# **CLINICAL STUDIES**

The Department of Clinical Studies offers graduate programs leading to MSc and DVSc degrees.

## **Administrative Staff**

#### Chair

Christopher Riley (2141 CS, Ext. 54051) criley03@uoguelph.ca

#### **Graduate Program Coordinator**

Adronie Verbrugghe (2148 OVC Bldg. 49, Ext. 54034) averbrug@uoguelph.ca

#### **Graduate Program Coordinator**

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#### **Graduate Program Assistant**

Julia Asten (2509 Stewart Building, Ext. 54406) csgrad@uoguelph.ca

# **Graduate Faculty**

This list may include Regular Graduate Faculty, Associated Graduate Faculty and/or Graduate Faculty from other universities.

#### Sarah Abood

B.Sc., DVM Michigan, PhD Ohio - Veterinarian and Manager, Sit, Stay, Speak Nutrition LLC

**Associated Graduate Faculty** 

#### Anthony C. G. Abrams-Ogg

BA Alberta, DVM Saskatchewan, D.V.Sc. Guelph, Dipl. ACVIM - Professor Emeritus, Clinical Studies, University of Guelph Associated Graduate Faculty

#### Ryan Appleby

B.Sc. Western Ontario, DVM Guelph - Assistant Professor Graduate Faculty

#### **Luis Arroyo**

DVM Nacional, D.V.Sc., PhD Guelph - Associate Professor Graduate Faculty

#### **Shane Bateman**

DVM, D.V.Sc., Dipl. ACVECC - Associate Professor Graduate Faculty

#### **Hugues Beaufrere**

DVM Lyon, PhD Louisiana - Associate Professor, University of California-

Associated Graduate Faculty

#### Alexa Bersenas

B.Sc., DVM, M.Sc. Guelph, Dipl. ACVECC - Professor Graduate Faculty

#### **Shauna Blois**

B.Sc., Mount Allison, DVM Prince Edward Island, D.V.Sc. Guelph, Dipl. ACVIM - Associate Professor Graduate Faculty

#### **Brigitte Brisson**

DMV Montreal, D.V.Sc. Guelph, Dipl. ACVS - Professor Graduate Faculty

#### **Allison Collier**

DVM, D.V.Sc. Guelph, Dipl. ACVS - Assistant Professor Graduate Faculty

#### **Nathalie Cote**

DVM Montreal, D.V.Sc., Guelph, Dipl. ACVS - Assistant Professor Graduate Faculty

#### Nicola Cribb

BA, Vet.M.B, MA Cambridge, D.V.Sc. Guelph, Dipl. ACVS - Assistant Professor Graduate Faculty

#### **Alice Defarges**

DVM Alfort, M.Sc. Montreal, Dipl. ACVIM - Associate Professor and Chair, Pet Trust Scientific Review Committee Graduate Faculty

#### Sonja Fonfara

DVM Hanover, Dr.Med.Vet Justus-Liebig (Germany), PhD Helsinki, CertVC, Dipl. ECVIM - Associate Professor Graduate Faculty

#### **Luis Gaitero**

DVM Barcelona, Dipl. ECVN - Associate Professor and Associate Dean, Clinical Program Graduate Faculty

#### **Thomas Gibson**

B.Sc. Guelph, B.Ed. Windsor, DVM, D.V.Sc. Guelph, Dipl. ACVS, Dipl. ACVSMR - Veterinarian, Grand River Surgical Services
Associated Graduate Faculty

#### **Diego Gomez**

DVM, M.Sc. Colombia, M.V.Sc. Atlantic Veterinary, PhD Guelph, Dipl. ACVIM (LA) - Assistant Professor Graduate Faculty

#### **Caitlin Grant**

B.Sc., DVM, D.V.Sc. Guelph - Contractually Limited Faculty Associated Graduate Faculty

### Joanne Hewson

DVM, PhD Guelph, Dipl. ACVIM (LA) - Professor and Associate Dean, Students & Academic Graduate Faculty

#### Samuel Hocker

BS Illinois, DVM, MS Kansas State, Dipl. ACVIM - Assistant Professor, Kansas State University Associated Graduate Faculty

