

Clinical Medicine II, VETM*3440

Fall/Winter 2017-2018
0.5 Credit

Calendar Description

The course is a continuation of Clinical Medicine I. It will contribute to students' achievement of selected elements of graduating competency in the areas of clinical examination of specific organ systems of various species. Students will enhance and refine their clinical problem solving skills using case material from the OVC-Health Sciences Centre. They will continue to develop their verbal and written communication skills through case simulations and analyses. The course will be presented using lectures, laboratory classes and independent study. The graduating competencies can be found on the OVC website (http://ovc.uoguelph.ca/sites/default/files/users/ovcweb/files/PhaseLearningOutcomes_20150717.pdf). Department of Clinical Studies.

Course Coordinators

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Instructors

Clinical Faculty (Department of Clinical Studies)
Ruminant Field Service Faculty (Department of Population Medicine)
Small Mammal Faculty (Department of Pathobiology)
Graduate Students (Departments of Clinical Studies, Population Medicine and Pathobiology)
Clinical Residents, Interns and AHT's (OVC-Health Sciences Centre)
Hill's Pet Nutrition Primary Healthcare Centre Faculty (Departments of Population Medicine and Clinical Studies) and hospital staff

Administrative Information

For questions regarding academic consideration, continuation of study, academic misconduct, safety, confidentiality, and experiential learning

involving use of animals, please refer to the Phase 2 information on the OVC website.

Course Learning Outcomes

The Clinical Medicine courses presented in Phases 1, 2 and 3 represent a continuum of learning intended to foster student mastery of seven main learning outcomes by the end of Phase 3 of the DVM program:

- Animal handling and restraint
- History taking
- Physical examination of common domestic species
- Diagnosis
- Clinical problem solving
- Treatment and planning
- Medical records

This course is the second of three Clinical Medicine courses that veterinary students will complete throughout the DVM curriculum. VETM*3440 Clinical Medicine II builds upon aspects of the clinical evaluation as outlined below. Students are expected to view the course contents of Clinical Medicine courses as life-long learning of skills that will be needed during their career in veterinary medicine. Therefore, information and skills taught during Clinical Medicine I will be incorporated into assessments in this course, and Clinical Medicine II will also be examined as a component of Clinical Medicine III in Phase 3 of the DVM program.

Graduates of VETM*3440 Clinical Medicine II must be able to:

(Animal Handling and Restraint)

- Safely and humanely handle and restrain common domestic large and small animal species, as well as small mammal species

(History Taking)

- Develop, reinforce and utilize observational and inquiry skills
- Reinforce use of a standard process for obtaining a history in any species
- Identify abnormal history information

(Physical Examination)

- Perform a basic physical exam at the animal level (360° - in all species)
- Demonstrate an efficiency in performing a physical exam
- Demonstrate a sequential/logical approach
- Demonstrate efficiency in time to completion
- Describe abnormalities using the appropriate veterinary terminology at the physical and physiological levels in all species

(Diagnosis)

At the case level:

- Generate a problem list
- Generate differentials under broad categories
- Identify if further data is required

At the process level:

- Suggest common tests to be used to acquire data
- Perform some of the common tests
- Interpret test results

(Treatment)

- Learn how to perform methods of treatment including: hazards & risks, asepsis, methods of administration, waste disposal
- Identify broad categories of treatment components at the case level
- Calculate doses for different situations at the process level including: drugs and fluid therapy
- Generate a treatment plan
- Write a prescription

(Problem Solving)

- Use problem solving strategies to deepen understanding of abnormalities at both the physical and physiological levels
- Identify further data required to refine assessment
- Be able to prioritize information required for further understanding versus managing the case
- Communicate the process involved as problem solving advances
- Conduct problem solving activities at the level of the problem

(Medical Record)

- Create a complete medical record that reflects the physical exam findings and history and includes current assessment etc. at the level of the problem

In order to advance student skills in the diagnostic process, specific intended learning outcomes for the Diagnostic Imaging and Neurology components are further defined below.

Diagnostic Imaging Component

Graduates of VETM*3440 Clinical Medicine II must be able to:

- Systematically review a radiograph.
- Describe a radiographic study (normal and abnormal findings) using appropriate imaging terminology.
- Provide a radiographic diagnosis for a given study.

