160 Small Animal Nursing Skills
Spring, 2(1-3) P:M VM 110 and VM 130 and VM 140 R: Open only to Veterinary Technology majors.
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:M: 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(1-2) P:M 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 vaccinology.

175 Clinical Pathology Laboratory I for Veterinary Technicians
Spring, 1(0-2) P:M VM 110 and VM 120 R: Open only to Veterinary Technology majors. Veterinary clinical pathology laboratory including diagnostic procedures in hematology, serology and ELISA methodology.

180 Surgical Nursing for Veterinary Technicians
Fall, 2(2-0) P:M: 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 pharmaceuticals. Introduction to and application of dosage and formulation calculations.

185 Veterinary Technology Careers and Professional Development
Fall, 1(1-0) R: Open only to Veterinary Technology majors. Approval of college. Career opportunities in veterinary technology, discussion of professional, ethical and legal considerations. Portfolio development, resume and cover-letter writing skills.

190 Comparative Anatomy for Veterinary Technicians
Fall, 2(1-2) P:M 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, digestive, cardiovascular, cutaneous, respiratory, urogenital, nervous, and endocrine systems and the special senses.

195 Pharmacology for Veterinary Technicians
Fall, 2(2-0) P:M MTH 103 or MTH 110 or MTH 116 R: Open only to Veterinary Technology majors. Approval of college. Functions and use of drugs, drugs of abuse and therapeutic indices. Principles of drug action, absorption, distribution, excretion, metabolism, and mechanism of action. Side effects of commonly used drugs.

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

205 Veterinary Technology Careers and Professional Development
Fall, 1(1-0) R: Open only to Veterinary Technology majors. Approval of college. Career opportunities in veterinary technology, discussion of professional, ethical and legal considerations. Portfolio development, resume and cover-letter writing skills.

210 Surgical Nursing for Veterinary Technicians
Fall, 2(2-0) P:M 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(0-2) P:M: 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.

220 Parasitology for Veterinary Technicians
Spring, 2(2-0) P:M VM 110 and VM 120 R: Open only to Veterinary Technology majors. C: VM 210 concurrently or VM 303 concurrently. Principles and techniques in veterinary surgical nursing and anesthesia.

225 Parasitology for Veterinary Technicians
Spring, 2(2-0) P:M 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.

230 Veterinary Comparative Clinical Physiology
Spring, 2(0-0) P:M VM 110 and VM 120 and VM 130 R: Open only to Veterinary Technology majors. Function, regulation and integration of organs and organ systems of common domestic species. Concepts with clinical relevance.

235 Small Animal Diseases and Management
Fall, 3(0-3) P:M VM 160 and VM 170 and VM 256 R: Open only to Veterinary Technology majors. Pathophysiology, transmission, diagnostic process, clinical management and prevention of canine and feline diseases.

240 Dental Techniques for Veterinary Technicians
Spring, 1(0-4) P:M VM 215 R: Open only to Veterinary Technology majors. Veterinary dental techniques and oral cavity assessment for companion animals.

245 Veterinary Medical Terminology
Spring, 3(3-0) P:M VM 165 and VM 170 and VM 290 R: Open only to Veterinary Technology majors. Recognition of commonly used veterinary medical terms. Development of various modalities of professional and client communication skills.

250 Veterinary Medical Terminology
Spring, 3(3-0) P:M VM 165 and VM 170 and VM 290 R: Open only to Veterinary Technology majors. Development of veterinary medical terminology, including gross and microscopic morphology, transmission, and control.

255 Veterinary Medical Terminology
Spring, 2(2-0) P:M VM 165 and VM 170 and VM 290 R: Open only to Veterinary Technology majors. Advanced cytotologic techniques including sample collection, processing and evaluation.

260 Veterinary Medical Terminology
Spring, 3(3-0) P:M VM 165 and VM 170 and VM 290 R: Open only to Veterinary Technology majors. Development of veterinary medical terminology, including gross and microscopic morphology, transmission, and control.
410 Veterinary Technology Clerkship in Anesthesiology  
Fall, Spring, Summer. 3 credits. P:M: 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 anesthesiology.