#### Mark B. Hurtig

DVM Guelph, M.V.Sc. Saskatchewan, Dipl. ACVS - Professor Emeritus Associated Graduate Faculty

#### **Fiona James**

B.Sc. Toronto, M.Sc. Western, DVM, D.V.Sc. Guelph, Dipl. ACVIM -Associate Professor Graduate Faculty

#### Monica Jensen

B.Sc., DVM, D.V.Sc. Guelph - Diagnostic Imaging Specialist Veterinarian, Ontario Veterinary College, University of Guelph Associated Graduate Faculty

#### Carolyn L. Kerr

DVM, D.V.Sc. Guelph, PhD Western, Dipl. ACVAA - Professor Graduate Faculty

#### **Judith Koenig**

DVM, M.Sc.Vet. Austria, D.V.Sc. Guelph, Dipl. ACVS/ECVS, Dipl. ACVSMR -Associate Professor Graduate Faculty

#### Cedric Larouche

DVM Montreal, D.V.Sc. Guelph - Veterinarian, Granby Zoo Associated Graduate Faculty

#### Melissa MacIver

B.Sc., DVM Guelph, MS Texas - Assistant Professor Graduate Faculty

#### Alejandro Merchan Munoz

DVM Madrid, DVSc Guelph - Assistant Professor Graduate Faculty

#### **Noel Moens**

DVM Liege (Belgium), M.Sc. Saskatchewan, Dipl. ACVS/ECVS - Associate Professor Graduate Faculty

#### **Anthony Mutsaers**

DVM Guelph, PhD Toronto, Dip. ACVIM (Oncology) - Associate Professor Graduate Faculty

#### Stephanie Nykamp

DVM Guelph, M.Sc. Western, Dipl. ACVR - Veterinary Radiologist, VetRad Associated Graduate Faculty

#### Michelle Oblak

DVM, D.V.Sc. Guelph, Dipl. ACVS - Associate Professor Graduate Faculty

#### **Chantale Pinard**

 ${\bf DVM\ Guelph, MS\ Kansas\ State, Dipl.\ ACVO-Associate\ Professor\ Graduate\ Faculty}$ 

#### Shari Raheb

B.Sc. Guelph, DVM Prince Edward Island, DVSc, Guelph - Assistant Professor Graduate Faculty

## **Christopher Riley**

B.Sc., B.V.Sc. Melbourne, M.Sc., PhD Saskatchewan, Dipl. ACVS - Professor and Chair Graduate Faculty

#### Francesca Samarani

DVM Milan - Contractually Limited Faculty, Clinical Studies, University of Guelph

**Associated Graduate Faculty** 

#### **Andrea Sanchez Lazaro**

DVM Murcia, D.V.Sc. Guelph, Dipl. ACVAA - Assistant Professor Graduate Faculty

#### Melissa Sinclair

DVM Prince Edward Island, D.V.Sc. Guelph, Dipl. ACVAA - Associate Professor Graduate Faculty

#### **Ameet Singh**

B.Sc. Mount Allison, DVM Atlantic Veterinary, D.V.Sc. Guelph, Dipl. ACVS - Professor Graduate Faculty

#### Henry Staempfli

DVM, Dr.Med.Vet.Dipl. ACVIM - Professor Emeritus Associated Graduate Faculty

#### **Alexander Valverde**

DVM Costa Rica, D.V.Sc. Guelph, Dipl. ACVAA - Professor Graduate Faculty

#### **Lauren Van Patter**

B.Sc., MA, Guelph, PhD Queen's - Assistant Professor Graduate Faculty

#### Adronie Verbrugghe

B.Sc., DVM, PhD Ghent (Belgium), Dipl. ECVCN - Associate Professor Graduate Faculty

#### J. Paul Woods

DVM Guelph, MS Wisconsin, Dipl. ACVIM (Internal Medicine, Oncology) - Professor Graduate Faculty

#### **Xiu Ting Yiew**

DVM Putra Malaysia, D.V.Sc. Guelph, Dipl. ACVECC - Assistant Professor Graduate Faculty

#### Alexander Zur Linden

B.Sc. Simon Fraser, DVM Saskatchewan, Dipl. ACVR - Associate Professor Graduate Faculty

# **MSc Program**

### **Admission Requirements**

**Note:** Admission to the MSc in Clinical Studies (course-based only) has been suspended. For more information, please contact the Department of Clinical Studies.