Neurology Component

Graduates of VETM*3440 Clinical Medicine II must be able to:

- Perform a detailed neurological examination:
 - Recognize the neuroanatomical pathways involved in each test performed during the neurological examination.
 - Be able to differentiate whether or not the patient suffers a disease affecting the nervous system (neurological disease).

- Interpret the neurological examination findings for the purposes of lesion localization.
- Localize a suspected neurological lesion to one or several of the main components of the nervous system:
 - Spinal cord (and to specific spinal cord functional segments: C1-C5, C6-T2, T3-L3, L4-S3).
 - Peripheral nervous system, neuromuscular junction, and muscle
 - Brain (and to specific areas of the brain: thalamocortex, brainstem, cerebellum).
 - Vestibular system (peripheral vs central)
- Recognize the neurological signs related to specific lesion localization in the nervous system.

*Note: All of the stated objectives apply equally to dogs, cats, horses and ruminants.

Although lectures, online learning materials, and laboratories will introduce the skills required to achieve these learning outcomes, students will need to pursue considerable self-study practice of these skills in order to master them at a level that is required to pass this course.

Course Description

This course consists of 43 lectures; 10 clinically-oriented laboratories; 2 review laboratories; and prescribed self-study material available on the Courselink website for this course.

The course consists of the following main components:

- Clinical Medicine (50%)
 - Physical examination
 - Clinical problem-solving
 - Handling and examination of small mammal species
 - Clinical nutrition
 - Medication techniques
- Diagnostic Imaging (25%)
- Neurology (25%)

Regulations Pertaining to Student Safety and Due Diligence

Due Diligence: Safety in the clinic and barn is a priority at all times. In order to ensure safety of all participants, the safety procedures/guidelines provided by the instructor must be followed. It is the responsibility of each student to attend any safety orientation that is provided.

* NOTE: It is expected that students will conduct themselves in such a manner during this course that **neither personal, peer or instructor safety will be compromised, and animal safety and welfare will be optimized**. The expectation is that students will demonstrate confidence and common sense while working around and with domestic animals. Students are required to be able to recognize the common premonitory signs of aggressive or potentially aggressive behavior in all species encountered in this course, as well as situations that could precipitate such behavior. Students are expected to anticipate and take appropriate action to avoid human or animal injury at all times.

Client Confidentiality: At times in this course, students will work with client-owned animals. Please note that access to the clinical record is a **PRIVILEGE**, not a right, and must be protected. Students are reminded that all medical record information must be treated as **ABSOLUTELY CONFIDENTIAL and must NOT be discussed outside of the College**. In particular, the identity of clients and their animals must NEVER be divulged to anyone who does not have Medical Records privileges (see the OVC-HSC Policies and Procedures). Student postings of case pictures or descriptions of cases using social media is **strictly prohibited**.

Hygiene: Handwashing is the single most important procedure for preventing the spread of infections. Students are expected to incorporate this procedure as routine practice before and after patient contact or contact with animal bodily fluids, excretions/secretions or contaminated inanimate objects. Appropriate technique for effective handwashing as taught in Phase I Clinical Medicine I is the standard expected throughout the DVM program.

***When handling client-owned large animal species, the use of gloves is required. Please also wash hands following removal of gloves.**

Personal Attire when working with Large Animals:

Students are required to wear **clean protective coveralls** for all Large Animal Laboratories, Large Animal Clinical Shadowing, and during independent practice time with large animals. As well, students are required by the University of Guelph safety policy to wear **approved safety boots or shoes (steel-toed)** at all times when working with large animal species. Long hair (shoulder length) must be tied back. Any hand, wrist or neck jewelry must be removed prior to attending the Large Animal labs. Students will **NOT** be permitted to participate in scheduled activities involving large animals if they do not comply. Lab coats are not permitted in the Large Animal Laboratories or during Clinical Shadowing in the Large Animal Clinic. Students must also wear their University Access Card that displays the student's name and colour strip of Phase year as their form of identification/name badge at all times in the OVC-HSC.

Personal Attire when working with Small Animals/Small Mammals:

Students are required to wear **clean, long blue lab coats and closed-toe shoes** for all Small Animal and Small Mammal Laboratories, Small Animal Clinical Shadowing, and during independent practice time with small animals. Students must also wear their University Access Card that displays the student's name and colour strip of Phase year as their form of identification/name badge at all times in the OVC-HSC.

