Lectures: Monday, Wednesday, 02:30 - 03:20, Room ROZH 103
Laboratory: Tuesday, 02:30 – 05:20, Rooms OVC 1618 and 1602
Thursday, 11:30 – 02:20 or 02:30 – 05:20, Rooms OVC 1618 and 1602

Course Coordinator: Dr. Matt Vickaryous, Room 2624, Biomedical Sciences, OVC, Ext. 53871. Email: mvickary@uoguelph.ca
Instructors: Dr. Matt Vickaryous. Email: mvickary@uoguelph.ca
Dr. Jim Petrik. Email: jpetrik@uoguelph.ca
David Robinson. Email: djrobins@uoguelph.ca
Roman Poterski. Email: rpotersk@uoguelph.ca
Teaching Assistants: Kathy Jacyniak. Email: kjacynia@uoguelph.ca
Anita Luu. Email: aluu@uoguelph.ca
Hayley Wilson. Email: hwilso09@uoguelph.ca

Calendar Description:
This lecture and laboratory course introduces comparative and veterinary anatomy, and includes small (fetal pig, rabbit, cat, dog) and large (ruminant, equine) dissections. Clinical anatomy and functional differences are considered.

Course Goals:
The primary goal of this course is to provide you with a practical working knowledge of comparative and veterinary anatomy. By the end of this course you should be familiar with anatomical terminology and the fundamental similarities and differences between major organs and organ systems in multiple small and large animal species.

Synopsis:
In this course, you will learn and practice comparative and veterinary anatomy. Drawing on similarities in form and pattern from multiple species, you will gain experience and background knowledge to investigate the anatomy of any mammal. Our focus will be structural features of multiple domestic mammals, including the rabbit, cat, dog, sheep and pony. Other mammals will be considered as appropriate. By putting individual anatomical features into a broader comparative context you will discover aspects of clinical and functional anatomy, and that of humans, and begin to acquire the language of anatomy.

Course Content:
a. Lecture topics: bones & muscles; digestive & respiratory systems; cardiovascular system; urinary and reproductive systems; current topics in anatomy.
b. Clinical anatomy, development and function are dealt with as they relate to the understanding of definitive anatomy.
Laboratory schedule:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Lab topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 12 or 14</td>
<td>Osteology</td>
</tr>
<tr>
<td>Sept 19 or 21</td>
<td>Myology</td>
</tr>
<tr>
<td>Sept 26 or 28</td>
<td>Body Cavities, Respiratory System / Problem Boxes Assigned</td>
</tr>
<tr>
<td><strong>Oct 3 or 5</strong></td>
<td><strong>MIDTERM PRACTICAL (LAB) EXAM (osteology + myology only)</strong></td>
</tr>
<tr>
<td>Oct 10 or 12</td>
<td>No Labs</td>
</tr>
<tr>
<td>Oct 17 or 19</td>
<td>Digestive System</td>
</tr>
<tr>
<td>Oct 24 or 26</td>
<td>Cardiovascular System 1 (heart and blood vessels cranial to heart)</td>
</tr>
<tr>
<td>Oct 31 or Nov 2</td>
<td>Cardiovascular System 2 (blood vessels caudal to heart)</td>
</tr>
<tr>
<td>Nov 7 or 9</td>
<td>Urogenital System</td>
</tr>
<tr>
<td><strong>Nov 14 or 16</strong></td>
<td><strong>Review Lab</strong></td>
</tr>
<tr>
<td><strong>Nov 21 or 23</strong></td>
<td><strong>FINAL PRACTCAL (LAB) EXAM (everything)</strong></td>
</tr>
</tbody>
</table>

**Note:** Please advise the instructor immediately if you wish to drop the course so that lab groups can be re-organized.

**Office hours**
Office hours are by appointment only. Please see Instructor after class or contact them by email to set up an appointment.

**Textbook**
As our course involves the dissection of many different species, there is no one textbook that provides sufficient coverage. However, the following textbook has been used in previous years:


All the necessary information to complete the labs will be provided on Courselink. Additional information can be sourced from a variety of comparative anatomy textbooks available at the library.
Notes on schedule
Lectures are in the ROZH, room 103; labs are in OVC 1618/1602.

You are expected to become familiar with anatomical terminology as soon as possible.

All tests and assignments are described under Evaluation below. Lectures will be given by Dr. Vickaryous, Dr. Petrik, or occasionally by a guest speaker.

Lecture information
Lectures will provide a general overview of the anatomical systems of the body, including some details of the organs included, as well as aspects of their development and function.