Applicants must have either an honours baccalaureate degree in a relevant field with at least a B- (70% Ontario equivalent) over the last 2 years of full-time study, or a DVM (or equivalent) degree with at least an overall B- (70% Ontario equivalent) in the DVM program; licensure to practice veterinary medicine in Ontario is not required.

Candidates are accepted based on adequate background preparation and availability of an advisor in the area of interest. Applicants should contact potential faculty advisors with established research programs listed in the department website (http://ovc.uoguelph.ca/clinical-studies/).

Acceptance into the MSc by thesis program will be dependent on stipend funding opportunities that may be available through faculty advisors, scholarships or sponsorship. There is usually no stipend support for MSc course work students.

### **Program Requirements**

Students enrol in one of two study options:

- 1. thesis, or
- 2. course work and major research paper.

#### **Thesis**

The thesis option requires a minimum of 6 semesters (2 years) of full time study. The program provides focused research training in areas related to veterinary medicine. Research projects may examine aspects of clinical practice or concepts but are not considered discipline or specialty training.

The program involves a minimum of three 0.50 credit graduate level courses, totaling a minimum of 1.50 credits overall. Candidates are required to carry out an independent research study and produce a thesis.

The course selection will be made by the student in consultation with the advisory committee and tailored to the student's particular research interest, and will be approved by the Graduate Program Coordinator, on behalf of the Departmental Graduate Studies and Research Committee.

### **Course Work and Major Research Project (MRP)**

The course work option requires a minimum of 3 semesters (1 year) of full-time study. The program provides course work and focused research training in areas related to veterinary medicine. Research projects may examine aspects of clinical practice or concepts but are not considered discipline or specialty training.

The course work plus major project option will comprise a minimum of 4.0 credits, including six 0.5-credit graduate courses and a mandatory 1.0 credit, multi-semester major project course. The major project course will be supervised by the student's advisory committee, and will consist of a literature review, participation in a research project related to veterinary medicine, preparation of a manuscript suitable for publication in a peer-reviewed scientific journal, and presentation in a Departmental seminar. A mark will be assigned by the advisory committee, based on the manuscript and oral presentation.

There are no required courses beyond the 1.0 credit project course. The remaining courses will be chosen from courses within the Department of Clinical Studies and other courses provided across the University. The course selection will be made by the student in consultation with the advisory committee and tailored to the student's particular research interest, and will be approved by the Graduate Program Coordinator, on behalf of the Departmental Graduate Studies and Research Committee.

# **DVSc Program**

The Doctor of Veterinary Science (DVSc) degree is offered in large animal surgery, small animal surgery, large animal medicine, small animal medicine, anesthesiology, cardiology, neurology, ophthalmology, radiology, emergency and critical care, companion animal nutrition, and oncology, depending upon availability. The program provides advanced academic preparation in both clinical training and research and is a unique post-professional doctoral-level degree. The DVSc differs from PhD training by emphasizing the development of both clinical research and applied skills in the various areas of clinical specialization appropriate for preparation for Specialty Board Certification.

DVSc positions are usually funded positions, and are typically advertised and selected through the American Association of Veterinary Clinicians' website at https://www.virmp.org/ which can be accessed in early October. The start date of DVSc positions is typically early August. Occasionally specialty training positions become available outside this timeline and are advertised on our website and through appropriate veterinary channels.

The DVSc is currently an interdepartmental program and receives input from all academic departments in the Ontario Veterinary College (OVC):

- · Biomedical Sciences,
- · Clinical Studies,
- · Pathobiology and
- · Population Medicine.

