APPLIED ANIMAL SCIENCE (AAS)

Applied animal science (AAS) provides students with hands-on practical skills combined with knowledge and understanding of the latest technology. The core program offers a solid background in anatomy, physiology, nutrition, health, and animal breeding. The curriculum is focused on animal agriculture and emphasizes decision-making, technologies, and processes that address the realities of modern agriculture.

Practical learning experience is provided at the Thomas P. Fairchild Dairy Teaching and Research Center (https://www.colsa.unh.edu/nhaes/fairchild) and the UNH Organic Dairy Farm (https://colsa.unh.edu/nhaes/oandrf). The Thompson School also operates its own veterinary clinic and biology laboratories. The curriculum has a number of animal-related educational partnerships that include field trips to numerous animal-related businesses.

https://colsa.unh.edu/thompson-school-applied-science

Programs


Courses

**Applied Animal Science (AAS)**

**AAS 402 - Introduction to Livestock and Poultry Management**

Credits: 2

Students are introduced to the management of livestock and poultry in small-to-medium sized operations. Students learn basic animal feeding, selection, handling, housing, management and health practices necessary to manage livestock and poultry. Through readings, multimedia presentations, writing and field assignments, students gain insight into the work, commitment and skills necessary to raise domestic farm animals for food and profit.

**AAS 421 - Large Animal Behavior and Handling Techniques**

Credits: 2

Introduction to domestic large animal behavior and handling techniques. Cattle, horses, swine, and sheep are used in this course. Students perform routine health-related procedures and gain valuable hands-on skills and safe animal handling techniques which can be applied to the fields of veterinary medicine, animal research, commercial agriculture, and animal control. 1 lec/1 lab.

**Equivalent(s):** AAS 221, ANSC 408, ANSC 508

**AAS 422 - Small Animal Grooming I**

Credits: 2

Introduction to pet grooming. Course covers the techniques and styles of brushing, grooming, clipping, trimming, and bathing common breeds of dogs and cats. Students perform basic grooming in lab period. Special fee for non-TSAS students. 1 lec/1 lab.

**Repeat Rule:** May be repeated for a maximum of 4 credits.

**Equivalent(s):** AAS 222

**AAS 423 - Dairy Selection**

Credits: 2

Selection techniques used in cattle for purchase, breeding, and genetic improvement through the use of visual evaluation, pedigrees, production, and progeny information. 1 lec/1 lab. Special Fee.

**Equivalent(s):** AAS 223

**AAS 424 - Animal Law and Regulations**

Credits: 3

This course covers the practical application and understanding of animal law and regulations. Designed for applied animal science majors the material is relevant for any learner interested in animal protection and welfare. Select current bills, court rulings or animal-related legal movements are reviewed. Practical application topics include: due process, contract law, evidence collection, and courtroom procedures. Focus is on domestic species with limited review of regulations and liability regarding exotic pet keeping.

**Equivalent(s):** AAS 224

**AAS 425 - Introduction to Dairy Herd Management**

Credits: 4

The course explores economic, scientific and practical aspects of dairy herd management. The topics covered include history, cattle selection, nutrition, housing, milking, and disease prevention strategies. There are a number of field trips and weekly labs emphasizing management and hands-on experience.

**Equivalent(s):** AAS 244, ANSC 409, ANSC 410

**AAS 428 - Anatomy and Physiology of Domestic Animals**

Credits: 3

An overview lecture course describing the anatomy (structure) and physiology (function) of domestic animals, focusing on canine, feline, equine, and bovine species. Anatomic and physiologic topics are intertwined as the course progresses through each body system. Relevant species differences are stressed. Focus is on applied concepts appropriate for animal-related careers. Course is designed to be taken along with AAS 428A or AAS 428B for AAS and VTEC majors respectively.

**Equivalent(s):** AAS 228

**AAS 428B - Anatomy and Physiology of Domestic Animals Lab for VTEC majors**

Credits: 1

Reinforces material presented in AAS 428 lecture and introduces students to the animal body by hands-on study of anatomy. Anatomical relationships and concepts that are important for the medical care of animals are presented. The feline species will be the primary anatomical model used. Comparative anatomy of bovine, equine, and avian species will also be covered. Course is required of Veterinary Technology majors and is designed to be taken along with AAS 428 lecture.