Except for guest speakers, printable copies of each Powerpoint lecture will be available on CourseLink the night before the lecture (or earlier). You may find it useful to bring copies of these lectures to class.

Laboratory Information
The laboratories will provide a reasonably in depth exposure to structures that comprise each anatomical system, including their three-dimensional locations with respect to other structures in the species considered, and methods for locating them in cadavers. Dissection labs emphasize self-directed learning so be prepared to explore. Students will dissect in groups of 10. Each group will receive one rabbit and one fetal pig to dissect. Each lab section will receive one cat, one dog, and one sheep to dissect. The entire class (i.e., all three lab sections) will receive one pony. Each group members is responsible for all structures on all animals, and should cycle through the dissection of each specimen.

Dissection specimens
Fresh and preserved animals and/or animal tissue are used for teaching purposes in this course. All animals are protected by the Animals for Research Act of Ontario (1980), the Guidelines for the Care and Use of Experimental Animals (Canadian Council on Animal Care), and the Animal Care Policies of the University of Guelph.

Required items
1. In the laboratory a clean lab coat and gloves are required.
2. Safety glasses are strongly recommended.
3. The following dissection equipment will be useful: blunt probe, scalpel handle and several blades (not #11), heavy scissors (semiblunt or blunt/sharp points), tissue forceps (1x2 teeth), dressing forceps. Ask for the kit by the course number (BIOM*3010) or instructor (Dr. Vickaryous).
4. Students are required to print the course lab manual from the CourseLink Content page and bring a copy to lab. This manual provides an outline for each lab exercise and is a useful study guide.

Preparation for the laboratories
Come to lab prepared. Read the appropriate section in the lab manual, review the appropriate lecture notes and consult other texts or references as necessary. You may find it useful to prepare in your lab groups.

Safety in the laboratory 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 the safety orientation that is given at the beginning of the first lab.

Please read the information regarding lab safety and etiquette provided on CourseLink. You will be required to sign an Affirmation of Safety Awareness sheet before you can begin the first lab. **If you injure yourself during the lab and require medical attention, please notify one of the instructors.
Expectations for lecture and laboratory exams
You are expected to incorporate and synthesize information covered in both lecture and lab. **Lectures and labs are not separate entities.** Lectures provide the theoretical background, whereas labs provide practical hands-on opportunities to investigate anatomical structures across a variety of mammals. **Material presented in lecture will be included on the lab exams and vice versa.** Do not study for the lecture and lab separately. Anything covered in lab and lecture may be included on any exam or assignment in this course.

Evaluation

(A) **Midterm Practical (Lab) Exam** *(in lab October 3rd or 5th)*  
(= 20%)

The midterm practical exam will be in a bell-ringer (station-to-station) format. You must sign-up in advance in order to reserve a place at one of the offered exam times.

(B) **Problem Box Research Project**  
(= 20%)

1. Group written presentation, DRAFT *(due October 20th)* (= 5%)
   a. Research based on anatomical problem box specimens
2. Individual constructive reviews of two written drafts *(due October 27th)* (= 5%)
3. Group written presentation, FINAL *(due November 3rd)* (= 5%)
   a. Revised based on feedback from constructive reviews
4. Two statements of work performed (due with draft and final revisions) (= 2 x 2.5%)

(C) **Final Practical (Lab) Exam** *(in lab November 21st or 23rd)*  
(= 30%)

The final practical exam will have a similar format to that of the Midterm

(D) **Final Written Exam** *(December 14, 08:30-10:30)*  
(= 30%)

Details will be posted on Courselink

**total = 100%**

Practical Exams

There are two practical (lab) exams, a **midterm** (in lab, either Tuesday Oct 3rd or Thursday Oct 5th) and a **final** (in lab, either Tuesday Nov 21st or Thursday Nov 23rd). The midterm will only cover osteology and myology; the final covers everything, including materials from before the midterm. These exams are both bell-ringer (station-to-station) in format. Each station will include one or more anatomical specimens and ask a series of one or more questions. You will have a limited amount of time to answer the question(s) at each station and you cannot revisit stations. The final practical exam is cumulative, and we will reward students that demonstrate a superior level of understanding or marked improvement over the semester.

If the grade on your final practical exam is **90% or greater**, or if you receive a grade that is **10% or higher than your midterm** practical exam grade, your final practical exam grade will count for both the midterm and final practical exams. That is, instead of 30%, your final practical exam will count as 50%.
Problem Box Research
Each dissection group will receive a problem box containing or referencing one or more anatomical specimens. These specimens will form the basis of the problem box research assignment. Members of each dissection group will be responsible for identifying and developing a research question related to the anatomical specimen. For most specimens, the question could be framed as either “the anatomical basis of...” or “the anatomy and functional consequences of...”; alternative questions can be developed in consultation with the instructional staff. Once a question has been developed, members of the group will research the specimen/condition and present the findings in written format (details on CourseLink).

