Anatomy & Cell Biology

ANATCELL9561 Clinical Histology

Course outline for Fall/Winter 2024-25

Western University is committed to a **thriving campus**. We encourage you to check out the Digital Student Experience website to manage your academics and well-being. Additionally, the following link provides available resources to support students on and off campus: https://www.uwo.ca/health/.

1. Technical Requirements*


Stable internet connection


Laptop or computer


Working microphone


Working webcam

*Laptop or computer and internet connection required to access OWL. Microphone and webcam will only be needed if a transition to virtual delivery is required.

2. Course Overview

Enrollment: Clinical Anatomy MSc/PhD graduate students. Special permission requests will also be considered for students enrolled in the ACB or Neuroscience graduate programs. Enrollment limit is 15 students, auditing of the course is not permitted.

Course description: This course is a detailed study of the cellular and microscopic structure of the various tissues and organ systems of the body, with an emphasis on humans and other mammals used in medical research. Systems are examined stressing the relations of structure to function. The course expects, and highly encourages, student participation and uses microscopic exploration of histologically sectioned material and demonstrations. The course has the following components:

1) **Lectures and Labs:** Students are enrolled in the 3rd year Undergraduate Histology Course **ANATCELL3309**. Lectures are delivered and recorded with Panopto, or students may attend live with the F2F group. Course materials, including the schedule, lecture notes and PowerPoint slides will be available on the **ANATCELL3309 OWL site**. Please review the 3309 syllabus for important lecture dates.

2) **Tutorials:** We will meet every **Friday 8:30-11:30 AM in DSB 2010**, for student led discussions and to study microscopic slides. Materials, as required, will be posted on the **ANATCELL 9561 OWL site**.

	Delivery	**Date**	**Time**
Lecture	Panopto	See course site	See course site
Laboratory	In Person – See course site	See course site	See course site

- Before each Tutorial on Fridays, students are expected to have viewed the relevant lectures on Panopto (Tuesdays and Thursdays) and submit 2 MCQ style questions (1 per lecture hour). ALL students are expected to be prepared to discuss that week's lectures and lab content. Each Friday the topic will focus on the ANATCELL 3309 lab scheduled for the following Monday.
- Student presentations will begin in the second week of classes, covering the current week's content and pre-lab talk, the course instructors will provide a base slide deck from which to build the presentation. During the first week, students will sign up for their presentations for the entire year, ensuring an equal distribution of presentations among all students.
    - There will be 1 presentation a week.
    - The presentations should have a duration of approximately 20-25 minutes, followed by a 5-minute question-and-answer session.
    - The course instructor will grade the student presentations, and students will also receive feedback from their peers.
    - These presentations provide an additional opportunity for students to apply the pedagogy learned in other courses and enhance their presentation skills.

Learning Outcomes:
By the end of the course students will be able to:

a) explain structure/function relationships of tissues, organs, and their parts at the microscopic level.
b) navigate histological sections using both a real and a virtual microscope.
c) identify and name tissues, organs and their parts in microscopic images.
d) discuss clinical scenarios and their histological manifestations.
e) lead small group discussions on histology content.
f) write and assess effect MCQ style exam questions.

If you need technical assistance, support is available on the OWL Help page. Alternatively, you can contact the Western Technology Services Helpdesk. They can also be contacted by phone at 519-661-3800 or ext. 83800.

Google Chrome or Mozilla Firefox are the preferred browsers for optimal use of OWL. Be sure you are using the latest version of the browser.

Statement on Use of Electronic Devices: The use of electronic devices such as laptops and tablets are permitted including during the final exam. However, electronic devices are permitted

as learning aids, not to surf the net, Tweet, Facebook, watch YouTube videos or engage in other distractions during lectures. Recording (audio/video) of the lectures or laboratories and/or distribution of the lecture/laboratory materials is not permitted without the express written consent of the course coordinator.

Privacy and Copyright: Zoom sessions will not be recorded or distributed by the instructors. Students are likewise expected to refrain from recording, distributing, or disrupting virtual lectures and/or tutorial sessions. Lecture materials and notes, test, exam and assignment materials contained in this course are the copyrighted property of the course instructors. Recording and/or distribution of course materials/lectures is not permitted without the written consent of the course instructors. This includes posting course materials and/or modified class notes or ANY information related to the content of course quizzes, assignments tests or exams on public (e.g. Facebook, Twitter) or pay sites such as "OneClass", "Quizlet" or any other similar website.