**Co-requisite:** AAS 428
AAS 431 - Introduction to Animal Science  
Credits: 4  
Survey of the dairy, equine, livestock, and small animal industries; current issues and related occupational opportunities are presented. Included is assistance in gaining or improving the skills needed to be successful in college. Lecture/Lab or Recitation.  
Equivalent(s): AAS 231

AAS 432 - Introduction to Forage and Grassland Management  
Credits: 3  
Introduction to grasslands of the world and their management. Special emphasis on the identification, production, and utilization of New England forage crops for feeding domestic farm animals. The course includes the selection of local plant species and varieties, including their management and recommended harvesting practices. The course also includes a basic introduction to soils, as well as nutrient and fertility management.  
Equivalent(s): AAS 232

AAS 433 - Small Animal Grooming II  
Credits: 2  
Continuation of AAS 422 Small Animal Grooming I with the addition of on-line canine dermatology and topical therapy basics. Student is assigned more complex breeds to groom and develops more proficiency in scissoring, hand stripping and clipping. Must have taken AAS 422. Special fee for non-TSAS students. 2 lab.  
Equivalent(s): AAS 233

AAS 434 - Equipment and Facilities Management  
Credits: 3  
Operation of agricultural equipment and maintenance of agricultural facilities as found in New England. Development of the essential skills and technical information needed to manage and supervise agricultural facilities and equipment. 2 lec/1 lab.  
Equivalent(s): AAS 234

AAS 439 - Fundamentals of Animal Health  
Credits: 2  
Covers the principles of maintaining animal health by preventing and managing disease via husbandry, immunization, diagnostic testing and treatment. Focus is on domestic species; primarily dogs, cats, horses and cows. Topics include external and internal parasitology, microbiology, immunology including vaccination, and disease treatment. Course is designed to be taken along with the appropriate lab section: AAS 439A for Applied Animal Science majors or AAS 439B for VTEC majors, respectively. No credit earned if credit was received for VTEC 439.  
Equivalent(s): AAS 239, VTEC 439

AAS 439B - Fundamentals of Animal Health Lab for Veterinary Technology Majors  
Credits: 2  
Laboratory course to complement lecture course AAS 439. Common veterinary diagnostic laboratory tests are covered, such as fecal flotation, urinalysis, complete blood count and blood chemistry, bacterial culture and sensitivity testing, gram staining, and immunologic testing such as ELISAs. Topics include laboratory safety, identification of internal and external parasites, and blood cells, examination of urine sediment, and principles of sample collection. This lab course is required of Veterinary Technology majors along with AAS 439 lecture.  
Equivalent(s): VTEC 439

AAS 445 - Veterinary Assisting Techniques  
Credits: 4  
Course is designed to prepare students to enter veterinary practice as a veterinary assistant. Topics include veterinary pharmaceuticals; animal nursing including record keeping, patient observation, husbandry, and disease control; surgical preparation and assisting including surgical instrumentation, sterilization and patient management; laboratory sample collection and handling; and diagnostic imaging including radiography safety, patient positioning, radiographic film processing and filing, and ultrasound. Required for completion of the veterinary assisting certificate.  
Equivalent(s): AAS 251

AAS 525 - Canine Learning Theory and Application  
Credits: 4  
Canine behavior problems are a major cause of abandonment and euthanasia in dogs. Effective application of canine learning theory can prevent and solve behavior problems and save lives. Student gain a working knowledge of animal learning theory with a focus on training basic obedience commands, prevention and modification of common canine behaviors, effective human communication within a practical canine training session, canine ethology, the business and ethics of dog training, and more. Prereq: AAS 430 or equivalent.  
Equivalent(s): AAS 225

AAS 527 - Companion Animal Diseases  
Credits: 2  
Common diseases in companion animals discussed system by system; emphasis on canine, feline, equine, and ruminant species. Other species covered based on class interest. Disease pathogenesis, diagnosis, and treatment are covered. Care-based learning includes developing differential diagnosis lists and technician evaluations and interventions. AAS 428 or another Anatomy and Physiology course is strongly suggested as a pre-requisite.  
Equivalent(s): AAS 227

AAS 535 - Animal Nutrition  
Credits: 3  
The food nutrients, their digestion and absorption, factors affecting value of feeds, feed additives, and nutrient requirements for maintenance and productive functions.  
Equivalent(s): AAS 235, AAS 435

AAS 540 - Animal Breeding  
Credits: 3  
Principles and practices, including the physiology of reproduction, fertility and sterility, artificial insemination, breeding systems, and selection.  
Equivalent(s): AAS 240, AAS 440
AAS 552 - Equine Health Management
Credits: 4
Systems of the horse as they relate to common diseases and lameness. Applied approach to conditioning, care of the sick or lame horse, and preventive care. Prereq: AAS 426 or AAS 437.
Equivalent(s): AAS 252

AAS 553 - Equine Competition Management
Credits: 2
Students organize and run a combined test competition to be held in April. The class is responsible for mailing entries, handling publicity and ad sales, compiling the program, setting the course and dressage ring, and dealing with the public. Proceeds fund seminars available to students and class field trips. May be repeated once. Prereq: AAS 426 or AAS 546.
Equivalent(s): AAS 253