Personal Attire in the Hill's Pet Nutrition Primary Healthcare Centre:

Students are required to wear clean, presentable **"business casual" attire** (see the Dress Standard document under PHC Day One Core Protocols and SOPs in the OVC Phase - 2 Companion Animal Primary Care Courselink site for full details), their **long blue lab coat, closed-toe shoes,** and a **name badge** that clearly displays their first and last name. It is preferable that students wear their University Access Card that displays the student's name and colour strip of Phase year as their form of identification/name badge at all times in the PHC.

Biosecurity:

Coveralls and labcoats used in Principle of Disease laboratories or in the OVC-HSC on client-owned animals must be appropriately laundered prior to wearing these to handle any of the OVC teaching herd animals. Similarly, coveralls and labcoats must be laundered following **each** Clinical Medicine laboratory and before using them for other courses.

Before exiting Barn 37 or the Clinical Skills Building, thoroughly wash your boots with the boot brush and disinfectant solution that is provided. Hands should then also be properly washed.

Digital Recording: Digital recording and photography are not permitted during lectures and laboratories in this course, or during independent practice time with the OVC teaching animals. Digital imaging of any teaching animals, client-owned animals or medical records is strictly forbidden.

Teaching Strategies

The course emphasizes clinical problem solving, with a focus on common presenting complaints encountered in large and small animal species. Each presenting complaint is experienced through use of a Problem-Oriented Medical Approach to evaluate both large and small animal case material, to allow for comparative medicine among species. Diagnostic imaging instruction and practice is embedded within case modules, allowing students to directly apply these skills to case material. Students also extend their Phase I learning through modules focused on clinical nutrition and detailed neurological evaluation. This course is intimately tied to other Phase II courses, and students will be expected to know and apply content from those courses during their Clinical Medicine II learning. Content from other Phase II courses may therefore be examined during the final integrated Objective Standardized Clinical Examination (OSCE) at the end of the Clinical Medicine II.

MODULES

Thematic modules are structured to provide content knowledge in advance of student practice of clinical problem-solving skills across the various domestic species. Each module may contain a combination of lectures, online learning materials, and laboratory practice sessions.

I. MODULE LECTURES

Lectures are scheduled throughout the course to strategically deliver preparatory knowledge in advance of practicing application of this knowledge in the laboratories. Lecture slides and/or accompanying detailed notes will be posted on the course website.

II. MODULE REQUIRED SELF-STUDY AND ONLINE QUIZZES

Students are expected to study the additional course material posted on the course website (**VETM3440 Clinical Medicine II site on Courselink**) as prescribed in the **Calendar of Course Events**.

These materials are intended to prepare students in order to optimize their evaluation of case material during the laboratory time.

III. MODULE LABORATORIES

- a. This course involves a series of 10, clinically-oriented laboratories, plus 2 practical review laboratories prior to the final integrated OSCE. Each laboratory group consists of approximately $\frac{1}{4}$ of the class. Typically, each laboratory period will involve active practice of the skills outlined in the laboratory-specific intended learning outcomes.
- b. Students are expected to adequately prepare for each laboratory prior to attending, by thorough review of the online supporting material provided for each lab topic. Students will also be expected to be familiar or become familiar with diagnostic testing and interpretation, using supporting materials posted on the course website (**VETM3440 Clinical Medicine II site on Courselink**) and from other Phase 2 courses.
- c. Students are expected to review the laboratory-specific intended learning outcomes (posted on the course website) prior to attending each laboratory session, and to bring a copy to the laboratory to guide their learning.
- d. Laboratories start promptly at the assigned time, therefore students are expected to arrive on time. Due to the size of groups for each laboratory, we are not able to accommodate students attending a laboratory other than the one to which they are assigned. There will be no opportunity to make-up any missed labs.
- e. Students must bring a stethoscope, penlight, digital thermometer, pen, and watch to every laboratory and to the final OSCE examination. Smart phones are not a suitable substitute for a watch.
- f. Smart phone use for any purpose is prohibited during laboratory sessions.
- g. No food or drink may be consumed in the animal use areas.
- h. Obtaining a patient history, safe and humane animal handling, and routine physical examination are foundation skills that are required to conduct clinical problem solving. Students are expected to review their Phase I materials as needed to be proficient in these skills, and to regularly practice these skills on live animals during independent time outside of the scheduled course activities.
- i. Students will be expected to resolve any learning issues that arise by discussion with laboratory instructors, classmates, or by consulting reference texts or other learning resources.