411 Veterinary Technology Clerkship in Radiology  
Fall, Spring, Summer. 3 credits. P:M: 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 radiology.

412 Veterinary Technology Clerkship in Companion Animal Medicine  
Fall, Spring, Summer. 3 credits. P:M: VM 270 and VM 275 and VM 303 and VM 304 RB: Completion of pre-clinical course work. R: Open only to Veterinary Technology majors.  
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 credits. P:M: 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 surgical nursing.

414 Veterinary Technology Clerkship in Equine Medicine and Surgery  
Fall, Spring, Summer. 3 credits. P:M: VM 415 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
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 credits. P:M: 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 food animal and equine medicine and surgery.

416 Veterinary Technology Clerkship in Large Animal Anesthesia  
Fall, Spring, Summer. 3 credits. P:M: VM 410 and VM 415 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors. SA: VM 460, VM 472.  
Application of principles and techniques of food animal and equine anesthesia.

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

418 Veterinary Technology Clerkship in Clinical Pathology  
Fall, Spring, Summer. 3 credits. P:M: 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.

419 Veterinary Technology Clerkship in Necropsy  
Fall, Spring, Summer. 3 credits. P:M: 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 postmortem examination of common domestic species with emphasis on specimen description, collection, and submission.
521 Veterinary Perspectives II
Spring. 2(2-0) 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.

522 Veterinary Integrative Problem Solving II
Spring. 3(3-0) R: Open only to graduate-professional students in College of Veterinary Medicine.
Integration of subject material from concurrent and previous semester courses.

523 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.

531 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.

532 Veterinary Integrative Problem Solving III
Fall. 3(1-4) RB: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine.
Integration of subject material from concurrent and previous semester courses.

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 Veterinary Integrative Problem Solving IV
Spring. 3(2-3) RB: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine.
Integration of subject material from concurrent and previous courses.

543 Veterinary Public Health
Spring. 2(2-0) RB: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine.
Veterinary environmental and 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 semester 2 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 570 or VM 578.
Administering anesthetic agents. Fundamentals of surgery: sterile technique, tissue handling, suture patterns, wound healing, postoperative care.

546 Musculoskeletal Diseases
Spring. 5(5-0) RB: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 582 or VM 592.

547 Respiratory Diseases
Spring. 2(2-0) RB: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 574.

552 Veterinary Integrative Problem Solving V
Fall. 3(2-3) RB: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine.
Integration of subject material from concurrent and previous semester courses.

553 Theriogenology and Urinary Diseases
Fall. 5(4-2) RB: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 560 or VM 580.

556 Digestive, Metabolic and Endocrinological Diseases
Fall. 5(5-0) RB: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 540 or VM 576 or VM 586.
Digestive, metabolic, and endocrinological diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

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

619 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. RB: Completion of 5 semesters of the graduate-professional program 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.

620 Career Development and Business Skills
Spring. 3 credits. RB: 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.

810 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. RB: 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, managerial, leadership and communication skills.

811 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.

812 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
Fall, Spring. 3 credits. Interdepartmental with Packaging. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related field. R: Open only to master's students in the Food Safety major or 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. 6 credits. P:M: VM 810 R: Open to masters students in the Food Safety major or approval of college. Faculty directed student project.

816 Food Irradiation
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 and practice of the irradiation of food for pathogen reduction, food preservation, and the elimination of pests and insects.

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.
818  The Epidemiology of Zoonotic Diseases  
Spring of odd years. 3(3-0)  Interdepartmental with Epidemiology. Administered by Epidemiology. RB: EPI 810  R: Open to graduate students in the Epidemiology major or approval of department. SA: HM 818  
Human susceptibility to diseases of animals. Modes of transmission, surveillance, and strategies for prevention of specific zoonotic diseases.

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.

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.

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.