VETERINARY MEDICINE

College of Veterinary Medicine

101 Veterinary Medicine in Society
Spring. 1(1-0)
Role of the veterinary profession in animal and human health. Impact of veterinary medicine on society.

110 Veterinary Medical Terminology
Spring. 3(3-0) P: VM 140 concurrent.
Veterinary medical terminology, focusing on fundamental recognition, interpretation and usage of medical terms.

120 Veterinary Comparative Nutrition
Spring. 2(2-0) R: Approval of college.
Energy metabolism, nutrients and nutrient requirements of common domestic species.

130 Comparative Anatomy for Veterinary Technicians
Fall. 2(1-2) P: (Completion of Tier I Writing Requirement and (BS 161 and BS 171)) or LB 145 R: Approval of college. C: VM 250 concurrently.
Gross anatomy of the common animal species encountered in veterinary medicine. Overview of the functional anatomy of the musculoskeletal, digestive, cardiovascular, cutaneous, respiratory, urogenital, nervous, and endocrine systems and the special senses.

140 Pharmacology for Veterinary Technicians
Fall. 2(2-0) P: MTH 103 or MTH 110 or MTH 116 or MTH 124 or MTH 132 R: Approval of college.
Fundamentals of characteristics, classification and usage of veterinary pharmaceuticals. Introduction to and application of dosage and formulation calculations.

150 Hospital Procedures and Communication
Fall. 2(2-0) R: Approval of college. C: VM 110 concurrently and VM 140 concurrently.
Development of various modalities of professional and client communication skills.

155 Veterinary Technology Careers and Professional Development
Spring. 1(0-4) R: Approval of college.
Career options in veterinary technology, discussion of professional, ethical and legal considerations. Portfolio development, resume and cover-letter writing skills.

160 Small Animal Nursing Skills
Spring. 3(2-3) P: VM 110 and VM 130 and VM 140 and VM 150
Small animal nursing including principles of restraint, physical examination, medical management techniques, and behavior of common companion animals. Recognition of common canine and feline breeds.

165 Large Animal and Laboratory Animal Nursing Care Techniques
Fall. 2(1-2) P: VM 160 and VM 205
Fundamentals of the handling of equine, food animal and laboratory animal species. Breed identification, specimen collection, physical exam, medication administration and other nursing care procedures relevant to the species.

170 Hematology and Immunology for Veterinary Technicians
Spring. 2(2-0) P: VM 250 and VM 110 C: VM 175 concurrently.
Structure and function of normal blood cells, cellular and humoral immunity, mechanisms of hemostasis, blood group serology, transfusion medicine and vaccinology.

175 Clinical Pathology Laboratory I for Veterinary Technicians
Spring. 1(0-2) P: VM 110 and VM 250 C: VM 170 concurrently.
Veterinary clinical pathology laboratory including diagnostic procedures in hematology, serology and ELISA methodology.

176 Clinical Pathology Laboratory II for Veterinary Technicians
Fall. 1(0-2) P: VM 175
Comprehensive veterinary clinical pathology laboratory, including diagnostic procedures in urology, dermatology, cytology, and advanced methods in hematology.

205 Preventive Animal Health Care for Veterinary Technicians
Spring. 3(3-0) P: VM 150 and VM 110
Development of husbandry techniques to enhance well-being and reduce the risk of disease, injury and stress in common domestic and exotic animals.

210 Surgical Nursing for Veterinary Technicians
Fall. 2(2-0) P: VM 160 and VM 130 and VM 250 C: VM 215 concurrently and VM 303 concurrently.
Role of the veterinary technician as a member of the veterinary surgical team.

215 Surgical Nursing and Anesthetic Management Laboratory
Fall. 1(0-4) P: VM 160 and VM 130 and VM 250 C: VM 210 concurrently and VM 303 concurrently.
Principles and techniques in veterinary surgical nursing and anesthesia.

245 Parasitology for Veterinary Technicians
Spring. 2(1-2) P: VM 140 and VM 176 and VM 205 RB: VM 250
Parasites of veterinary and public health importance, including gross and microscopic morphology, transmission, and control.

250 Veterinary Comparative Clinical Physiology
Fall. 5(5-0) P: (Completion of Tier I Writing Requirement and (BS 161 and BS 171)) or LB 145 R: Approval of college. C: VM 130 concurrently.

255 Small Animal Diseases and Management
Fall. 3(3-0) P: VM 160 and VM 170 and VM 250 and VM 175
Pathophysiology, transmission, diagnostic process, clinical management and prevention of canine and feline diseases.

265 Dentistry Techniques for Veterinary Technicians
Spring. 1(0-4) P: VM 215 and VM 210 and VM 303
Veterinary dental techniques and oral cavity assessment for companion animals.