Clinical Medicine Component - POMA Laboratories

This component will present a review of the general physical examination, followed by 5 modules focused on clinical problem solving using a Problem-Oriented Medical Approach (POMA) to investigate common presenting complaints of large and small animal species. Preparatory learning ahead of case-based laboratories will include a combination of lectures and online self-study material, intended to prepare students for full engagement in the practice of clinical problem-solving using case material in laboratories. Laboratories will be delivered to $\frac{1}{4}$ of the class per session. Laboratory sections may be further subdivided into smaller groups to work through the cases and interact with the case materials. As well during several of the laboratory sessions, live large animals will be available to practice the general physical examination. This is intended to provide additional time for students to develop and refine their skills in the basic physical examination of large animals. Students are expected to bring their own notes to all POMA laboratory sessions in order to work with the case material.

Supporting the clinical problem-solving POMA laboratories, students will receive specific learning opportunities focused on diagnostic imaging, neurology, small animal clinical nutrition, small mammal examination, and techniques for medicating or sampling animals. These are described below:

Diagnostic Imaging Component

Seventeen lectures and two 2-hour laboratories will be held. The images for the laboratories will be available in electronic format for review prior to the class. For each laboratory session, the cases will be assigned to a group ahead of the laboratory session. The group will prepare a written report for the radiographic study to submit by the start of the lab slot, and will present the case to the class during the lab. Although the final diagnosis will be considered, emphasis will be placed on developing a systematic approach to review a radiograph, differentiating normal from abnormal, and providing a radiographic diagnosis.

Neurology Component

Ten lectures will be presented in this component of the course. The knowledge acquired from Phase 1 about performing a neurological examination will be reviewed and expanded to the next step of the neurological assessment. This involves interpreting results of a neurological examination to identify whether or not a patient is suffering a neurological condition, and to localize that lesion to a specific area of the nervous system. This process is denominated "lesion localization" or "neurolocalization". Clinical cases presented as videos will be extensively used during the lectures. Additional online material for independent study will further allow students to evaluate small animal patients with or without neurological conditions. Knowledge gained during this course will act as a baseline for Phase 3 courses, where the most frequent neurological diseases in small and large animal species will be discussed.

Small Animal Clinical Nutrition Component

Seven lectures will be presented, applying principles of small animal nutrition to clinical contexts with a focus on life stages (gestation, lactation, growth, senior) and common issues such as obesity, allergies, osteoarthritis and dental problems.

Small Mammal Component

One 3-hour laboratory period will be held. The students will rotate between several staffed stations where instructors will first provide a demonstration, then allow students to practice restraint and examination of various small mammal species.

Medication and Sampling Techniques Component

One lecture, online self-study materials, and one 2-hour laboratory period will be held focused on medication and sampling techniques. Students will practice these techniques on models or live animals during the laboratory session. Opportunity for further practice will be provided during the Review Laboratory. Students may not practice medication and sampling techniques on live animals outside of these two instructor-supervised scheduled course laboratories.

EXPERIENTIAL LEARNING

Experiential learning is also built into this course to support the skills learned in the course lectures and laboratories. Specifically, experiential learning will include the following mandatory components:

- Rotation through the Hill's Pet Nutrition Primary Healthcare Centre at OVC
- Phase 4 Shadowing in the OVC-Health Sciences Centre (Large and Small Animal weeks)

I. ROTATION THROUGH THE HILL'S PET NUTRITION PRIMARY HEALTHCARE CENTRE

The Hill's Pet Nutrition Primary Healthcare Centre (PHC) contains the Smith Lane Animal Hospital (SLAH), which is a fully functional primary care veterinary hospital. This rotation provides students with an experiential learning opportunity to clinically apply, reinforce and build upon their overall learning in the DVM curriculum. In assigned rotation times (as per the DVM schedule) at the PHC, students will be expected to actively observe and/or participate in clinical activities occurring at the PHC. There are assignments linked to this PHC experience that help you to put your radiology and nutrition knowledge into clinically relevant practice, however, these are not intended to detract from the experiential clinical learning that takes place during your PHC rotation shifts. Given that the SLAH is a fully functional companion animal primary care practice that caters to the public, there is little control over what students may or may not experience in terms of watching appointments or helping with cases. If students are present at times when there are appointments to watch and/or help with, it is encouraged

that this takes priority. At times when there are less appointment bookings and therefore less opportunity to watch or help with appointments, students are encouraged to complete their assignments. Students are therefore encouraged to access and utilize the relevant and necessary resources at the PHC to complete their PHC Assignments **either during or outside of their scheduled shifts**. Submitted assignments will be graded and will form a part of the overall mark for Clinical Medicine II. Specific learning outcomes are outlined within the individual assignments. Complete information about the assignments and learning at the PHC is available on the OVC Phase - 2 Companion Animal Primary Care site on CourseLink. Opening times for the PHC and SLAH can be found on the PHC website.

