# VETERINARY MEDICINE

# VM

# **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 Fall. 1(1-0) 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 metabol-Energy metabolism, nutrients and nutrient ism. requirements of common domestic species.

# **Comparative Anatomy for Veterinary** 130 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, digestive, cardiovascular, cutaneous, respiratory, urogenital, nervous, and endocrine systems and the special senses.

#### Pharmacology for Veterinary 140 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 pharmaceuticals. Introduction to and application of dosage and formulation calculations

#### **Hospital Procedures and Communication** 150

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 vaccinology.

# 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.

# Clinical Pathology Laboratory II for 176 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. Approval of college.

Development of husbandry techniques to enhance wellness and reduce the risk of disease, injury and stress in common domestic and exotic animals.

# Surgical Nursing for Veterinary 210 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.

# Parasitology for Veterinary Technicians Spring. 2(1-2) P: VM 140 and VM 175 RB: 245

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. Pathophysiology, transmission, diagnostic process, clinical management and prevention of canine and feline diseases.

#### **Dentistry Techniques for Veterinary** 265 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.

#### Advanced Skills Development for 270

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 colleae.

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.

#### **Special Studies in Veterinary Medicine** 290

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.

# **Biomedical Research and Regulatory** 295 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 pa-tient. Humane methods of euthanasia.

304 **Radiology for Veterinary Technicians** Spring. 2(1-2) P: VM 110 and VM 130 R: Open to undergraduate students in the Veterinary Technology major. Approval of college.

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 and VM 155 R: Open only to Veterinary Technology majors. Veterinary practice economics, personnel manage-ment, inventory control and marketing techniques.

# Advanced Clinical Pathology Techniques 310

Spring. 1(0-2) P: VM 175 and VM 176 R: Open only to Veterinary Technology majors. 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 110 or LB 144 or BS 148H

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 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: 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.

# Veterinary Technology Clerkship in Companion Animal Medicine 412

Fall, Spring, Summer. 3 credits. P: 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.

# Veterinary Technology Clerkship in 413

Companion Animal Surgery 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 surgical nursing

### 414 Veterinary Technology Clerkship in Equine Medicine and Surgery

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 equine medicine and surgery.

# 415 Veterinary Technician Clerkship in Food Animal and Equine Medicine and Surgery 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 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. R:

Open only to Veterinary Technology majors. Application of principles and techniques in emer-

# 451 Veterinary Technology Clerkship in Cardiology

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gy.

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 cardiolo-

### 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 and physical therapy.

### Veterinary Technology Clerkship in 453 Ophthalmology

Fall, Spring, Summer. 3 credits. P: VM 412 and VM 413 RB: (VM 410) and Completion of preclinical coursework. R: Open only to Veterinary Technology majors.

Application of principles and techniques in ophthalmoloav

### 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. SA: VM 460, VM 472 tion of prioricles and techniques of food

Application of principles and techniques of food animal and equine anesthesiology.

#### Veterinary Technology Clerkship in Food 470 **Animal Medicine**

Fall, Spring, Summer. 3 credits. P: VM 415 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology maiors.

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 304 RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.

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 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.

### 483 Veterinary Technology Clerkship in **Biomedical Research**

Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits. A in all enrollments for this course. P: VM 270 and VM 275 and VM 303 and VM 304 RB: (VM 410 and VM 482) and Completion of preclinical coursework. R: Open only to Veterinary Technology majors.

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 RB: (VM 410) or Completion of preclinical coursework. R: Open only to Veterinary Technology majors.

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 preclinical coursework. R: Open only to Veterinary Technology majors

Application of principles and techniques in clinical parasitology.

### Veterinary Technology Clerkship in 487 Dermatology

Fall, Spring, Summer. 3 credits. RB: Completion of pre-clinical course work. R: Open only to Veterinary Technology majors.

Application of principles and techniques in dermatology.

# Veterinary Technology Clerkship in Special Problems 490

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 RB: Completion of the didactic core curriculum. R: Open only to Veterinary Technology maiors

Application of principles and techniques in experimental, therapeutic, or laboratory medicine.

# Veterinary Clinical Examination and 511 Techniques

Fall 2(1-2) R: Open to graduateprofessional students in the College of Vete-. rinary 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 araduateprofessional 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.

Nutritional assessment and management of the physiological stages of growth. Adult maintenance, gestation, lactation, performance, and geriatric concerns of common domestic species.

#### **Basic Science in Clinical Medicine** 524

Spring. 1(0-2) R: Open to graduateprofessional 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.

#### Veterinary Career Development and 541 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 Col-lege of Veterinary Medicine. R: Open to graduate-professional students in the Col-

lege 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.

#### **Respiratory Diseases** 547

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.

Respiratory diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

#### Principles of Diagnostic Imaging 548

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.

Radiographic interpretation. Recognition of abnormalities. Development of verbal skills in image interpretation. Alternate imaging modalities.

#### Theriogenology and Urinary Diseases 553

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.

Urogenital diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

# Hematological, Oncological and Dermatological Diseases Fall. 3(3-0) RB: Completion of Year 2 of the 554

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.

### Neurological and Ophthalmological 555 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

#### 557 **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 Preoperative evaluation, surgery, and animals. postoperative care.

558 **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.

Metabolic and Endocrinological Diseases 559 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.

#### 611 Veterinary Externship

Fall, Spring, Summer. 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.

#### 690 **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.

**Career Development and Business Skills** 692 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 interper-sonal 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 through introduction 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.

Nature and properties of toxic substances through the food chain. Nature and magnitude of hazards to human health

#### Special Studies in Food Safety 813

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 ap-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.

# 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 graduateprofessional 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.

#### **Food Protection and Defense** 821

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.

#### Food Safety Seminar Series 828

Fall, Spring. 1(1-0) Interdepartmental with Agriculture and Natural Resources and Natural Science and Social Science. Adminis-tered 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.

#### Food Safety Research Methods 830

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

### Anti-Counterfeit Strategy and Product 840 Protection

3(3-0) Interdepartmental with Summer 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.

#### **Doctoral Dissertation Research** 999

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.