1. Each group will submit a single written DRAFT (online, using the PEAR system) plus a statement of work performed, due on OCT 20th by midnight. Late submissions are penalized 2.5% of your final grade per day. Any written drafts received later than 2 days will receive a zero (0) for the assignment and group members will be unable to participate in the review exercise.

2. Each student will receive two written drafts (online, using the PEAR system) to REVIEW. Reviews are due (online, using the PEAR system) on OCT 27th by midnight. Late submissions are penalized 2.5% of your final grade per day. Any reviews received later than 2 days will receive a zero (0) for the assignment.

3. Each group will then revise their initial drafts, based on feedback received, and submit a FINAL version of the written report (online, using the PEAR system) plus a statement of work performed on NOV 3rd by midnight. Late submissions are penalized 5% of your final grade per day. Any reviews received later than 2 days will receive a zero (0) for the assignment.

4. Statement of work performed. For each of the group components (the DRAFT and the FINAL versions), the group must submit a statement of work performed, outlining each author’s contribution/participation to each submission. Students who fail to participate will not receive full marks.

Academic matters
Accessibility
The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: http://www.csd.uoguelph.ca/csd/
Electronic etiquette
The use of laptop computers and other portable electronic devices can be very disruptive to the classroom environment. Such devices are permitted in class provided that they are used strictly in support of class related activities (e.g., note taking) and are not disturbing to other students. Please note that emailing, electronic and text messaging, other forms of telephone and electronic communication, and the use of other electronic devices (e.g., portable music devices and cell phones) are not permitted during the lecture or laboratory periods. Students failing to comply with this request will be asked to leave the classroom. Please note that electronic audio and/or visual recordings of lectures and laboratories are not permitted without the signed consent of the course coordinator. The use of electronic devices during exams is strictly prohibited.

When You Cannot Meet a Course Requirement
When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration: https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac-ac.shtml

When possible, this should be done in advance of the missed work or event, but otherwise, as soon as possible after the due date, and certainly no longer than one week later. If documentation of your inability to meet that in-course requirement is necessary, the course instructor will request it of you.

Recording of Materials
Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources
The Academic Calendars are the source of information about the University of Guelph’s procedures, policies and regulations which apply to undergraduate, graduate and diploma programs: http://www.uoguelph.ca/registrar/calendars/index.cfm?index

Academic Misconduct:
The University of Guelph is committed to upholding the highest standards of academic integrity and enjoins all members of the University community - faculty, staff and students - to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. The University of Guelph takes a serious view of academic misconduct and it is your responsibility as a student to be aware of and to abide by the University’s policy. Included in the definition of academic misconduct are such activities as cheating on examinations, plagiarism, misrepresentation, and submitting the same material in two different courses without written permission. To better understand your responsibilities, read the Undergraduate Calendar at https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml;
see also http://www.academicintegrity.uoguelph.ca/. You are also advised to discuss any questions you may have with your course instructor, TA, or academic counsellor.

Students should be aware that faculty has the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion, can be imposed.

E-mail Communication
As per university regulations, all students are required to check their <mailto:uoguelph.ca> e-mail account regularly: e-mail is the official route of communication between the University and its students.

Drop Date
The last date to drop one-semester courses, without academic penalty, is November 3, 2017. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar.

Copies of out-of-class assignments
Please keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Additional resources
A variety of anatomical texts and other resources may be useful as reference material. Some examples are listed below.

(a) Stedman’s Medical Dictionary, Illustrated Dorland’s Illustrated Medical Dictionary, ref. Saundert’s Comprehensive Veterinary Dictionary, Blood & Studdert, ref. The Language of Medicine - Davi-Ellen Chabner, Basic Terms of Anatomy and Physiology, B.F. Squires, Saunders, Toronto

(b) Veterinary Anatomy - Dyce, Sack and Wensing (If you are intending to apply for the DVM program you might consider purchasing this). Miller’s Guide to the Dissection of the Dog - Evans and deLahunta Grant’s Method of Anatomy - Grant and Basmajian Grant’s Atlas of Anatomy - Grant Gray’s Anatomy 35th edition


(d) Electronic journals are available on the UoG Library site, e.g., the Journal of Anatomy, Journal of Morphology, Journal of Zoology, etc...