270 Advanced Skills Development for Veterinary Technicians
Spring. 1(0-3) P: VM 210 and VM 215 and VM 303
Service-oriented approach to health care development in an operational animal care facility.

275 Large Animal Diseases and Management
Spring. 3(3-0) P: VM 165 and VM 250
Diseases, husbandry, preventative health care and client education for equine and food animal species.

285 Clinical Nutrition for Veterinary Technologists
Fall. Spring. 1(1-0) P: VM 255 and VM 120
Nutritional assessment and management of common domestic species in veterinary medicine.

290 Special Studies in Veterinary Medicine
Fall. Spring. Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of college.
Faculty-directed individual study on an experimental, theoretical or applied problem. May involve a supervised off-campus experience.

295 Biomedical Research and Regulatory Issues for Veterinary Technologists
Fall. 1(1-0) P: VM 150 and VM 205
Principles and techniques of biomedical research, governance and regulation of animal care and use.

303 Anesthesiology for Veterinary Technicians
Fall. 2(2-0) P: VM 140 and VM 160 and VM 130 and VM 250 C: VM 215 concurrently and VM 210 concurrently.

304 Radiology for Veterinary Technicians
Spring. 2(1-2) P: VM 110 and VM 130
Production of radiographs, components of the x-ray machine, use of screens and grids, handling film, imaging quality, film processing, patient positioning, and radiation safety.

305 Hospital Practice Management for Veterinary Technologists
Spring. 2(2-0) P: VM 150
Veterinary practice economics, personnel management, inventory control and marketing techniques.

310 Advanced Clinical Pathology Techniques
Spring. 1(0-2) P: VM 176 and VM 205
Advanced cytologic techniques including sample collection, processing and evaluation.

369 Introduction to Zoo and Aquarium Science
Spring. 3(3-0) Interdepartmental with Fisheries and Wildlife and Landscape Architecture and Zoology. Administered by Zoology. P: BS 162 or LB 144 or BS 182H
Fundamentals of zoo and aquarium operations including research, interpretation, design, nutrition, captive breeding, conservation, ethics and management.

410 Veterinary Technology Clerkship in Anesthesiology
Fall. Spring. Summer. 3 credits. P: VM 270 and VM 275 and VM 245 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in anesthesiology.
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Veterinary Medicine—VM

411 Veterinary Technology Clerkship in Radiology
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 245 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in radiology.

412 Veterinary Technology Clerkship in Companion Animal Medicine
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 245 and VM 304 RB: Completion of pre-clinical course work.
Application of principles and techniques in restraint, examination, nursing care, monitoring, and preventive medicine of companion animals.

413 Veterinary Technology Clerkship in Companion Animal Surgery
Fall, Spring, Summer. 3 to 6 credits. P: VM 270 and VM 275 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in surgical nursing.

414 Veterinary Technology Clerkship in Equine Medicine and Surgery
Fall, Spring, Summer. 3 to 6 credits. P: VM 270 and VM 275 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in equine medicine and surgery.

415 Veterinary Technician Clerkship in Food Animal and Equine Medicine and Surgery
Fall, Spring, Summer. 3 to 6 credits. P: VM 270 and VM 275 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in food animal and equine medicine and surgery.

450 Veterinary Technology Clerkship in Emergency Medicine
Fall, Spring, Summer. 3 credits. P: VM 412 RB: (VM 410 and VM 411 and VM 413) and Completion of preclinical coursework.
Application of principles and techniques in emergency medicine.

451 Veterinary Technology Clerkship in Cardiology
Fall, Spring, Summer. 3 credits. P: VM 412 RB: (VM 410 and VM 411 and VM 413) and Completion of preclinical coursework.
Application of principles and techniques in cardiology.

452 Veterinary Technology Clerkship in Neurology
Fall, Spring, Summer. 3 credits. P: VM 412 RB: (VM 410 and VM 411 and VM 413) and Completion of preclinical coursework.
Application of principles and techniques in neurology and physical therapy.

453 Veterinary Technology Clerkship in Ophthalmology
Fall, Spring, Summer. 3 credits. P: VM 412 and VM 413 RB: (VM 410) and Completion of preclinical coursework.
Application of principles and techniques in ophthalmology.

454 Veterinary Technology Clerkship in Critical Care
Fall, Spring, Summer. 3 credits. P: VM 412 RB: (VM 410 and VM 411 and VM 413) and Completion of preclinical coursework.
Application of principles and techniques in critical care.

455 Veterinary Technology Clerkship in Companion Animal Oncology
Fall, Spring, Summer. 3 credits. P: VM 412 and VM 413 RB: Completion of preclinical coursework.
Application of principles and techniques in companion animal oncology.