While participating in the assigned PHC rotation times, it is expected that students will conduct themselves as members of the PHC healthcare team. Students must attend all assigned rotation times at the PHC and submit the PHC assignments by **4pm on April 2, 2018**. Unless academic consideration has been granted, assignments submitted after this time will not be marked. For all questions about PHC assignments and learning activities please contact Dr. Deep Khosa (dkhosa@uoguelph.ca). All rotation-scheduling questions should also be sent to dkhosa@uoguelph.ca.

II. CLINICAL SHADOWING IN THE OVC-HEALTH SCIENCES CENTRE (OVC-HSC):

Each Phase 2 student will be assigned two, 7-day (Monday evening through and including Sunday evening) shifts during which they are paired up with a Phase 4 student on a clinical rotation (1 week on Large Animal, 1 week on Small Animal). During each assigned week of Clinical Shadowing, the Phase 2 student will accompany their Phase 4 partner during morning (before class time) and evening assessments of patients currently hospitalized in the OVC-HSC. Clinical Shadowing of Phase 4 students is intended to provide more practice of animal handling and restraint, physical examinations, patient assessments, and medical records. Students are encouraged to ask lots of questions in order to understand the cases and to affirm their clinical findings. **Phase 2 students may not administer any medications or treatments to hospital patients, and Phase 2 students must only handle and evaluate patients when in the presence of their Phase 4 partner.** The Phase 2 student must submit a Clinical Shadowing Attendance sheet, signed by the supervising Phase 4 student, to Linda Wing, Administrative Assistant to the Chair and Faculty of Clinical Studies (Building 49, Room 2142) after each 7-day shift of clinical shadowing is completed. The Clinical Shadowing Attendance sheet is found on the VETM3440 Clinical Medicine II Courselink website. The Clinical Shadowing schedule and detailed instructions will also be posted on the course website. Please note that attendance at all morning and evening shifts for the entire 7-day period each time is necessary in order to complete this course requirement. This component of the course is NOT optional - while there is no grade assigned to this portion of the course, full completion of all assigned shifts is required to pass VETM*3440 Clinical Medicine II. Therefore, if students have time conflicts and cannot attend all morning and evening times during their scheduled weeks, they are expected to find another classmate to switch with and inform the appropriate course co-ordinator (Large Animal: Dr. Hewson; Small Animal: Dr. Defarges) of such changes to the schedule.

PRACTICE OF ACQUIRED KNOWLEDGE AND SKILLS

- a. **Self-Study & Access to Animals for Practice:** To achieve a satisfactory skill level for successful completion of this course, students must take advantage of opportunities outside of scheduled laboratory time in order to practice performing physical examinations and to evaluate clinical material:
 - Students may book time to independently practice in small groups outside of the Phase 2 schedule. Large animal species (cattle, horses, sheep) housed in Barn 37 will be accessible for practice outside of scheduled times only during regular working hours (Monday to Friday, 8am to 4pm), provided that other courses are not using the animals or facility. Prior to large animal use for practice, permission must be obtained from Rob Leighton (rleight@uoguelph.ca), who will specify which animal(s) you may use.

