



ZOO*3000 Comparative Histology

Fall 2018

Section(s): C01

College of Biological Science

Credit Weight: 0.50

Version 1.00 - March 23, 2018

1 Course Details

1.1 Calendar Description

This course provides an introduction to the microscopic structure of the major organ systems of the vertebrate body. Beginning with an examination of epithelial, connective, muscular, and nervous tissues, the course then examines the comparative histology of the circulatory, nervous, digestive, integumentary, respiratory, excretory, reproductive, endocrine, and sensory systems of vertebrates.

Pre-Requisite(s): ZOO*2090

1.2 Timetable

Lectures: 10:00-11:20h Tuesday/Thursday. Room TBA.

**First lecture Thursday September 6

Labs: 14:30-17:20h Monday/Tuesday Room SSC 2313

**First laboratory session Monday/Tuesday September 10/11

1.3 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructor(s)

Frederic Laberge

Email: flaberge@uoguelph.ca
Telephone: +1-519-824-4120 x56238
Office: SC1 1465
Office Hours: By appointment

Colin DeMill

Email: cdemill@uoguelph.ca

Telephone: +1-519-824-4120 x56557
Office: SC1 2475
Lab Instructor

3 Learning Resources

Evaluation will be in the form of a short assignment on the topic of histology in the news, a mid-term exam and final lecture and laboratory exams. In all cases, you will be expected to write using complete sentences and proper grammar. Work should be presented in a well organized fashion.

The mid-term exam and final lab exam will be written during class and laboratory time, respectively. For part of the lab exam, labelled class slides will be provided and you will be required to demonstrate cells, primary tissues or components of organs and organ systems to the instructors. Questions, both short answer and longer essay types, will test **both** your control of the factual content of the course **and** laboratory content.

3.1 Required Resource(s)

Histology. A Text and Atlas. (Textbook)

Ross, M.H., Pawlina, W. Histology. A Text and Atlas. 7th, 6th, 5th or 4th Ed. Lippincott, Williams & Wilkins, New York.

(OR other text approved by instructors)

ZOO*3000 Comparative Histology Laboratory Manual (Textbook)

(Sold in the first week of class, **\$10 in cash**)

3.2 Additional Resource(s)

Course Resources (Notes)

"Lecture notes" will be provided on the course website. It is not necessary for students to use these lecture notes unless they feel they will be useful. It is essential to study the material covered in the laboratory sessions to acquire a basic understanding of histology. However, a personal perspective will only be developed by reading the required text. This reading should be done on a regular basis, should take at least one (1) hour per week, and should keep up with the lecture topics. As a general rule, students should spend as much time out-of-class each week reading and reviewing as they do in class: for this course, this means **on average** at least five (5) hours per week.

3.3 Campus Resources

If you are concerned about any aspect of your academic program:

Make an appointment with a program counsellor in your degree program.

<http://www.bsc.uoguelph.ca/index.shtml> or <https://www.uoguelph.ca/uaic/programcounsellors>

If you are struggling to succeed academically:

There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management,

taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>

If you are struggling with personal or health issues:

Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.

<https://www.uoguelph.ca/counselling/>

Student Health Services is located on campus and is available to provide medical attention.

<https://www.uoguelph.ca/studenthealthservices/clinic>

For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.uoguelph.ca/~ksomers/>

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Identify and name the four primary tissues of the vertebrate body and explain how the form and function of these tissues are related.
 2. Identify and name the basic tissue constituents of the major organs and organ systems of vertebrates. Explain how their form and function are related.
 3. Be able to assess the histology of the tissues of non-mammalian vertebrates by comparison with the mammalian model.
 4. Name the steps in fixation, staining, and histochemistry of tissues and explain the physical and chemical bases of these procedures.
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5 Teaching and Learning Activities

5.1 Lecture

Topic(s):

Lecture Topics

- Introduction, Intercellular Substances and Primary Tissues
- Epithelia
- Connective Tissue Proper
- Cartilage and Bone
- Blood and Hemopoiesis
- Muscle
- Blood Vascular System
- Lymph Vascular System
- Fixation and Staining
- Histochemistry

- Nervous System
- Digestive System
- Integuments
- Respiratory System
- Urinary System
- Reproductive Systems (male/female)
- Endocrine Systems
- Organs of Special Sense

5.2 Lab

Topic(s): Laboratory Exercises

Sept. 10/11 Lab 1: The Microscope/ Epithelia/ Connective Tissue General

Sept. 17/18 Lab 2: Specialized Connective Tissue: cartilage, bone

Sept. 24/25 Lab 3: Blood and Bone Marrow/ Muscle

Oct. 1/2 Lab 4: Blood Vascular System/ Lymph Vascular System

Oct. 8/9 Holidays: No labs

Oct. 15/16 Lab 5: Nervous System

Oct. 22/23 Lab 6: Digestive System: Digestive tract

Oct. 29/30 Lab 7: Digestive System: Associated glands/ Respiratory System

Nov 5/6 Lab 8: Integument/Organs of Special Sense

Nov. 12/13 Lab 9: Urinary System/Male Reproductive System

Nov. 19/20 Lab 10: Female Reproductive System/Endocrine System

Nov. 26/27 Final Lab Exam (in SSC 2313)

5.3 Important Class Days

First Class - 10:00h Thursday September 6 – RoomTBA

First Laboratory - 1430h Monday 10th or Tuesday 11th September – Room SSC 2313

LABS CANCELLED FOR WEEK OF October 8-12

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Short Assignment	10.00
Midterm Exam	20.00
Final Lab Exam	30.00
Final Written Exam	40.00
Total	100.00

6.2 Assessment Details

Short Assignment (10.00%)

Date: Fri, Nov 2

Midterm Exam (20.00%)

Date: Thu, Oct 25, TBA
In class - 10:00am

Final Lab Exam (30.00%)

Date: SSC 2313
November 26th or 27th - 14:30h

Final Written Exam (40.00%)

Date: Time and Place TBA

7 College of Biological Science Statements

7.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

7.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the [Learning Commons](#) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist.
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: [Chemistry & Physics Help](#) and [Math & Stats Help](#)

7.3 Wellness

If you are struggling with personal or health issues:

- [Counselling Services](#) offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.
 - [Student Health Services](#) is located on campus and is available to provide medical attention.
 - For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to [stress management and high performance situations](#).
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8 University Statements

8.1 Email Communication

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

8.2 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. The regulations and procedures for [Academic Consideration](#) are detailed in the Undergraduate Calendar.

8.3 Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for [Dropping Courses](#) are available in the Undergraduate Calendar.

8.4 Copies of Out-of-class Assignments

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.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: www.uoguelph.ca/sas

8.6 Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of 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. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

8.7 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.

8.8 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.

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