456 Veterinary Technology Clerkship in Companion Animal Physical Rehabilitation
Fall, Spring, Summer. 3 credits. P: VM 412 RB: Completion of preclinical coursework.
Application of principles and techniques of companion animal physical rehabilitation, particularly those animals recovering from orthopedic and neurologic injuries and surgeries.

458 Veterinary Technology Clerkship in Companion Animal Diagnostic Ultrasound
Fall, Spring, Summer. 3 credits. P: VM 411 RB: Completion of preclinical coursework.
Application of principles and techniques of Diagnostic Ultrasound

466 Veterinary Technology Clerkship in Large Animal Anesthesia
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 303 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques of food animal and equine anesthesiology.

470 Veterinary Technology Clerkship in Food Animal Medicine
Fall, Spring, Summer. 3 to 6 credits. P: VM 270 and VM 275 and VM 304 RB: Completion of preclinical coursework.
Application of principles and techniques in food animal medicine.

480 Veterinary Technology Clerkship in Clinical Pathology
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 303 and VM 245 RB: Completion of preclinical coursework.
Application of principles and techniques in clinical pathology.

482 Veterinary Technology Clerkship in Necropsy
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 303 and VM 245 RB: Completion of preclinical coursework.
Application of principles and techniques in postmortem examination of common domestic species with emphasis on specimen description, collection, and submission.

483 Veterinary Technology Clerkship in Biomedical Research
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: VM 270 and VM 275 and VM 303 and VM 304 and VM 245 RB: (VM 410 and VM 462) and Completion of preclinical coursework.
Application of principles and techniques in biomedical research involving laboratory animals.

484 Veterinary Technology Clerkship in Zoo and Wildlife Medicine
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: VM 270 and VM 275 and VM 303 and VM 304 and VM 245 RB: (VM 410) or Completion of pre-clinical coursework.
Application of principles and techniques in zoo and wildlife medicine.

486 Veterinary Technology Clerkship in Clinical Parasitology
Fall, Spring, Summer. 3 credits. P: VM 245 RB: Completion of pre-clinical course work.
Application of principles and techniques in clinical parasitology.

487 Veterinary Technology Clerkship in Dermatology
Fall, Spring, Summer. 3 credits. P: VM 412 RB: Completion of preclinical coursework.
Application of principles and techniques in dermatology.

490 Veterinary Technology Clerkship in Special Problems
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: VM 270 and VM 275 and VM 303 and VM 304 and VM 245 RB: Completion of preclinical coursework.
Application of principles and techniques in experimental, therapeutic, or laboratory medicine.

511 Clinical Competencies I
Fall. 2(1-2) R: Open to graduate-professional students in the College of Veterinary Medicine.
Introduction to history taking, physical examination, and techniques associated with examination of various species.

513 Ethical and Animal Welfare Issues in the Veterinary Profession
Fall. 2(1-2) R: Open to graduate-professional students in the College of Veterinary Medicine.
Identifying and communicating ethical challenges and animal welfare issues in the veterinary profession.

514 Comparative Lifestage Nutrition
Spring. 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine.

524 Basic Science in Clinical Medicine
Spring. 1(0-2) R: Open to graduate-professional students in the College of Veterinary Medicine.
Integration of information learned in basic science courses by application to clinical cases.

532 Veterinary Integrative Problem Solving
Fall. 2(1-2) RB: Completion of Year 1 in the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine.
Integration of subject material from concurrent and previous courses using a problem-based learning format.
544 Principles of Anesthesia and Surgery
Fall, 3(3-0) R: Completion of year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

545 Musculoskeletal Diseases
Spring, 3(3-0) R: Completion of year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

546 Respiratory Diseases
Fall, Spring, 3(3-0) R: Completion of year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

547 Principles of Diagnostic Imaging
Spring, 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine. 

548 Veterinary Epidemiology
Fall, 3(3-0) R: Completion of Year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

549 Veterinary Career Development and Practice Management
Spring, 2(2-0) R: Open to graduate-professional students in the College of Veterinary Medicine. 