- Instructions for recording animal use after you have finished are posted in Barn 37 near each species. Diligent recording of animal use in this manner is essential in order to avoid inadvertent overuse of individual animals, as they are shared between multiple courses.
 - For safety reasons, you must work together in groups of 3 or more students when practicing with the large animal species. Coveralls and steel-toed footwear are required.
 - The dogs used in this course are from the University of Guelph Central Animal Facility (CAF). These dogs are accessible for practice outside of laboratory time during CAF regular business hours. Please contact Annette Morrison at CAF (amorriso@uoguelph.ca) to arrange practice times.
 - **NOTE THAT THE CLINICAL SKILLS BUILDING, BARN 37, AND ALL TEACHING HORSES/COWS/SHEEP WILL NOT BE AVAILABLE FOR PRACTICE OUTSIDE OF REGULARLY SCHEDULED LAB TIMES ON THE FOLLOWING DATES:**
 - **February 26 - March 2**
 - **Friday, March 9**
 - **March 12 - 16**
 - **April 5 & 6**
- b. The Neurology Service offers an optional, first-come-first-serve, clinical shadowing opportunity throughout the Fall and Winter semesters. The sign-up sheet will be posted outside the Neurology Service room (1282) in the Companion Animal Hospital. As spaces are limited, students are asked to remove themselves from the list if they choose not to attend the time slot that they have reserved (and/or let their classmates know).
- c. The Diagnostic Imaging Service offers an optional, first-come-first-serve, clinical shadowing opportunity throughout the Fall and Winter semesters. This can be for just a few hours during the day depending on your schedule, and you will be working closely with a Phase 4 student. The sign-up sheet will be posted outside the Diagnostic Imaging room (1208) in the Companion Animal Hospital. As spaces are limited, students are asked to remove themselves from the list if they choose not to attend the time slot that they have reserved (and/or let their classmates know).

Evaluation

METHOD OF ASSESSMENT

Clinical Medicine/POMA Component

An online quiz will evaluate student application of content within the POMA modules, including associated lectures, online preparatory material, and cases discussed in laboratory sessions. The online quiz is to be completed prior to the listed deadline in the **Calendar of Course Events**, and will contribute to the final course grade. **During the period when the quiz is open, the student can complete the quiz at any time. However, once starting the quiz, they must complete and submit it within the stated time limit of the quiz. Students that miss or fail the quiz will not be given the opportunity to take a supplemental quiz. Students that are unable to complete and submit the online quiz by the closing date will require documentation of academic consideration from the Office of the Associate Dean-Students prior to missing the posted closing date, in order to redistribute the missed grade towards their final OSCE examination score, otherwise a mark of 0% will be assigned to the missed online quiz. Please note that students that initiate the quiz cannot then seek academic consideration for the quiz.**

Students will also generate three written medical records based on their diagnostic work-up of laboratory cases. Additional instructions will be provided on the course website. The records are to be completed outside of laboratory hours and submitted prior to the listed deadlines in the **Calendar of Course Events**. One record will be written as a group (5 students), in order to receive formative feedback from a course instructor; the second record will be individually written and peer-reviewed for formative feedback, and the final record will be written as a group (5 students) and submitted for grading. Only those members of the group that participate in the assignment are to have their names on the assignment. **Students must have completed both formative case records by the posted deadlines in order to be eligible to receive a grade on their third medical record submission.**

Student understanding of small mammal handling and physical examination content, and aspects of the small animal clinical nutrition content, will be assessed on the final OSCE.

Experiential learning at the PHC will be assessed through 2, individually completed, PHC assignments.

Diagnostic Imaging Component

Groups will be assigned to present cases in the imaging labs. The groups will be required to submit a single written report for the assigned case at the start of each lab and give an oral presentation of the case. The written report and oral presentation will contribute to the final grade. Only those members of the group that participate in the assignment are to have their names on the assignment. Any students that miss the lab for a valid reason may have the opportunity to make-up the assignment if they contact the

instructor prior to the missed laboratory time. If the instructor is not notified prior to the lab session or there is no approved absence, the grade will be zero.

Following each section (thorax, abdomen) there will be an in class quiz (please see the Phase 2 schedule for the time and dates of these quizzes). **Missed quizzes will not be rescheduled, therefore, students that do not attend the in class Diagnostic Imaging quizzes will require documentation of academic consideration from the Office of the Associate Dean-Students in order to redistribute the missed grade towards their Summative Written Diagnostic Imaging examination score, otherwise a mark of 0% will be assigned to any missed Diagnostic Imaging quizzes.**

There will also be a Summative Written Diagnostic Imaging Examination that will include all material taught in the course at the completion of all of the lectures and labs (please see the Phase 2 schedule for the time and date of this examination).

All Diagnostic Imaging quizzes, as well as the Summative Written Examination in Diagnostic Imaging, are computer-based exams. Therefore, students will need to bring a laptop to the examination room. If you do not have access to a computer please contact Dr. zur Linden in advance of the examination and arrangements will be made to provide you with a computer or to take the examination in the computer lab.

