

Veterinary Science

College of Agriculture, Food & Environment

The Department of Veterinary Science offers a program of study and research leading to the Master of Science (Plan A only) and Doctor of Philosophy degrees. Possible areas of concentration are pathology, genetics, immunology, musculoskeletal sciences, parasitology, reproductive physiology, pharmacology and toxicology, microbiology and virology. Individual programs of study must conform to the general rules and regulations of the Graduate School.

Students pursuing both the M.S. and Ph.D. degrees in Veterinary Science are required to take two semesters of graduate-level biochemistry/cell biology/molecular biology (selected from CHE 550 and CHE 552 or IBS 601-603, 606) and one semester of graduate-level statistics (STA 570 or STA 580), or demonstrate that they have previously taken equivalent courses. A limited number of research assistantships and fellowships are available.

Admission Requirements

1. This Department's deadline for applications for fall semester enrollment is February 1.
2. Review of applications begins in February and most assistantship offers are extended in March.
3. This Department does not conduct separate recruiting for spring enrollment, and only in exceptional cases will an applicant be accepted for spring enrollment. Applicants for spring enrollment are advised to first contact this Department's Director of Graduate Studies during the normal application review period.

More information is available on the Web at <http://vetsci.ca.uky.edu/education>

Course Descriptions

VS 500 ADVANCED EQUINE REPRODUCTION.(3)

A study of reproductive anatomy and physiology of the horse with emphasis on normal and abnormal reproductive function in this species. Normal reproductive management and diseases affecting the reproductive system will be considered in detail. Prereq: ASC 364.

#VS 507 ADVANCED HORSE GENETICS. (2)

Students will study peer reviewed publications about hereditary traits in horses, critically assess the discoveries and compare the results to entries in public databases such as the Online Mendelian Inheritance in Animals (OMIA). Students will choose a hereditary trait of horses, with guidance from the course faculty, review the published literature and, under the guidance of faculty members, prepare an annotated bibliography, write a short critical review of the state of knowledge and, if appropriate, provide curation for the public databases. Prereq: A basic genetics course (e.g., BIO 304, ABT 360, VS 307) or consent of instructor.

#VS 575 CURRENT LITERATURE IN VETERINARY PARASITOLOGY (1)

Advanced study of current topics in veterinary parasitology. The course is comprised of student-led discussions based upon readings taken from current literature in the discipline. Emphasis will be placed on the critical analysis and understanding of the experimental basis for current concepts in veterinary parasitology. Prereq: Undergraduate students: BIO 148 and BIO 152 or consent of instructor. Graduate students: Consent of instructor.

VS 597 SPECIAL TOPICS IN VETERINARY SCIENCE. (1-3)

Special topical or experimental courses in Veterinary Science for graduate and advanced undergraduate students. Special subtitle required and must be approved by the chair of Veterinary Science. Students may not repeat under the same subtitle. Prereq: Determined by instructor.

VS 600 ETHICS IN SCIENTIFIC RESEARCH. (1-2)

The course will commence with an overview of good laboratory practices and present them as the basis of good scientific research, along with an overview of quality assurance and appropriate practices in data analysis and data interpretation. The course will then move to the ethics of human and animal experimentation and discuss the concepts of data and intellectual property, their ownership and access to them. The problems of reviewing other workers' intellectual property such as grant applications, research papers and other intellectual property will be addressed. Prereq: Research experiences; consent of instructor. (Same as TOX 600.)

VS 690 PRACTICAL ANALYTICAL TOXICOLOGY. (3)

An evaluation of techniques for the isolation, identification, and quantitation of drugs, pesticides and other toxicants in biological samples. Concepts and theory will be presented in the lecture portion, while the laboratory will be devoted to actual sample analysis by the students. Lecture, 1 hour; laboratory, six hours. Prereq: Consent of the instructor and graduate standing in toxicology. (Same as TOX 690.)

VS 748 MASTER'S THESIS RESEARCH. (0)

Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.
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VS 749 DISSERTATION RESEARCH. (0)

Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

VS 767 DISSERTATION RESIDENCY CREDIT. (2)

Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

VS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)

Residence credit while completing research and writing thesis. Prereq: Completion of course requirements for the MS. May be repeated to a maximum of 12 hours.

VS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)

May be repeated indefinitely.

VS 770 VETERINARY SCIENCE SEMINAR. (1)

Required of graduate students in veterinary science. May be repeated to a maximum of six credits. Prereq: Consent of staff.

VS 777 CURRENT LITERATURE IN EQUINE REPRODUCTION. (1)

Advanced study of current topics in equine reproduction. The course is comprised of student-led discussions based upon readings taken from current and classic literature in the discipline. Emphasis will be placed on the critical analysis and understanding of the experimental basis for current concepts in

equine reproduction.

VS 781 CORRELATIVE PATHOLOGY. (1-3)

Supervised experience in the use of clinical, gross and histopathological technics in the differential and definitive diagnosis of diseases. May be repeated to a maximum of nine credits. Prereq: Pathology in D.V.M. curriculum or equivalent and consent of staff.

VS 782 ADVANCED VIROLOGY. (3)

Current trends in virology. Typical topics include DNA tumor viruses, RNA tumor viruses, persistent virus infections, and interference. Emphases of molecular mechanisms. Prereq: BIO 582. Adequate biochemistry and genetics strongly recommended, or consent of instructor. (Same as BIO 782.)

VS 785 ADVANCED VETERINARY PARASITOLOGY. (3)

Experimental methodology and host-parasite relationships of the protozoan and helminth parasites of domestic animals. Prereq: Parasitology in D.V.M. curriculum or equivalent and approval of staff.

VS 786 ADVANCED VETERINARY PATHOLOGY. (3)

Specialized instruction in techniques and interpretations of pathology and pathologic anatomy. Emphasis will be upon evaluation of lesions for understanding the pathogenesis of disease processes in the living animal. Prereq: Pathology in D.V.M. curriculum or equivalent and approval of staff.

VS 791 TECHNIQUES IN VETERINARY MICROBIOLOGY. (1-9)

Independent research in veterinary microbiology. May be repeated to a maximum of 24 credits. Prereq: Consent of staff.

VS 792 TECHNIQUES IN GENERAL VETERINARY PATHOLOGY. (1-9)

Independent research in veterinary pathology. May be repeated to a maximum of 24 credits. Prereq: Consent of staff.