2. Instructor Information

Instructors	Email	Contact Information
Dr. Andrew Deweyert (Course Coordinator)	See course site	Email or by appointment.
Dr. Kem Rogers (Course Instructor)	See course site	Email or by appointment.

3. Course Content and Schedule

Fall Schedule

Week	Dates	Topic	Instructor
1	Sept 5–8	Th Lecture 1: Introduction to the Course F Tutorial 1: Microscopy and Histology Techniques	Dr. Deweyert
2	Sept 9–15	Tu Lecture 2: Cell Membrane and Organelles Th Lecture 3: Nucleus and Nucleolus F Tutorial 2: Cytology	Dr. Deweyert
3	Sept 16–22	Tu Lecture 4: Epithelium and Glands Th Lecture 5: Epithelial Junctions and Cell Surface F Tutorial 3: Epithelia and Glands	Dr. Deweyert
4	Sept 23–29	Tu Lecture 6: Connective Tissue I Th Lecture 7: Connective Tissue II F Tutorial 4: Connective Tissue	Dr. Deweyert
5	Sept 30–Oct 6	M Truth and Reconciliation Day Tu Lecture 8: Cartilage Th Lecture 9: Bone F Tutorial 5: Cartilage	Dr. Deweyert
6	Oct 7–13	Tu Lecture 10: Bone Formation Th Lecture 11: Cells of the Nervous System F Tutorial 6: Bone and Bone Formation	Dr. Deweyert Dr. Schmid
7	Oct 14–20	F Mid-Term Viva 1	Dr. Deweyert
8	Oct 21–Oct 27	Tu Lecture 12: Cerebrum and Cerebellum Th Lecture 13: Spinal Cord and Ganglia F Tutorial 7: Central Nervous System	Dr. Schmid

9	Oct 28–Nov 3	Tu Lecture 14: Peripheral Nervous System Th Lecture 15: Skeletal Muscle F Tutorial 8: Peripheral Nervous System	Dr. Schmid Dr. Deweyert
10	Nov 4–10	Tu Lecture 16: Smooth and Cardiac Muscle Th Lecture 17: Heart F Tutorial 9: Muscle	Dr. Deweyert
11	Nov 11–17	Tu Lecture 18: Vessels Th Lecture 19: Blood Cells F Tutorial 10: Heart and Circulation	Dr. Deweyert
12	Nov 18–24	Tu Lecture 20: Erythropoiesis Th Lecture 21: Granulopoiesis F Tutorial 11: Blood and Blood Formation	Dr. Deweyert
13	Nov 25–Dec 1	Tu Lecture 22: Cells of the Immune System Th Lecture 23: Spleen and Thymus F Tutorial 12: Lymphoid Tissue	Dr. Deweyert
14	Dec 2–6	Tu Lecture 24: Review Session Th Lecture 25: Lab Review (mock practical exam) F Short Answer Exam	Dr. Deweyert
15	Dec 9-13	Cumulative Viva 1	Dr. Deweyert

Winter Schedule

Week	Dates	Topic	Instructor
1	Jan 6–12	Tu Lecture 26: Skin Th Lecture 27: Skin Derivatives F Tutorial 13: Integument	Dr. Rogers
2	Jan 13–19	Tu Lecture 28: Respiratory Passages Th Lecture 29: Lungs F Tutorial 14: Respiratory System	Dr. Rogers
3	Jan 20–26	Tu Lecture 30: Teeth Th Lecture 31: Tongue and Salivary Glands F Tutorial 15: Digestive System I	Dr. Rogers
4	Jan 27–Feb 2	Tu Lecture 32: Esophagus and Stomach Th Lecture 33: Intestines F Tutorial 16: Digestive System II	Dr. Rogers
5	Feb 3–9	Tu Lecture 34: Liver Th Lecture 35: Gallbladder and Exocrine Pancreas F Tutorial 17: Digestive System III	Dr. Rogers
6	Feb 10–16	Tu Lecture 36: Kidney Th Lecture 37: Urinary Passages F Tutorial 18: Urinary System	Dr. Rogers
7	Feb 17–23	F Mid-Term Viva 2	Dr. Rogers
8	Feb 24–Mar 2	Tu Lecture 38: Adrenal, Thyroid and Parathyroid Glands Th Lecture 39: Pineal Gland and Endocrine Pancreas F Tutorial 19: Adrenal, Thyroid and Parathyroid Glands	Dr. Rogers
9	Mar 3–9	Tu Lecture 40: Pituitary Gland Th Lecture 41: Eye F Tutorial 20: Endocrine Pancreas, Pineal and Pituitary Gland	Dr. Rogers Dr. Schmid
10	Mar 10–16	Tu Lecture 42: Ear Th Lecture 43: Ovaries F Tutorial 21: Special Senses	Dr. Schmid Dr. Deweyert
11	Mar 17–23	Tu Lecture 44: Uterus Th Lecture 45: Organs of Reproduction F Tutorial 22: Female Reproductive System	Dr. Deweyert