Quizzes and the Summative Written Diagnostic Imaging Examination may be reviewed within three weeks after marks are posted for each. **There will not be an opportunity to review the quizzes or summative examination outside of this period.** To arrange a time to review the quizzes/summative examination, please contact the Administrative Assistant to the Faculty and Chair in the Department of Clinical Studies, Linda Wing (lwing@uoguelph.ca).

All materials from the Diagnostic Imaging component of this course will also be examined on the final OSCE.

Neurology component

Evaluation will be based in part on a one-hour Summative Written Neurology Examination that will include a series of videos of neurological patients to be reviewed. Please see the Phase 2 schedule for the time and date of this examination.

The Summative Written Neurology Examination may be reviewed within three weeks after the marks are posted for this examination. **There will not be an opportunity to review the summative examination outside of this period.** To arrange a time to review the summative examination, please contact the Administrative Assistant to the Faculty and Chair in the Department of Clinical Studies, Linda Wing (lwing@uoguelph.ca).

All materials from the Neurology component of this course will also be examined on the final OSCE.

FINAL INTEGRATED OBJECTIVE STANDARDIZED CLINICAL EXAMINATION (OSCE):

This OSCE examination will incorporate ALL course content from Clinical Medicine II, including all materials associated with course lectures, online materials on the course Courselink website, laboratories, and other course-related assignments/activities. Related concepts from other Phase II courses may also be incorporated into the OSCE questions, as practiced throughout the POMA laboratories. The exam format will be a multi-station rotation, of which some stations will be written responses requiring application of knowledge to practical scenarios, and others will require one-on-one demonstration of skills on live animals in the presence of an examiner. The student will need to come prepared to work with all of the common domestic species encountered throughout the course (dog/horse/cow/sheep). As such, proper attire and equipment is required as outlined for the laboratory sessions.

VETM 3440 Clinical Medicine II Method of Assessment	% of Final Course Grade*
Clinical Medicine/POMA Component:	(50)
- Written Medical Record Assignment #3	4
- Online Quiz - POMA Online materials (POMA Labs 1 - 5)	4
- Primary Healthcare Centre Assignments x 2 (3% each)	6
- Clinical Shadowing - Small Animal Week	Complete
- Clinical Shadowing - Large Animal Week	Complete
- OSCE Examination - Clinical Subsection	30
- OSCE Examination - Small Mammal / Clinical Nutrition	6
Diagnostic Imaging Component:	(25)
- In-class Quiz - Thorax	2.5
- In-class Quiz - Abdomen	2.5
- Lab Assignments x 2	2.5
- Summative Written Diagnostic Imaging Examination	8.75
- OSCE Examination - Diagnostic Imaging Subsection	8.75
Neurology Component:	(25)
- Summative Written Neurology Examination	12.5
- OSCE Examination - Neurology Subsection	12.5

***NOTE: In order to achieve a passing overall grade for VETM3440: Clinical Medicine II, students must achieve ALL of the following:**

- At least 60% cumulative grade within each of the Clinical Medicine/POMA, Diagnostic Imaging, and Neurology components of this course.
 - Students that achieve less than 50% in one component will automatically be assigned a failing grade (49%, or their original course grade if lower than 49%) for the entire Clinical Medicine II course.
 - Students that achieve between 50-59% in one or more components of the course will be required to remediate and then complete a conditional repeat examination of the component(s) material. The conditional repeat examination will occur during the deferred examination period in May. The format of the conditional repeat examination is the responsibility of the Clinical Medicine II instructors coordinating that component of the course (Diagnostic Imaging: Alex zur Linden, Neurology: Fiona James and Luis Gaitero). The format will be communicated to the student via email two weeks prior to the conditional repeat examination date. Students are responsible for their own remediation in preparation for the conditional repeat examination, and are expected to seek instructor feedback as part of this process. If a passing grade (60%) is achieved on the conditional repeat examination, then the original grade for that component will be used in calculating the student's overall course grade. Failure to achieve a passing grade (60%) on the conditional repeat examination of any component will result in the student automatically being assigned a failing grade (49%, or their original course grade if lower than 49%) for the entire Clinical Medicine II course.
- A grade of 20/30 or greater on the Clinical Subsection component of the final integrated OSCE.
 - Students who achieve less than 20/30 on the Clinical Subsection of the final integrated OSCE exam but still have at least 30/50 (60%) cumulative grade within the Clinical Medicine/POMA component of the course will be required to take a conditional repeat exam of that failed OSCE subsection. The conditional repeat examination will occur during the deferred examination period in May. The format of the conditional repeat examination is the responsibility of the Clinical Medicine II course coordinators, and will be communicated to the student via email two weeks prior to the conditional repeat examination date. Students are responsible for their own remediation in preparation for the conditional repeat examination, and are expected to seek instructor feedback as part of this process. If a passing grade (60% or

