



Pre-Veterinary Medicine and Animal Biosciences

DEPARTMENT OF ANIMAL AND FOOD SCIENCES

Bachelor of Science in Pre-Veterinary Medicine and Animal Biosciences at UD

The PVAB major focuses on the study of scientific principles required for undergraduate students who are interested in pursuing a career in the fields of veterinary medicine and animal biosciences. The curriculum is designed to meet the admission requirements for many U.S. veterinary schools and to prepare students for graduate degrees in areas related to animal agriculture and biological sciences through course work and laboratory experiences.

Program Highlights

At Delaware, Pre-Veterinary Medicine and Animal Biosciences majors have the unique opportunity to work closely with the department's faculty, who are leading scholars in nutrition, physiology, immunology, virology, molecular biology, and animal production and management. All major courses and laboratories are taught by faculty, ensuring that students have immediate 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 farm. Many students also participate in internships, study abroad, do research, and join the Animal Science Club, for its social, educational, and professional development activities. For the student desiring to increase the challenges of his or her undergraduate education, the Honors Program, the Dean's Scholar Program and the Degree with Distinction offer unique opportunities to go beyond normal college expectations. Students in the Honors Program take honors

sections of select courses, providing greater depth, discussion and understanding of the subject. Through the Dean's Scholar Program, 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

Undergraduates work with faculty on a wide variety of novel research projects in the areas of nutrition, physiology, disease pathogenesis, microbiology, virology, genomics, and bioinformatics. Faculty are studying the pathogenesis of avian influenza and tracking its spread from migratory water fowl. Faculty are involved with the functional mapping of growth regulating genes in the broiler chicken and are leaders in poultry genomics and bioinformatics. In the dairy field, projects include studying the inflammatory process associated with lameness and how nutrition impacts production and health. In addition, we are studying ways to alter microbial processes in the rumen and in fermented feeds to improve feed efficiency of dairy cattle. All research points in the direction towards sustainable agriculture in our global society.

Facilities and Resources

The College of Agriculture and Natural Resources houses the Pre-Veterinary Medicine and Animal Biosciences major, and its facilities are readily accessible to students. Many of our classes and all of our laboratory sections meet in

Townsend and Worrirow halls, which are part of our teaching and research complex. Our farm is uniquely located on site and houses horses, beef cattle, poultry, dairy cows, and sheep, all of which are used in teaching. State-of-the-art facilities include a double-8 parallel milking parlor, solar-powered sand/manure separator for nutrient management, equine foaling facility and a dairy research complex. The milk produced here goes into making our own UDairy ice cream. Our Allen Laboratory is a Biological Safety Level (BSL)-3 biotechnology lab, and our association with the Delaware Biotechnology Institute provides many opportunities for students to get involved in exciting research right on campus. Townsend and Worrirow 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 remains promising for PVAB majors. A degree in this area prepares students for veterinary school admission, graduate school admission in animal and human related biosciences, as well as entry-level technical, research, sales, and marketing positions in chemical, health and agriculturally related industries. Government agencies, zoos, aquariums, and veterinary practices may also offer employment opportunities for students with the right background. Approximately 35 percent of graduates pursue advanced degrees in veterinary medicine, animal sciences, human medicine, or other sciences.

The Pre-Veterinary Medicine and Animal Biosciences Curriculum

To earn a bachelor's degree, students must complete a minimum of **124 credits** and meet specific requirements, as outlined in the *University of Delaware Undergraduate Catalog*. Starting with the first semester, Pre-Veterinary Medicine and Animal Biosciences majors usually have at least one course in the major each term. 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 take 12 -17 credits per semester;** Winter and Summer sessions may be used to lighten the loads of regular semesters. Students are urged to meet with their academic advisor on a regular basis when planning for each semester.

SUGGESTED SCHEDULE FOR COURSES REQUIRED IN THE MAJOR

FALL SEMESTER

Freshman Year

ANFS 165 First Year Experience (1 cr)
ANFS 101 Intro to Animal Science (3 cr)
ANFS 111 Animal Science Lab (1 cr)
CHEM 103 General Chemistry (4 cr)
MATH 221 Calculus (3 cr)
Additional classes to total 12 to 17 credits

Sophomore Year

ANFS 251 Animal Nutrition (3 cr)
ANFS 252 Animal Nutrition Lab (1 cr)
CHEM 321 Organic Chemistry (4 cr)
Additional classes to total 12 to 17 credits

Junior Year

BISC 208 Intro Biology II (4 cr)
CHEM 527 Biochemistry (3 cr)
FREC 408 or STAT 200 Research Methods (3 cr)
¹ANFS Capstone/Production Course (4 cr)
Additional classes to total 12 to 17 credits

Senior Year

ANFS 445 Comparative Physiology (3 cr)
¹ANFS Capstone/Production Course (4 cr)
PHYS 201 Intro Physics I (4 cr)
³Second Writing Requirement (3 cr)
Additional classes to total 12 to 17 credits

¹Only one Capstone course is required for graduation and is usually taken in junior or senior year— however, students are free to take more than one Capstone class for their major

²Strongly recommended but not required

³A course that fulfills the University's Second Writing Requirement is usually taken in either the Fall or Spring semester of the Senior year

SPRING SEMESTER

Freshman Year

ANFS 102 Food for Thought (3 cr)
ANFS 140 Functional Anatomy (4 cr)
CHEM 104 General Chemistry (4 cr)
ENGL 110 Critical Reading and Writing (3 cr)
Additional classes to total 12 to 17 credits

Sophomore Year

ANFS 265 Career Development (1 cr)
ANFS 332 Intro Animal Diseases (3 cr)
BISC 207 Intro Biology I (4 cr)
CHEM 322 Organic Chemistry (4 cr)
Additional classes to total 12 to 17 credits

Junior Year

ANFS 300 Animal & Plant Genetics (3 cr)
ANFS 310 Genetics Lab (1 cr)
BISC 300 Microbiology (4 cr)
¹ANFS Capstone/Production Course (4 cr)
²COMM 212 Oral Comm in Business (3 cr)
Additional classes to total 12 to 17 credits

Senior Year

PHYS 202 Intro Physics II (4 cr)
¹ANFS Capstone/Production Course (4 cr)
³Second Writing Requirement (3 cr)
Additional classes to total 12 to 17 credits

FOR MORE INFORMATION

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



College of Agriculture
& Natural Resources

The College of Agriculture and Natural Resources
104 Townsend Hall
Newark, DE 19716-2103
302/831-2508
FAX: 302/831-1360
Email: academics@anr.udel.edu
<http://ag.udel.edu>

The Office of Undergraduate Admissions
210 South College Av.
Newark, DE 19716-6210
302/831-8123
FAX 302/831-6905
Email: admissions@udel.edu
<http://www.udel.edu/admissions/>