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

110 Veterinary Medical Terminology  
Fall. 1(1-0) R: Approval of college.  
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.

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) P: 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(1-0) 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 206  
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.

180 Veterinary Comparative Clinical Physiology  
Fall. 2(1-2) P: VM 250 and VM 110 and VM 130 and VM 140 and VM 150 R: Approval of college. C: VM 210 concurrently and VM 303 concurrently.  
Principles and techniques in veterinary surgical nursing and anesthesia.

190 Veterinary Comparative Neuroanatomy  
Spring. 3(3-0) P: VM 140 and VM 160 and VM 170 and VM 180 C: VM 210 concurrently and VM 250 concurrently.  

200 Veterinary Comparative Endocrinology  
Spring. 2(2-0) P: VM 140 and VM 160 and VM 250 C: VM 210 concurrently and VM 250 concurrently.  
Parasites of veterinary and public health importance, including gross and microscopic morphology, transmission, and control.

205 Preventive Animal Health Care for Veterinary Technicians  
Spring. 3(3-0) P: VM 150 and VM 110  
Development of husbandry techniques to enhance wellness 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(0-5) 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(0-3) 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 210 concurrently and VM 215 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 255  
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.
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.

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 preventative medicine of companion animals.

Veterinary Technology Clerkship in Veterinary Technician Clerkship in Food and animal 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 surgical nursing.

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

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 emergency medicine.

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.

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.

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.

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.

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.

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.

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.

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. SA: VM 460, VM 472
Application of principles and techniques of food animal and equine anesthesiology.

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.

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.

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.

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) or Completion of pre-clinical coursework.
Application of principles and techniques in biomedical research involving laboratory animals.
533 Veterinary Epidemiology
Fall. 3(3-0) RB: 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. Basic epidemiologic theory and study design. Veterinary descriptive and inferential biostatistics. Production veterinary medicine.

541 Veterinary Career Development and Practice Management
Spring. 2(2-0) R: Open to graduate-professional students in the College of Veterinary Medicine. Foundations of career development and practice management skills.

542 Cardiovascular Diseases
Spring. 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. Cardiovascular diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

544 Veterinary Public Health
Fall. 2(2-0) RB: 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. Veterinary environmental, occupational, and public health. Milk and meat hygiene. Control of zoonotic diseases.

545 Principles of Anesthesia and Surgery
Spring. 4(3-2) RB: 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. Administering anesthetic agents. Fundamentals of surgery including sterile technique, tissue handling, suture patterns, wound healing, and postoperative care.

546 Musculoskeletal Diseases
Spring. 4(4-0) RB: 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. Musculoskeletal diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

547 Respiratory Diseases
Fall. 2(2-0) RB: 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. Respiratory diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

548 Principles of Diagnostic Imaging
Spring. 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine. Basic principles of diagnostic imaging including radiographic physics, safety, interpretive principles and normal veterinary anatomy.

549 Applied Diagnostic Imaging
Fall. 1(0-2) RB: 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. Radiographic interpretation. Recognition of abnormalities. Development of verbal skills in image interpretation. Alternate imaging modalities.

550 Theriogenology and Urinary Diseases
Fall. 5(4-2) RB: 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. Urinary diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

551 Hematological, Oncological and Dermatological Diseases
Fall. 3(3-0) RB: 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. Hematological, oncological and dermatological diseases of domestic animals. Pathogenesis, clinical presentation, diagnosis, and treatment.

553 Neurological and Ophthalmological Diseases
Fall. 3(3-0) RB: 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. Neurological and ophthalmological diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

555 Operative Surgery
Fall. 2(1-3) RB: 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. Soft tissue and orthopedic surgery of domestic animals. Preoperative evaluation, surgery, and postoperative care.

557 Digestive Diseases of Domestic Animals
Fall. 3(3-0) RB: 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. Digestive diseases of domestic animals. Diagnosis, therapy, prophylaxis, and management.

559 Metabolic and Endocrinological Diseases
Fall. 2(2-0) 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. Pathogenesis, diagnosis, and treatment of metabolic and endocrinologic diseases of domestic animals.

561 Private Practice Ownership
Spring. 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine. Demographic studies, business entities, financing, leadership, business and marketing plans and entrepreneurial ownership considerations when starting a practice or buying an existing practice.

563 Veterinary Externalship
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. R: Open to graduate-professional students in the College of Veterinary Medicine. Clinical or research experience in an off-campus setting.

610 Food Safety Introduction and Professional Management
Fall, Spring, Summer. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. Various food safety topics. Organizational, managerial, leadership and communication skills.

611 Evolution and Ecology of Foodborne Pathogens
Fall, Spring, Summer. 3 credits. R: Open to masters students in the Food Safety major or approval of college. Evolution of foodborne pathogens. Ecology of microbial organisms found in the food chain from introduction through human consumption.

612 Food Safety Toxicology
Fall, Spring. 3 credits. RB: Open to masters students in the Food Safety major or approval of college. Nature and properties of toxic substances through the food chain. Nature and magnitude of hazards to human health.

613 Special Studies in Food Safety
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to masters students in the Food Safety major or approval of college. Faculty supervised independent study on an experimental, theoretical, or applied project. May involve on-campus or off-campus experience.

614 Packaging for Food Safety
Summer, 3 credits. Interdepartmental with Packaging. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related field. R: Open to masters students in the Food Safety major and open to graduate students in the Packaging major or approval of college. Current issues in packaging and food safety.
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  
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 or in the Veterinary Medicine major or in the Criminal Justice major or approval of college.  
Topics in comparative medicine using recently published literature to illustrate concepts.

821  Food Protection and Defense  
Fall. 3 credits. Interdepartmental with Criminal Justice. Administered by Veterinary Medicine. R: Open to graduate students in the College of Veterinary Medicine or in the Food Safety major or in the Veterinary Medicine major or in the 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 in the Food Safety major or in the Large Animal Clinical Sciences major or 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  
Fall. 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 in 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 college.  
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.