higher) is obtained on the conditional repeat examination, the student will be assigned their original OSCE grade on that subsection for the purpose of calculating the final course grade. Any student that does not achieve 60% on the conditional repeat examination will be assigned a failing grade (49%, or their original course grade if lower than 49%) for the entire Clinical Medicine II course.

- Successful completion of both Clinical Shadowing weeks:
 - Students must complete all required shifts in their assigned Large Animal and Small Animal Clinical Shadowing Weeks, including submission of both signed Clinical Shadowing Attendance Sheets by **4pm on April 2, 2018** in order to successfully complete course requirements for Clinical Medicine II, unless academic consideration has been granted. If all Clinical Shadowing requirements are not completed, a grade of 49% (or their original course grade if lower than 49%) will be assigned in Clinical Medicine II.

- Successful completion of the Primary Healthcare Centre course requirements:
 - Students must attend all assigned rotation shifts at the PHC to successfully complete course requirements for Clinical Medicine II. If all PHC rotation shifts are not completed, a grade of 49% (or their original course grade if lower than 49%) will be assigned in Clinical Medicine II. In order to receive a numeric grade for this component of Clinical Medicine II, all PHC assignments must be submitted for marking by **4pm on April 2, 2018**. Unless academic consideration has been granted, assignments submitted after this time will not be marked.

Failure to achieve all of these requirements will result in a final overall course grade of 49% (or their original course grade if lower than 49%) being assigned regardless of marks attained in other sections of the course, and the student will fail the course.

Resources

All notes and instructional videos are available on the VETM*3440 Clinical Medicine II course website on Courselink. Printed course notes will not be provided.

All lab material and self-study modules for the Diagnostic Imaging component of this course are available through the OVC Digital Image Library - www.webaims.ovc.uoguelph.ca.

You are encouraged to search this database for other images to assist your learning.

ADDITIONAL RESOURCES: SMALL ANIMAL MEDICINE

1. Allen DG, Kruth SA, Garvey MS (eds). Small Animal Medicine. Lippincott, 1991. (See pages 3-11)
2. Ettinger SJ, Feldman ED (eds). Textbook of Veterinary Internal Medicine. 7th ed. Saunders, 2010.
3. Nelson RW Couto CG. Small Animal Internal Medicine. 5th ed. Elsevier, 2014.
4. Tilley LP, Smith FWK. The 5 minute Veterinary Consult: Canine and Feline. 5th ed. Wiley-Blackwell, 2011.

ADDITIONAL RESOURCES: LARGE ANIMAL MEDICINE

1. Smith BP et al. Large Animal Internal Medicine, 5th Ed., Elsevier, 2015.
2. Radostits OM et al. Veterinary Medicine: A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses, 10th Ed., WB Saunders Ltd, 2007.

ADDITIONAL RESOURCES: DIAGNOSTIC IMAGING SECTION

1. Thrall DE. Textbook of Veterinary Diagnostic Radiology. 6th ed. WB Saunders Ltd, 2013.
2. OVC teaching file system: mirc.ovc.uoguelph.ca
Login: ovc2020, password: rhino
3. Equine limb radiology site of normal:
<http://apps.cvm.iastate.edu/limbanatomy/>
4. Normal radiology site:
http://vetmed.illinois.edu/courses/imaging_anatomy/

ADDITIONAL RESOURCES: NEUROLOGY SECTION

1. Dewey CW & da Costa RC. Practical guide to canine and feline neurology. Wiley-Blackwell. 3rd ed. 2015
2. Platt SR, Olby NJ. BSAVA Manual of canine and feline neurology. 4th ed. 2013.
3. De LaHunta A, Glass EN. Veterinary neuroanatomy and clinical neurology. Saunders Elsevier. 2009.