## **Admission Requirements**

Minimum of Ontario Equivalent average of 'B' (73% minimum) or GPA 3.0/4.0 in a Doctor of Veterinary Medicine (DVM) program or equivalent. Applicants must be eligible for licensure by College of Veterinarians of Ontario. In addition, a completed internship or equivalent is usually required.

### **Program Requirements**

This program involves two-thirds of the time in applied clinical practice. and one-third of the time taking a minimum of five 0.5-credit graduate courses, conducting a research project related to the veterinary specialty, a written and oral qualifying exam to be taken before the end of the  $6^{\rm th}$  semester, writing a thesis in a publication ready format, and a thesis defense in front of an examination committee. Candidates are required to develop investigative skills in their chosen area of specialization by carrying out an original study, generally related to animal health. The results of the research must make a significant contribution to the candidate's area of specialization and be written up as a thesis.

# **Collaborative Specializations**

### Neuroscience

The Department of Clinical Studies participates in the Master's and Doctoral collaborative specialization in neuroscience. Please consult the Neuroscience (https://calendar.uoguelph.ca/graduate-calendar/collaborative-specializations/neuroscience/) listing for a detailed description of the Master's and Doctoral collaborative specialization.

#### One Health

The Department of Clinical Studies participates in the collaborative specialization in One Health. Master's and Doctoral students wishing to undertake thesis research or their major research paper/project with an emphasis on one health are eligible to apply to register concurrently in Clinical Studies and the collaborative specialization. Students should consult the One Health (https://calendar.uoguelph.ca/graduate-calendar/collaborative-specializations/one-health/) listing for more information

### Regenerative Medicine

The DVSc program participates in the collaborative specialization in Regenerative Medicine. DVSc students wishing to undertake thesis research with an emphasis on regenerative medicine are eligible to apply to register concurrently in the DVSc program and the collaborative specialization. Students should consult the Regenerative Medicine (calendar.uoguelph.ca/graduate-calendar/collaborative-specializations/regenerative-medicine/) listing for more information.

## **Courses**

#### CLIN\*6010 Clinical Medicine F Fall Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty commonly occurring in the Fall (F), Winter (W), and Summer (S) semesters respectively.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6030 Clinical Medicine W Winter Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty commonly occurring in the Fall (F), Winter (W), and Summer (S) semesters respectively.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6031 Clinical Medicine S Summer Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty commonly occurring in the Fall (F), Winter (W), and Summer (S) semesters respectively.

Department(s): Department of Clinical Studies

Location(s): Guelph

## CLIN\*6170 Clinical Surgery F Fall Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty occurring in Fall (F), Winter (W), and Summer (S) semesters respectively. The student is required to prepare a paper for publication in a recognized peer review journal based on clinical case material presented to the teaching hospital. As an alternative, the paper can be an in-depth review article on a clinically relevant topic.

Department(s): Department of Clinical Studies

Location(s): Guelph

### CLIN\*6180 Clinical Surgery W Winter Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty occurring in Fall (F), Winter (W), and Summer (S) semesters respectively. The student is required to prepare a paper for publication in a recognized peer review journal based on clinical case material presented to the teaching hospital. As an alternative, the paper can be an in-depth review article on a clinically relevant topic.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6181 Clinical Surgery S Summer Only [0.50]

These are in-service clinical training courses based on case material presented to the student in the Veterinary Teaching Hospital. Under supervision, the student is expected to take primary responsibility for case management including decisions related to diagnosis, therapy and client/referring veterinarian communications. Case material studied in each course reflects a different clinical subspecialty occurring in Fall (F), Winter (W), and Summer (S) semesters respectively. The student is required to prepare a paper for publication in a recognized peer review journal based on clinical case material presented to the teaching hospital. As an alternative, the paper can be an in-depth review article on a clinically relevant topic.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6190 Neurology Fall Only [0.50]

Basic principles of lesion localization in the domestic species with discussions of diagnostic problems in veterinary neurology.

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

### CLIN\*6200 Concepts and Application of Infection Control Unspecified [0.50]

This course will involve principles of infection control in veterinary hospitals, drawing heavily from information from human medicine and evaluating human information in a veterinary context.

