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(0-0) R: Open only to Veterinary Technology majors. Approval of college. Veterinary medical terminology, focusing on fundamental recognition, interpretation and usage of medical terms.

120 Applied Biochemistry and Nutrients for Veterinary Technicians  
Fall. 2(2-0) P: BS 111 and BS 111L R: Open only to Veterinary Technology majors. Approval of college. Basic fundamentals of cell structure and metabolism. Energy metabolism, nutrients and nutrient requirements of common domestic species.

130 Comparative Anatomy for Veterinary Technicians  
Fall. 2(1-2) P: BS 111 and BS 111L R: Open only to Veterinary Technology majors. Approval of college. Gross anatomy of the common animal species encountered in veterinary medicine. Overview of the functional anatomy of the musculoskeletal, 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 R: Open only to Veterinary Technology majors. Approval of college. Fundamentals of characteristics, classification and usage of veterinary pharmacueticals. Introduction to and application of dosage and formulation calculations.

150 Hospital Procedures and Communication  
Spring. 2(2-0) P: VM 110 and VM 140 R: Open only to Veterinary Technology majors. Development of various modalities of professional and client communication skills.

155 Veterinary Technology Careers and Professional Development  
Fall. 1(1-0) R: Open only to Veterinary Technology majors. 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 R: Open to students in the Veterinary Technology major. Approval of college. 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 110 and VM 130 and VM 140 R: Open only to Veterinary Technology majors. 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 110 and VM 120 R: Open only to Veterinary Technology majors. C: VM 175 concurrently. Structure and function of normal blood cells, cellular and humoral immunity, mechanisms of hemostasis, blood group serology, transfusion medicine and vaccination.

175 Clinical Pathology Laboratory I for Veterinary Technicians  
Spring. 1(0-2) P: VM 110 and VM 120 R: Open only to Veterinary Technology majors. 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 and VM 170 R: Open only to Veterinary Technology majors. 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 130 and VM 140 and VM 250 R: Open to undergraduate students in the Veterinary Technology major. 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 R: Open only to Veterinary Technology majors. C: VM 215 concurrently or 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) R: Open only to Veterinary Technology majors. C: VM 210 concurrently or 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 175 RB: VM 250 R: Open only to Veterinary Technology majors. 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: BS 111 or LB 145 R: Open to undergraduate students in the Veterinary Technology major. Approval of college. C: VM 110 concurrently and VM 120 concurrently and VM 130 concurrently. Function, regulation, and integration of organs and organ systems of common domestic species. Concepts with clinical relevance.

255 Small Animal Diseases and Management  
Fall. 3(3-0) P: VM 160 and VM 170 and VM 250 R: Open only to Veterinary Technology majors.

265 Dentistry Techniques for Veterinary Technicians  
Spring. 1(0-4) P: VM 215 R: Open only to Veterinary Technology majors. 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 255 R: Open to students in the Veterinary Technology major. Approval of college. 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 170 and VM 250 R: Open only to Veterinary Technology majors. Diseases, husbandry, preventative health care and client education for equine and food animal species.

285 Clinical Nutrition for Veterinary Technologists  
Fall. 1(1-0) P: VM 250 R: Open only to Veterinary Technology majors. 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: Open to undergraduate students in the College of Veterinary Medicine. 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 R: Open only to Veterinary Technology majors. 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 250 R: Open only to Veterinary Technology majors. C: VM 215 concurrently or VM 210 concurrently. Pharmacologic action of preanesthetic and anesthetic drugs. Principles and techniques of induction, maintenance, monitoring, and recovery of the patient. Humane methods of euthanasia.
Veterinary Technology in Zoo and Aquarium Science

Application of principles and techniques in extracorporeal shock wave therapy.

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. R: Open only to Veterinary Technology majors. Application of principles and techniques in neurology.

453 Veterinary Technology Clerkship in Ophthalmology
Fall, Spring, Summer. 3 credits. P: VM 412 RB: (VM 410 and VM 411 and VM 413) and Completion of preclinical coursework. R: Open only to Veterinary Technology majors. 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. R: Open only to Veterinary Technology majors. Application of principles and techniques in critical care.

466 Veterinary Technology Clerkship in Large Animal Anesthesia
Fall, Spring, Summer. 3 credits. P: VM 410 and VM 415 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors. Application of principles and techniques of food animal and equine anesthesiology.

470 Veterinary Technology Clerkship in Food Animal Medicine
Fall, Spring, Summer. 3 credits. P: VM 415 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors. Application of principles and techniques in veterinary medicine.

480 Veterinary Technology Clerkship in Clinical Pathology
Fall, Spring, Summer. 3 credits. P: VM 270 and VM 275 and VM 303 and VM 304 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors. Application of principles and techniques in clinical pathology.

513 Ethical and Animal Welfare Issues in Veterinary Medicine
Fall, Spring. 3 credits. Open only to graduate professional students in the College of Veterinary Medicine. Application of principles and techniques in ethical and animal welfare issues in veterinary medicine.
514 Comparative Lifesstage 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.

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.

543 Cardiovascular Diseases
Spring. 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.
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.

547 Respiratory Diseases
Fall, Spring. 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.

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, Spring. 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.

551 Theriogenology and Urogenital 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.

552 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.

554 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.

555 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.

556 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 Veterinary Externship
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Completion of 5 semesters of the graduate-professional program in the College of Veterinary Medicine.
Clinical or research experience in an off-campus setting.

562 Special Problems in Veterinary Medicine
Fall, Spring, 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate-professional students in the College of Veterinary Medicine.
Individual study directed by a faculty member on an experimental, theoretical, or applied problem. May involve off-campus experience in a preceptorial mode.

564 Career Development and Business Skills
Spring. 3 credits. R: Open only to graduate-professional students who have completed semester 5 of the graduate professional program in the College of Veterinary Medicine.
Development of leadership, business and interpersonal skills, career planning, and goal setting.

565 Food Safety Introduction and Professional Management
Fall, Spring, Summer. 2 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: One year of college level science including one semester of microbiology. R: Open only to students in the Master of Science degree in Food Safety or approval of college.
Various food safety topics. Organizational, management, leadership and communication skills.

566 Evolution and Ecology of Foodborne Pathogens
Spring, 3 credits. R: Open only to students in the Master of Science degree in Food Safety or approval of college.
Evolution of foodborne pathogens. Ecology of microbial organisms found in the food chain from introduction through human consumption.

567 Food Safety Toxicology
Spring, 3 credits. R: Open only to students in the Master of Science degree in Food Safety or approval of college.
813  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 only to students in the Master of Science degree in Food Safety or approval of college. Faculty supervised independent study on an experimental, theoretical or applied project. May involve on-campus or off-campus experience.

814  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 master’s 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 only to master’s students in Food Safety 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
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. 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.

822  Aquatic Animal Medicine
Fall. 3(2-2) Interdepartmental with Fisheries and Wildlife and Pathobiology and Diagnostic Investigation. Administered by Fisheries and Wildlife. RB: (FW 423) or prior course work in animal ecology, microbiology, parasitology or pathology. Health management techniques and pathobiological processes relating to the etiology, diagnosis, and control of diseases affecting aquatic animal populations and communities.

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
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
Summer. 3(3-0) R: Open to graduate 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.