LARGE ANIMAL CLINICAL SCIENCES

Department of Large Animal Clinical Sciences
College of Veterinary Medicine

423 Principles of Fish and Wildlife Disease
Fall. 3(3-0) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife. P: (BS 162 and BS 172) or (BS 182H and BS 192H) or LB 144 RB: Additional course work in ecology, zoology, microbiology or environmental sciences. R: Open to juniors or seniors or graduate students in the College of Agriculture and Natural Resources or in the College of Natural Science or in the College of Veterinary Medicine.

Diseases of fish and wildlife species. Disease detection and diagnosis. Ecological and epidemiological analysis and management of major classes of wildlife diseases. Threatened and endangered species, game species, and fish and wildlife species that serve as vectors or reservoirs of human and domestic animal diseases.

423L Principles of Fish and Wildlife Disease Laboratory
Fall of odd years. 1(0-3) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife. RB: Additional laboratory course work in ecology, zoology, microbiology or environmental sciences. C: FW 423 concurrently.

Tools for diagnosis and assessment of disease in fish and wildlife populations.

463 Wildlife Disease Ecology
Spring of even years. 3(3-0) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife. P: FW 423 or approval of department RB: Additional course work in ecology, zoology, microbiology or environmental sciences. Role of wildlife disease in ecological interactions. Factors underlying pathogen emergence. Disease modeling. Conservation medicine.

520 Introduction to Neonatal Foal Medicine
Spring. 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine.

After-hours care of neonatal foals admitted to the Veterinary Teaching Hospital including monitoring, blood collection, and routine medical care.

560 Clinical Competencies II
Spring. 1(0-2) R: Open to graduate-professional students in the College of Veterinary Medicine.

Basic diagnostics and therapeutics for application to large animal practice.

561 Reproductive Management of the Sow Herd
Fall. 1(1-0) RB: Completion of Year 2 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Sow herd management from introduction of gilts through the reproductive cycle.

562 Care and Management of the Neonatal Foal
Spring. 1(1-0) RB: Completion of year 1 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Weekly seminars focusing on common diseases. Case presentations.

563 Bovine Pregnancy Diagnosis
Fall. 1(1-1) RB: Completion of year 2 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Basic reproductive physiology. Farm based laboratories in bovine transrectal palpation and sonography. Field trips required.

564 Nutritional Management of Dairy Cow Health
Spring. 1(1-1) RB: Completion of year 1 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Diet formulation for promotion of dairy cow health and prevention of peripartum disease.

565 Equine Sports Medicine
Fall of odd years. 1(1-0) RB: Completion of year 2 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Physiologic responses to exercise and discipline specific disorders of equine athletes.

566 Current Topics in Food Systems Veterinary Medicine
Fall. 1(1-0) R: Open to graduate-professional students in the College of Veterinary Medicine and open to graduate students in the College of Veterinary Medicine.

Techniques in management, interpretation and application of new knowledge in the scientific literature of food systems veterinary medicine.

567 Problems in Pre-harvest Food Safety
Spring. 1(1) R: Open to graduate-professional students in the College of Veterinary Medicine and open to graduate students in the College of Veterinary Medicine.

Applied food safety concepts and clinical problem solving in pre-harvest settings.

568 Biological Risk Management for Beef and Dairy Farms
Fall. 1(1-0) RB: Completion of year 2 in the graduate professional curriculum. R: Open to graduate-professional students in the College of Veterinary Medicine.

Principles and methods used to reduce the introduction and spread of infectious disease agents on beef and dairy farms. Field trip required.

590 Selective Topics in Large Animal Clinical Sciences
Fall, Spring. 1(1-0) RB: 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.

Important field of study in Large Animal Clinical Sciences.

610 Clinical Problems in Large Animal Clinical Sciences
Fall, Spring, Summer. 1 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. R: Approval of department.

Advanced clinical training in a problem related to large animal clinical sciences.

611 Research Problems in Large Animal Clinical Sciences
Fall, Spring, Summer. 1 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. R: Approval of department.

