, projects include studying the inflammatory process associated with lameness and how clock genes control circadian rhythm. In addition, we are studying ways to alter microbial processes in the rumen and in fermented feeds to improve feed efficiency of dairy cattle. In the food science area, research interests include looking at food and waterborne protozoa and viruses and the use of non-thermal methods to inactivate these organisms on fresh produce, and high hydrostatic pressure as a food preservation processing technology for inactivation of problematic microorganisms and enzymes in foods and beverages. More information on undergraduate research opportunities can be found at <http://ag.udel.edu/anfs/undergrad/ugradresearch.htm>.

Facilities and Resources

The College of Agriculture and Natural Resources and its facilities are readily accessible to ANFS students. Many classes and all laboratory sections meet in Townsend and Worriwlow Halls, which are part of our teaching and research complex. Our farm, located on site, houses horses, beef cattle, poultry, dairy cows, and sheep, which are used in teaching. More than \$2 million of new facilities were added in 2007, including a new equine barn and new milking parlor. Our state-of-the-art Allen Laboratory is a Biological Safety Level (BSL)-3 biotechnology lab, and our association with the Delaware Biotechnology Institute provides opportunities for students to get involved in cutting edge research right on campus. Townsend and Worriwlow Halls contain faculty offices, several classrooms, teaching and research laboratories, an agriculture library, a student commons, and a computer site.

Career Paths

The global employment outlook is increasingly good for Animal and Food Sciences majors. A degree in this major prepares students for entry-level technical, research, sales, and marketing positions in the animal and food industries as well as the chemical, and health industries. Government agencies, zoos, aquariums, and veterinary practices may also offer employment opportunities for students. Approximately 35 percent of Animal and Food Science graduates pursue advanced degrees in veterinary medicine, animal sciences, food science, human medicine, and other sciences.

The Animal and Food Sciences Curriculum

Starting with the first semester, Animal and Food Sciences majors have at least one course in the major each term. To earn a bachelor's degree, students must complete **124 credits** and meet specific requirements, as outlined in the *University of Delaware Undergraduate Catalog*. Each semester's courses will vary, depending on the student's concentration, interest, background, and academic preparation. **The following plan is only one example; not every student will take every course in the same order.** Most students will take **12 -17 credits per semester**; Winter and Summer sessions may be used to lighten the loads of regular semesters.

BACHELOR OF SCIENCE IN ANIMAL AND FOOD SCIENCES

FALL SEMESTER

ANFS 101	Intro to Animal Science	3
ANFS 111	Animal Science Lab	1
CHEM 101/103	General Chemistry	4
MATH 221	Calculus	3
ANFS 165	First Year Experience	1
XXX	Social Science/Humanities	3
Total Credit		15

SPRING SEMESTER

ANFS 102	Food for Thought	3
ANFS 140	Functional Anatomy	4
ENGL 110	Critical Reading and Writing	3
CHEM 102/104	General Chemistry	4
XXX	Elective^	3
Total Credit		17

ANFS 251	Animal Nutrition	3
ANFS 252	Animal Nutrition Lab	1
CHEM 213	Elem Organic Chemistry	4
XXX	Ag & Bio Sciences requirement	3
XXX	Elective	4
Total Credit		15

BISC 207	Intro Biology I	4
ANFS 230 or 332	Foodborne Diseases or Intro Animal Diseases	3
CHEM 214	Elem Biochemistry	3
ANFS 265	Sophomore Seminar	1
XXX	Lit and Arts requirement	3
Total Credit		14

BISC 208	Intro Biology II	4
ANFS 230 or 332	Foodborne Diseases or Intro Animal Diseases	3
FREC 408 or STAT 200	Research Methods*	3
XXX	Social Sciences/Humanities requirement	3
XXX	Elective^	3
Total Credit		16

ANFS 300	Animal & Plant Genetics	3
COMM 212	Oral Comm in Business*	3
BISC 306	General Physiology	3
ANFS XXX	Required ANFS course	3
XXX	Elective^	3
Total Credit		15

XXX	Ag & Bio Sciences requirement	3
ANFS XXX	Required ANFS course	3
XXX	Electives^	6
XXX	Lit and Arts Requirement	3
Total Credit		15

ANFS 305	Food Science	3
XXX	Social Science/Humanities	3
ANFS XXX	Capstone/Production course	4
XXX	Second Writing Requirement	3
XXX	Elective^	3
Total Credit		16

*Strongly recommended

^ Electives to be chosen from an area of interest, including production systems; food safety; molecular biology and genetics; or equine and companion animals. See advisor for complete list of course offerings

FOR MORE INFORMATION

You are welcome to come talk with us about our majors and the ways in which we can help you reach your goals. Please contact us:



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