**Department(s):** Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6270 Applied Surgical Principles Unspecified [0.25]

General surgical principles associated with surgical and related treatment of various body systems. This is an applied course with laboratory and written components. Students must have prior surgical training prior to registering for this course.

Department(s): Department of Clinical Studies

Location(s): Guelph

### CLIN\*6310 Advanced Equine Veterinary Orthopaedics Orthopaedics Unspecified [0.50]

This course will provide the student with an in-depth understanding of orthopaedic practice and will facilitate revision of materials to prepare board certification.

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6330 Advanced Principles of Diagnostic Imaging Unspecified [0.50]

This course is intended for students pursuing a career in veterinary radiology. Using a lecture-discussion format, the science of x-ray production and the fundamentals of other diagnostic imaging modalities will be presented. The specific applications of these techniques to research and clinical situations will be investigated.

Department(s): Department of Clinical Studies

Location(s): Guelph

### CLIN\*6350 Advanced Radiology I Summer, Fall, and Winter [0.50]

Radiographic changes seen in diseases of the thorax and abdomen are demonstrated by using radiographs. Contrast and special studies are included where applicable.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6370 Advanced Radiology II Fall Only [0.50]

A continuation of CLIN\*6350, covering radiographic abnormalities of the neurological and skeletal systems.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6380 Electrocardiography in Domestic Animals Summer, Fall, and Winter [0.50]

This course will deal with the study of the electrocardiography of the cat, dog, cow and horse. Students will review the mechanisms of arrhythmogenesis and the role of anti-arrhythmic agents in the control of arrhythmogenesis.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6420 Anesthesiology I Summer Only [0.50]

A course in advanced veterinary anesthesia and allied topics such as fluid, acid-base, and electrolyte balance, shock therapy, and cardio pulmonary resuscitation.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6440 Anesthesiology II Summer, Fall, and Winter [0.50]

A discussion, reading and investigative course on research methods in comparative anesthesiology.

Prerequisite(s): CLIN\*6420

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6460 Anesthesiology III: Species Specific and Coexisting Disease Considerations Fall and Winter Reg Required [0.50]

A course in advanced veterinary anesthesia that focuses on the scientific literature related to the anesthesia of specific species and veterinary

patients with varying underlying diseases.

Prerequisite(s): CLIN\*6420 and CLIN\*6440

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6550 Small Animal Internal Medicine I Unspecified [0.50]

This is a graduate course designed for DVSc students and residents pursuing further study in the area. The basis of the course is the acquisition and application of knowledge of the pathophysiologic mechanisms of disease. The subject area(s) will be one or two organ systems, which will not be repeated in either CLIN\*6550 or CLIN\*6560 over a 3-year period.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6560 Small Animal Internal Medicine II Unspecified [0.50]

This is a graduate course designed for DVSc students and residents pursuing further study in the area. The basis of the course is the acquisition and application of knowledge of the pathophysiologic mechanisms of disease. The subject area(s) will be one or two organ systems, which will not be repeated in either CLIN\*6550 or CLIN\*6560 over a 3-year period.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6570 Large Animal Internal Medicine I Winter Only [0.50]

Advanced study in general medicine and pathophysiologic principles of disorders of the gastrointestinal and urinary systems in ruminants, swine and horses.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6580 Large Animal Internal Medicine II Winter Only [0.50]

Advanced study in general medicine and the pathophysiologic principles of disorders of the cardiovascular, respiratory and musculo-skeletal systems of ruminants and horses.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6590 Large Animal Internal Medicine III Winter Only [0.50]

Advanced study in general medicine and the pathophysiologic principles of neonatal disorders and disorders of the nervous system, skin and general systemic disorders.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6600 Equine Soft Tissue Surgery I Summer, Fall, and Winter [0.50]

Based on required reference reading, every other week discussion will cover advanced soft tissue procedures performed in equine surgery. Guest lectures on selected topics will be presented. Laboratory will be given

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6610 Equine Soft Tissue Surgery II Summer, Fall, and Winter [0.50]

Based on required reference reading, every other week discussion will cover advanced soft tissue procedures performed in equine surgery. Guest lectures on selected topics will be presented. Laboratory will be given.