Research related to a large animal specialty.

613 Special Problems in Large Animal Clinical Sciences at Off-Campus Sites
Fall, Spring, Summer. 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. R: Approval of department.

Advanced clinical-phase training in large animal clinical sciences for which on-campus training is not available. Individualized problems and training objectives.

614 Equine Clinical Proficiency Clerkship
Spring. 3 credits. P: VM 553 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.

Field and practitioner-based clinical techniques, training, and hands-on experience for future equine practitioners.

615 Equine Emergency and Critical Care Clerkship
Fall, Spring, Summer. 3 credits. 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.

Lectures, laboratories, seminars, and emergency on-call clinical case evaluation, treatment, and management.

616 Large Animal Medicine and Surgery
Fall, Spring, Summer. 6(6-0) 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.

Diagnosis and management of individual medical and surgical cases, as part of a veterinary patient care team, in the large animal veterinary teaching hospital and at the Training Center for Dairy Professionals.

621 Equine Practice Clerkship
Fall, Spring, Summer. 3 credits. RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.

622 Advanced Equine Clinical Clerkship  
Fall, Spring, Summer. 3 credits.  P: LCS 616 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Advanced care training in equine medicine and surgery.

623 Equine Musculoskeletal Diseases Clerkship  
Fall, Spring, Summer. 3 credits.  P: (LCS 616 or concurrently) and (LCS 622 or LCS 615) RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Techniques and procedures used for the diagnosis and management of equine musculoskeletal diseases. Hospital and field cases.

624 Equine Theriogenology Clerkship  
Fall, Spring, Summer. 3 credits.  RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Diagnostic methods used in equine reproduction.

625 Equine Herd Health Clerkship  
Fall, Spring. 3 credits.  RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Establishment and maintenance of equine herd health programs. Reproduction, parasite control, immunization, and diagnostic medicine and surgery in the field.

626 Advanced Equine Surgery Clerkship  
Fall, Spring, Summer. 3 credits.  P: LCS 616 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Advanced, in-depth training in overall surgical management of equine surgical patients. Breeds used for racing or sport.

627 Advanced Equine Medicine Clerkship  
Spring, 3 credits.  P: LCS 616 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Advanced, in-depth training in the medical management of equine patients. Emphasis on neonates.

628 Techniques in Equine Anesthesia and Surgery  
Fall, Spring, Summer. 3 credits.  P: ([LCS 616 or concurrently) and LCS 640) and (LCS 622 or LCS 615) RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  

631 Food Animal Practice Clerkship  
Fall, Spring, Summer. 3 credits.  RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  

632 Advanced Food Animal Medicine and Surgery Clerkship  
Fall, Spring, Summer. 3 credits.  P: LCS 616 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Principles of diagnostic treatment and prevention of diseases in food animals. Self-directed and in-depth on-farm experience.

633 Swine Production Medicine Clerkship  
Fall. 3 credits.  RB: Completion of year 2 of the graduate professional program in the College of Veterinary Medicine.  
Swine production medicine and herd problems. Participation in the swine medicine clinical course at Iowa State University. Field trips required.

634 Beef Production Medicine Clerkship  
Fall. 3 credits.  P: LCS 630 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Veterinary management of production and health of beef cattle. Optional visits to out-of-state facilities may be offered.

635 Small Ruminant Medicine and Management Clerkship  
Spring, Summer. 3 credits.  RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Health care to small ruminants on an individual and flock or herd basis. Emphasis on sheeps.

636 Large Animal Anesthesia Clerkship  
Fall, Spring, Summer. 3 credits.  P: at least one year of veterinary college with concurrent LB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  

637 Concepts of Agricultural Practice Clerkship  
Fall, Spring, Summer. 3 credits.  RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Fundamentals of animal agriculture practice and food systems. Etiology, diagnosis, and prevention of common food animal diseases.