550 Cardiovascular Diseases
Fall, 2(2-0) R: Completion of year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

551 Veterinary Public Health
Fall, 2(2-0) R: Completion of year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

552 Principles of Radiographic Imaging
Fall, Spring, 1(1-0) R: Completion of Year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

553 Hematological, Oncological and Dermatological Diseases
Fall, 3(3-0) R: Completion of Year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

554 Cardiovascular Diseases
Spring, 4(3-0) R: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

555 Operative Surgery
Fall, 2(1-3) R: Completion of Year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

556 Digestive Diseases of Domestic Animals
Fall, 3(3-0) R: Completion of Year 1 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

557 Digestive Diseases of Domestic Animals
Fall, 3(3-0) R: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

558 Digestive Diseases of Domestic Animals
Fall, 2(2-0) R: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

559 Digestive Diseases of Domestic Animals
Spring, 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine. 

560 Operative Surgery
Fall, 2(1-3) R: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

561 Operative Surgery
Fall, 2(1-3) R: Completion of Year 2 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. 

562 Operative Surgery
Fall, Spring, 3(3-0) R: Open to masters students in the Food Safety major or approval of college. 

563 Operative Surgery
Fall, Spring, Summer. 2 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate-professional students who have completed semester 5 of the graduate professional program in the College of Veterinary Medicine. 

564 Digestive Diseases of Domestic Animals
Fall, Spring, Summer. 2 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open only to graduate-professional students in the Food Safety major or approval of college.
815  Applied Project in Food Safety
Fall, Spring, Summer. 3 credits. P: VM 810 or approval of college. R: Open to masters students in the Food Safety major or approval of college.
Faculty directed student project.

817  Pre-Harvest Food Safety
Fall, Spring. 3 credits. RB: Enrollment in graduate program in related field. R: Open to masters students in the Food Safety major or approval of college.
Principles for improvement of pre-harvest food safety. Emphasis on microbial, chemical, and toxic hazards. Strategies to reduce pre-harvest risks in many food production species.

820  Current Topics in Comparative Medicine and Integrative Biology
Fall, Spring. 1 to 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: Enrollment in graduate-professional program or graduate program in the biomedical sciences. R: Open to graduate students in the College of Veterinary Medicine. R: Open to students in the Food Safety major or Criminal Justice major or approval of college.
Topics in comparative medicine using recently published literature to illustrate concepts.

821  Food Protection and Defense
Fall, Spring. 3 credits. Interdepartmental with Criminal Justice. Administered by Veterinary Medicine. R: Open only to graduate students in the College of Veterinary Medicine or Food Safety major or Criminal Justice major or approval of college.
Food systems and criminal justice approaches to prepare for and solve issues relating to food safety and defense.

823  International Veterinary Medicine
Spring. 3(3-0) RB: Professional or graduate status with knowledge of animal production or animal health. R: Open to masters students or graduate-professional students or lifelong graduate students in the College of Veterinary Medicine or the Food Safety major or in the Large Animal Clinical Sciences major. Approval of college.
Global burden of animal and zoonotic diseases. Regulations for animal health and animal trade internationally. Comparative approaches for animal health management.

824  Global Food Safety
Spring. 3(3-0) RB: Professional or graduate status with knowledge of food safety. R: Open to graduate students in the Food Safety major or approval of college.
Understanding food safety challenges in different geographic regions. Development of interventions for food safety in a global context.

825  Quantifying Food Risk
Summer. 3(3-0) RB: Professional or graduate status with knowledge of food safety. R: Open to masters students or graduate-professional students in the College of Veterinary Medicine or the School of Criminal Justice or in the School of Packaging or in the Food Safety major or approval of college.
Food risks based on quality, safety, fraud and intentional threats.

828  Food Safety Seminar Series
Fall, Spring. 1(1-0) Interdepartmental with Agriculture and Natural Resources and Natural Science and Social Science. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related discipline
Selected current topics covering the broad areas of food safety as they relate to production, processing, transport, microbiology, toxicology, and social and human dimensions.

829  Problems in Food Safety
Fall, 1(1-0) Interdepartmental with Agriculture and Natural Resources and Natural Science and Social Science. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related discipline
In-depth discussion of selected problems in food safety.

830  Food Safety Research Methods
Fall, Summer. 3(3-0) R: Open to graduate students in the College of Veterinary Medicine or approval of college.
Conducting and interpreting food safety research. Interpretation and critique of the literature, study design, and communication of food safety research.

831  Foodborne Disease Epidemiology for the Professional
Fall, Summer. 3(3-0) R: Open to masters students in the Food Safety major or approval of college.
Applied foodborne disease investigation through the use of case studies.

832  Food Safety Disease Control
Summer. 3(3-0) R: Open to graduate students in the Food Safety major or approval of college.
Applied approaches to food borne disease control using case studies.

840  Anti-Counterfeit Strategy and Product Protection
Summer. 3(3-0) Interdepartmental with Criminal Justice and Packaging. Administered by Veterinary Medicine. R: Open to graduate students in the School of Criminal Justice or in the School of Packaging or in the Food Safety major or approval of department.
Theory and applied techniques for anti-counterfeit strategies and product protection for food and consumer products.

899  Master's Thesis Research
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 18 credits in all enrollments for this course.
Masters thesis research.

999  Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course.
Doctoral dissertation research.