12	Mar 24–30	Tu Lecture 46: Testis Th Lecture 47: Male Ducts F No Tutorial	Guest Lectures
13	Mar 31–Apr 4	Tu Lecture 48: Review Session Th Lecture 49: Lab Review (mock practical exam) F Tutorial 23: Male Reproductive System	Dr. Deweyert
14	April 5 - 11	F Short Answer Exam	Dr. Deweyert
15	April 12 - 18	Cumulative Viva 2	Dr. Deweyert Dr. Rogers

4. Evaluations

Assessment (Fall term): 20%
Weekly Histology Quizzes (12) with Dr. Rogers (10%)
Weekly Histology discussions, and participation (5%)
Presentations (5%)

Fall Exams: 30%
Mid-Term Viva 1 (5%)
Short Answer Exam 1 (15%)
Cumulative Viva 1 (10%)

Assessment (Winter term): 20%
Weekly Histology Quizzes (11) with Dr. Rogers (10%)
Weekly Histology discussions, and participation (5%)
Presentations (5%)

Winter Assessment: 30%
Mid-Term Viva 2 (5%)
Short Answer Exam 2 (15%)
Cumulative Viva 2 (10%)

Information about late or missed evaluations: Unaccommodated missed assessments or late assignment submissions (original or makeup) will receive a grade of zero. If academic consideration for a missed test, exam, presentation etc. is obtained, a make-up assessment or an extension of the due date will be provided. However, it is important to note that make-up assessments may be in a different format than the original assessment. If a student repeatedly misses make-up assessments and/or extended deadline dates but has received academic consideration, the student may receive an INC and not be permitted to complete the assignment until the next time the course is offered.

Evaluation of Student Performance: The minimum grade needed to pass the course for ACB Clinical Anatomy students is 80%. The minimum grade needed to pass the course for research intensive graduate students from other programs is dependent upon the requirements of the home department/program.

5. Additional Resources

Recommended Texts:

- Histology: A Text and Atlas, Pawlina, W. 8th Edition *highly recommend*
- A Photographic Atlas of Histology, Leboffe, M.J., 2nd Edition
- Netter's Histology, Ovalle and Nahirney

Note: *If you already have a histology text there is no need to purchase the recommended texts. Any other histology text is acceptable as well.*

Online Virtual Slide Boxes:
http://histologyguide.org/index.html
http://www.mbfbioscience.com/iowavirtualslidebox
http://histology.medicine.umich.edu/full-slide-list

6. Western Academic Policies and Statements

Student Code of Conduct and Scholastic Offenses

Western students are expected to follow the Student Code of Conduct and understand the guidelines governing Graduate Student Scholastic Offences including plagiarism and cheating. Scholastic offenses are taking very seriously and can have very severe consequences. Students will be expected to agree to an academic integrity pledge before completing the test, exam and some assignments.

Turnitin and other similarity review software: Assignments, tests and exams may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com.

Policy on Accommodation for Medical and non-Medical Illness

According to the Policy for Academic Consideration, documentation is required for absences from tests or exams for Medical and non-Medical reasons. A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or Student Health Services. Documentation must be submitted by the student directly to the graduate program or SGPS. The date and nature of a make-up test or exam will be determined by the instructor in consultation with the student.

Student Accessibility Services

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions,

mobility impairments) are encouraged to register with Student Accessibility Services, a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both SAS and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.

Correspondence Statement

The centrally administered **e-mail account** provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts here.

8. Support Services

The following links provide information about support services at Western University.

- Appeal Procedures
- Western Graduate and Postdoctoral Studies
- Student Development Services
- Student Health Services