AAS 558 - Animal Population Medicine and Management
Credits: 2
This course applies material from animal health and disease classes to populations of animals rather than individual animals. Topics include stress and disease management, behavior and ethical problems in animal populations, evaluation of scientific research, and decision analysis. Concepts in epidemiology and statistics are covered. Students design and carry out a statistical analysis on data from a chosen animal population. Prereq: AAS 428, AAS 439, MTH 202.
Equivalent(s): AAS 258

AAS 563 - Small Animal Grooming III
Credits: 1
Individual supervised grooming experience for students who wish to obtain more technical grooming skills. Must have taken AAS 422 twice or AAS 422 and 433. Cr/F.
Equivalent(s): AAS 253

AAS 572 - Comparative Equine Operations
Credits: 2
Exploration of national and regional equine farms and related businesses. Using field trips and journals, students will experience and study different farm and business operations. Prereq: AAS 426. 1 lab. May be repeated to a maximum of 2 credits. Cr/F.
Equivalent(s): AAS 272

AAS 574 - Dairy Cattle Disease Seminar
Credits: 2
Covers principles of the immune response, immunological basis for disease control, and emphasizes management practices to prevent disease and maintain optimal animal health in dairy cattle. Numerous guest lecturers, field and case studies, and emphasis on current topics of interest to the industry.
Repeat Rule: May be repeated up to 1 time.
Equivalent(s): AAS 274

AAS 575 - Cooperative for Real Education in Agriculture Management (CREAM)
Credits: 4
CREAM (Cooperative for Real Education in Agricultural Management) is a 2-semester course in which students perform the work and make the financial and management decisions associated with the CREAM dairy herd. Assumption of complete responsibility for the management and care of this 25-cow herd for the entire academic year. CREAM provides students with a unique experiential learning model that will help them understand how to work together to manage and operate a small business, the decision making skills required in production agriculture, and the application of science to the management of a dairy herd. Two semesters of 4 credits each are required. Prereq: AAS 425 or ANSC 409 and ANSC 410 or permission.
Equivalent(s): AAS 275, ANSC 698

AAS 577 - Functional Canine Analysis Practicum
Credits: 4
The majority of this course takes place at the Cocheco Valley Humane Society in Dover, New Hampshire. Students facilitate the rehoming of shelter dogs with manageable behavioral issues by assessing, developing and implementing individual plans. A limited amount of time is spent on assisting with incoming temperament assessments and adopting behavioral consultations. Cases commonly involve: social hyper-arousal, obedience, confidence building, enrichment, reactivity, possessive, and barrier counterconditioning and desensitization. Includes one feline functional assessment plan. Prereq: AAS 430, AAS 525.

AAS 591 - Studies
Credits: 1-3
Students who have the ability and adequate preparation to work independently may propose a contract to design a course or research project on a topic not available through existing course offerings. The purpose of this research is to explore new areas in the student’s field of study or to pursue course material in greater depth. Work is supervised by an appropriate faculty/staff member and credit varies depending on the proposed project/research. Areas may include dairy, light horses, livestock, poultry, meats, forages, management, small animals, or general animal science. Permission required.
Repeat Rule: May be repeated for a maximum of 6 credits.
Equivalent(s): AAS 291

AAS 592 - Studies
Credits: 1-3
Students who have the ability and adequate preparation to work independently may propose a contract to design a course or research project on a topic not available through existing course offerings. The purpose of this research is to explore new areas in the student’s field of study or to pursue course material in greater depth. Work is supervised by an appropriate faculty/staff member and credit varies depending on the proposed project/research. Areas may include dairy, light horses, livestock, poultry, meats, forages, management, small animals, or general animal science. Permission required.
Repeat Rule: May be repeated for a maximum of 6 credits.
Equivalent(s): AAS 292
AAS 593 - Equine Field Operations
Credits: 1-3
Field experience in selected areas of equine care and handling, under supervision of appropriate faculty/staff and outside facilities supervisor. A) Veterinary Clinic; B) Breeding and Foaling; C) areas of student interest. All field operations done on an individual basis. Four or more hours per week. Students must provide their own transportation. Prereq: AAS 426, 437, 547, and/or permission of instructor and adviser. Equivalent(s): AAS 293

AAS 597 - Applied Animal Science Work Experience
Credits: 0
Employment (12 weeks, generally in the summer following the first year) in an approved animal-related position. Cr/F. Equivalent(s): AAS 297

Faculty
https://colsa.unh.edu/thompson-school-applied-science/people