



## Resident and Graduate Student Courses

### Department of Clinical Sciences

#### Required Courses for Residents in the Department of Clinical Sciences

**FRANK Workshop** - Residents are required to register for this two day workshop in veterinary communications ideally during year one of their residency program.

**VS 792 Graduate Seminar (1 credit)** - Residents are required to register for this course during 4 semesters of their program. They will be required to give 2 presentations during these 4 semesters. Grades are pass/fail and an attendance policy is mandated by the course coordinator.

**VS 562 - Applied Research - Planning/Design/Analysis.** This course is designed to train students in the application of statistical tests and to conceptualize and execute an independent research project. This course is required for all residents.

#### Suggested Courses for Graduate Students/Residents in the Department of Clinical Sciences

**VS/MIP 533 - Epidemiology of Infectious Diseases & Zoonoses.** This course covers the epidemiologic bases of infectious and zoonotic diseases that have a major impact on community health. The course will focus principally on zoonotic, emerging, and vector-borne diseases that are recognized on a national or global level. Instructors will be drawn from CSU as well as from CDC and USDA laboratories in the Fort Collins area to provide students with cutting edge theoretical as well as "real world" practical insight into the epidemiology of these diseases

**VS 628 Physiology and Pathophysiology (3 credits).** This graduate level physiology course covers advanced physiology of all the major organ systems and is recommended for some residents.

OR

**BMS 500 Physiology (3 credits) and BMS 501 Physiology II** (substitution for equine reproduction residents)

**VS 701, VS 702, VS 703, VS 704 - Postgraduate Medicine I - IV (3 credits).** This is a 2 year (4 semester) sequence of courses providing a comprehensive review and update of the pathophysiology and medical management of important diseases of various organ systems. The topics covered in VS 701 (Postgraduate Medicine I) include immunology, emergency medicine, dermatology, and endocrinology. The topics covered in VS 702 (Postgraduate Medicine II) include neurology, gastroenterology, and ophthalmology. Topics covered in VS 703 (Postgraduate Medicine III) include oncology, cardiology, reproduction, and radiology. Topics covered in VS 704 (Postgraduate Medicine IV) include: hematology, nephrology, urology, respiratory system, hepatic diseases, and pancreatic diseases.

**VS 650 Comparative Abdominal Surgery (3 credits).** This course is recommended for all large animal and small animal surgery residents. It covers surgical conditions and general topics pertaining to the gastrointestinal and urogenital systems.

**VS 673 Thoracic and Cardiovascular Surgery (3 credits).** This course is recommended for all large animal and small animal surgery residents. Reviews cardiovascular and pulmonary physiology and covers surgical approaches to the thorax and the central and peripheral cardiovascular system.

**VS 612 Plastic and Reconstructive Surgery (3 credits).** This course is recommended for all large animal and small animal surgery residents. Covers wound healing and advances in patient care, surgical instrumentation and reconstruction procedures of the skin.

**VS 630 Orthopedic Surgery (3 credits).** This course is recommended for all large animal and small animal surgery residents. Reviews bone and cartilage physiology and healing, and covers surgical management of musculoskeletal injuries in small animal and equine patients.

**VS655 Echocardiography in Veterinary Medicine (3 credits).**

**VS 660 Neurology and Neurosurgery (3 credits).** This course is recommended for all large animal and small animal surgery residents. Reviews neurophysiology and electrodiagnostics, and covers diagnostic and surgical techniques for conditions of the nervous system.

**VS 605 Comparative Anesthesiology (2 credits).** This course is recommended for all large animal and small animal surgery residents. Covers techniques in large and small animal anesthesia.

**VS 606 Anesthesiology Lab/Manuscript Preparation (1 credit).** This course is designed for students to obtain advanced training in a select topic related to veterinary anesthesia by preparing a manuscript that is suitable for publication. Please contact the course coordinator of VS 605 before taking this course.

**VS 602 Critical Evaluation of Scientific Literature (2 credits).** The prerequisite for this course is one semester of basic statistics or equivalent knowledge base. Students will be asked to critique the statistical methods used in various scientific papers.

**BS 560 Theory and Practice of Animal Biotechnology (3 credits).** This course requires one semester of biochemistry as a prerequisite. It consists of lecture and laboratory. It is suggested for students with an interest in molecular technology and gene therapy.

**MIP796-002 - Surgical Pathology Group Study (1 credit).** This course would benefit surgical residents, oncology residents, and others who have an interest in surgical histopathology.

**EX 603 - Advanced Topics in Exercise Physiology (3 credits).** This course might be of interest to those graduate students interested in exercise performance, cardiovascular physiology, respiratory physiology, and musculoskeletal physiology.

**EX 604 - Role of Oxygen Transport in Exercise and Health (3 credits).** This is a good course for students interested in surgery, cardiology, exercise performance, and anesthesiology. The course covers the role of oxygen transport mechanisms in exercise performance and in health at the cellular and systemic levels.

**VS750 - Clinical & Applied Pharmacology (2 credits).** This course is intended to introduce topics in clinical pharmacology to veterinary clinicians and aspiring researchers.

**VS796-001 - Group Study Medicine, SAIM (1-18 credits).** This course is a group study course for all small animal medicine residents.

**VS796-002 - Group Study Medicine, SAECC (1-18 credits).** This course is a group study course for all SAECC residents.

**VS796-003 - Group Study Medicine, Anesthesiology (1-18 credits).** This course is a group study course for all Anesthesiology residents.

**MIP 760 - Mechanisms of Bacterial Pathogenesis (3 credits).** This course deals with mechanisms of bacterium-host interaction at molecular and cellular levels. There is lecture and a laboratory. Immunology and biochemistry are prerequisites.

**MIP 651 - Immunobiology (3 credits).** Humoral and cellular immunity as well as transplantation and cancer are covered. A good course for oncology residents and those with a strong interest in immunology. A previous immunology course is required.

**EH 701 - Environmental Carcinogenesis (3 credits).** The course covers molecular and cellular mechanisms by which environmental carcinogens exert effects. Biochemistry is a prerequisite.

**ERHS 721 - Radiation Oncology (1-3 credits).** Management of tumors with emphasis on radiation therapy.

**ERHS 711 - Radiographic Interpretation (1 credit for LA; 4 credits for SA).** Radiographic interpretation of disease processes of all major organ systems in large and small animals. The specific organ systems covered vary from semester to semester in a sequential pattern. This course is taught offered in the Spring semester of even numbered years.

**MIP 533/ERHS 533 - Epidemiology of Infectious Diseases/Zoonoses.** This course covers the epidemiological features of infectious and parasitic diseases that have a major impact on community medicine. Recommended for students interested in epidemiology of infectious diseases.

**MIP636-Mechanism of Viral Infection and Diseases (3 credits).** This course covers cytopathic mechanisms, pathogenetic events in viral diseases, host response and antiviral immunity; cancer induction by DNA and RNA viruses.