Department(s): Department of Clinical Studies

Location(s): Guelph

### CLIN\*6620 Ruminant Surgery Winter Only [0.50]

Through lectures/seminars, medical and surgical laboratories, and detailed case discussions, this course provides practical experience in ruminant medical, radiological and surgical procedures and in problem-solving related to ruminant practice.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6661 Respiratory Physiology & Pathophysiology Unspecified [0.50]

This is a graduate course designed for veterinarians pursuing advanced training in residency and DVSc programs. The course will cover normal respiratory anatomy, physiology and pulmonary function. A focus on respiratory pathophysiology will include respiratory failure, oxygen therapy and positive pressure ventilation.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6670 Structure and Function of Animal Skin Summer, Fall, and Winter [0.50]

A review of structure and function of skin in veterinary dermatology including the epidermis, dermis, subcutis and adnexal tissue. Application of knowledge in a clinical setting will follow with attention to modalities that will improve the epidermal barrier

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6680 Readings in Cardiology I Summer, Fall, and Winter [0.50]

Original articles, review articles and textbook chapters dealing with the most recent concepts of pathophysiology, diagnostic procedures and therapeutic advancements will be reviewed, analyzed and discussed.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6690 Readings in Cardiology II Summer, Fall, and Winter [0.50]

Readings in Cardiology II will be a continuation of the format of Readings in Cardiology I with further readings in clinical cardiology.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6700 Pathophysiology in Small Animal Surgery I Summer, Fall, and Winter [0.50]

Based on required reference reading, weekly discussions will cover the disease mechanisms involved in medical problems commonly encountered in small animal surgical practice. Guest lectures on selected topics will be presented.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6710 Pathophysiology in Small Animal Surgery II Summer, Fall, and Winter [0.50]

Based on required reference reading, weekly discussions will cover the disease mechanisms involved in medical problems commonly encountered in small animal surgical practice. Guest lectures on selected topics will be presented.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6800 Surgical Oncology Procedures Fall and Winter [0.50]

This is a combined reading and laboratory course that will cover the major surgical oncology procedures. The relevant readings will be covered, followed by a cadaver laboratory to teach the students the important features of each procedure.

Offering(s): Occasional years

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6910 Professional Veterinary Communication Competencies Fall and Winter Reg Required [0.50]

This course assists learners in developing professional competencies in several critical areas of professional veterinary practice: 1) the veterinary-patient-client relationship; 2) the preparation and delivery of professional seminars; and 3) clinical teaching in small groups.

Restriction(s): Restricted to Clinical Studies students.

Department(s): Department of Clinical Studies

Location(s): Guelph

Location(s): Guelph

# CLIN\*6950 Special Topics in Clinical Studies Summer, Fall, and Winter [0.50]

**Restriction(s):** Restricted to Clinical Studies students.

Department(s): Department of Clinical Studies

Location(s): Guelph

# CLIN\*6960 Special Topics in Zoological Medicine Fall and Winter [0.50]

Preparation for the ACZM examination and based on the published ACZM examination reading list. Students will prepare reading assignments that will be discussed during scheduled time. Each semester will focus on a specific taxon group. A mock examination will be provided on an ACZM sub-specialty (typically birds, reptiles, wildlife, terrestrial mammals or aquatic medicine).

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6970 Neurology II Unspecified [0.50]

Advanced study in neurolocalization with a focus on functional neuroanatomy and diagnostic procedures in the domestic species.

Restriction(s): Instructor consent required.

Department(s): Department of Clinical Studies

Location(s): Guelph

#### CLIN\*6990 Project in Clinical Studies Summer, Fall, and Winter [1.00]

This course involves participation in a clinical research project or clinical retrospective study. A review of the relevant literature will be performed. A manuscript suitable for publication in a peer-reviewed journal will be prepared, and the study will be presented in a departmental seminar. **Restriction(s)**: Restricted to Clinical Studies MSc coursework/MRP students.

Department(s): Department of Clinical Studies

Location(s): Guelph