638 Wildlife Disease Ecology and Management Clerkship  
Spring. 3 credits.  P: LCS 630 or concurrently RB: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Principles of investigations and management of pathogens at the wildlife, livestock, and human interface. Multidisciplinary teamwork skill and communication, research, management of emerging and resurgent wildlife-borne diseases.
809 Special Problems in Large Animal Surgery
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in the Department of Large Animal Clinical Sciences. Approval of department. Elective work in surgical research problems student's interest.

811 Special Problems in Large Animal Medicine
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in the Department of Large Animal Clinical Sciences. Approval of department. Elective work in medicine-related research problems.

813 Seminar
Fall, Spring. 1(1-0) A student may earn a maximum of 4 credits in all enrollments for this course. R: Open to graduate students in the College of Veterinary Medicine. Presentation and discussion of current topics in large animal clinical sciences by departmental graduate students, faculty, or outside speakers.

821 Conservation Medicine
Fall of even years. 3(3-0) Interdepartmental with Fisheries and Wildlife. Administered by Fisheries and Wildlife. RB: Prior course work in vertebrate ecology, epidemiology and/or animal disease management. R: Open to graduate students or approval of department. SA: FW 823 Ecological and epidemiological principles of wildlife disease impacts and management. Critical review of selected case studies.

829 Design and Conduct of Epidemiological Studies and Clinical Trials
Spring. 3(2-2) Interdepartmental with Epidemiology. Administered by Large Animal Clinical Sciences. RB: Advanced undergraduate courses in biology, microbiology, biological sciences, biochemical sciences, food technology. R: Open to graduate students in the College of Veterinary Medicine or in the Food Safety Specialization or in the Food Safety major. Applied analytical methods in experimental design. Assessment of health and disease status of animal and human populations. Risk assessment and interpretation of clinical trials.

830 Epidemiologic Overview of Foodborne Diseases and Food Safety
Fall. 3(3-0) Interdepartmental with Epidemiology. Administered by Large Animal Clinical Sciences. RB: Advanced undergraduate courses in biology, microbiology, biological sciences, biochemical sciences, food technology. R: Open to graduate students in the College of Veterinary Medicine or in the Food Safety Specialization or in the Food Safety major. Ecological and epidemiological principles of wildlife disease impacts and management. Critical review of selected case studies.

841 Advanced Equine Internal Medicine Topics II
Spring. 2(2-0) R: Approval of department. Body system approach to disease with emphasis on physiology and pathophysiology of the gastrointestinal, urinary, hematopoietic, and endocrine systems.

842 Equine Orthopedics
Fall of even years. 2(0-4) R: Approval of department. Principles and techniques in equine orthopedics.

843 Intensive Care and Emergency Medicine
Fall. 3(3-0) R: Veterinarians in CVM residency program. R: Open to graduate students in the College of Veterinary Medicine. Intensive care and emergency medicine and surgery topics including shock, trauma, fluid therapy, blood products, and ventilation therapy.

844 Advanced Equine Surgery Techniques
Spring. 2(0-4) R: Open to graduate students in the College of Veterinary Medicine. Approval of department. Advanced equine surgical topics including gastrointestinal, orthopedic, respiratory, and minimally invasive techniques.

850 Advanced Anesthesia and Pain Management
Fall, Spring, Summer. 1(1-0) Fall: W. K. Kellogg Biological Station and Australia and Florence, Italy. A student may earn a maximum of 3 credits in all enrollments for this course. R: Open to graduate students in the College of Veterinary Medicine. Weekly review of pertinent reference material and discussions concerning anesthesia and pain management.

899 Master’s Thesis Research
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 18 credits in all enrollments for this course. R: Open only to graduate students in the Department of Large Animal Clinical Sciences. Master's thesis research.

901 Investigating the Lung
Fall of even years. 2(2-0) Interdepartmental with Pathobiology and Diagnostic Investigation and Physiology. Administered by Large Animal Clinical Sciences. R: Open to graduate students. Integrative biology of the lung. Structure and function. Molecular, cellular, and organ responses to injury.

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. R: Open only to doctoral students in the Department of Large Animal Clinical Sciences. Doctoral dissertation research.