

MDSC521 HUMAN ANATOMY

Instructors

Instructor: Dr Heather Jamniczky
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Teaching Assistant: Ms Sarah Anderson
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Office Hours/Policy on Answering Student Emails

Office hours by appointment. Student emails will be answered within 48 hours.

Time and Location

Lectures: MW 10:30-11:50 O1504/1506
Laboratories: M 14:30-16:30 ATSSL

Prerequisite

Fourth year standing in the BHSc program or consent of the instructor.

Calendar Description

An inquiry-based exploration of clinically significant human anatomy. The course will follow a systems-based approach, and will make use of multiple learning formats. Each week, the instructor will lead classroom and laboratory sessions that explore an anatomical system from developmental, functional, and clinical perspectives.

Global Objectives

1. Students will develop the ability to place anatomical information into a clinical and functional context.
2. Students will be able to explain the relevance of anatomical knowledge to basic and clinical sciences.
3. Students will develop the ability to teach anatomical concepts effectively, both in oral and digital form.

Learning Objectives

By the end of this course, students will be able to:

- Identify on dissections, and explain the functional and/or clinical significance of, the key components of each human anatomical system.
- Produce a scientifically accurate, pedagogically sound learning module for a clinically relevant aspect of human anatomy.
- Deliver a concise, scientifically accurate oral presentation to their peers describing a clinically relevant aspect of human anatomy.

Required Textbooks

None.

Recommended Textbooks/Readings

Gilroy AM. 2012. Anatomy: An Essential Textbook. New York: Thieme.

<http://ebookstore.thieme.com.ezproxy.lib.ucalgary.ca/pdfreader/anatomy-essential-textbook>

A Note regarding readings

A list of required readings for all course sections will be outlined on D2L and links and documents will be made available, where possible. Required readings have been chosen carefully to inform you and enhance the lecture material. **Students are REQUIRED to complete assigned readings BEFORE each lecture.** Discussions in class and in tutorials will be conducted with the assumption that the assigned readings have been completed.

Students should be aware that many of the readings they will be assigned may be of an unfamiliar nature and style. Students should allot sufficient time to allow for several reads of the assigned material.

Evaluation

The University policy on grading and related matters is described in section F.2 of the 2016-2017 Calendar. In determining the overall grade in the course the following weights will be used:

Composition of Final Grade

Exam Session 1	
Lecture Exam	10%
Lab Exam	10%
Exam Session 2	
Lecture Exam	10%
Lab Exam	10%
Laboratory Quizzes (best 6 out of 7; 5% ea)	30%
Final Project	20%
Participation	10%

Final Exam

There will NOT be a final exam scheduled by the Registrar.

Components of the course for which a passing grade is essential: NONE

Examinations. Exams will have both peripatetic and written components. For the peripatetic component, students will identify and describe the clinical and/or functional significance of anatomical features of prosected specimens. For the written component, students will answer inquiry-oriented questions assessing their understanding of the application of anatomical concepts to clinical and/or functional problems. Each exam will cover one half of the course material.

Laboratory Quizzes. Students will work through inquiry-oriented, application questions using laboratory and virtual anatomy specimens as well as text readings to reinforce anatomical

concepts in clinical contexts. Each quiz will be worth 5%, with the student's final grade calculated based on the best six of seven quizzes.

Final Project. Students will produce and deliver a teaching module for their peers. Topics for this project will include both functional and clinical concepts, and will be chosen in consultation with the instructor. These projects will be completed in groups of four, and each group will have 40 minutes to present their project. Students will be required to develop relevant visual aids to explain, at a senior undergraduate level, their chosen topic. This project will be assessed following a rubric that will be presented at the beginning of the term. All members of each group are expected to contribute equally to the final project content and presentation.

Participation. Students are expected to participate actively in classroom discussions and interact respectfully with the instructors and their peers. Such participation includes responsible and respectful use of electronic devices (see below re. Laptops and Electronic Devices). Students will also be expected to attend, and participate actively in, their peers' final presentations. Students will receive one warning from the instructor during the term if the participation requirement is not being met, and will have the opportunity to discuss the situation with the instructor. If, following this discussion, the requirement is still not met, the student may lose part or all of the grade assigned for this component.

A Note regarding Writing Assignments

In keeping with the University of Calgary's emphasis on the importance of academic writing in student assignments (section E.2 of 2016-17 Calendar), this course relies heavily on writing and the grading thereof in determining a student's mark. Competency in writing is not the exclusive domain of the humanities and social sciences, nor does it solely mean accuracy in mechanics (grammar, spelling, punctuation). The University of Calgary offers a number of instructional services through the Student Success Centre's Writing Support Services (<http://www.ucalgary.ca/writingsupport/>) for students seeking feedback on assignments or seeking to improve their general writing skills. Students are **strongly encouraged** to take advantage of these programs.

Grading Scheme

A+ 97-100%	B+ 80-84%	C+ 65-69%	D+ 54-56%
A 90-96%	B 75-79%	C 60-64%	D 50-53%
A- 85-89%	B- 70-74%	C- 57-59%	F 0-49%

Missed Components of Term Work

Students will lose 5% per day late past the deadline for all assignments. In this case, assignments will **NOT** be accepted more than 72 hours after the posted deadline and students failing to submit any assignment within this time frame will receive a mark of zero. **Students who miss a quiz will receive a mark of zero unless the instructor has been previously notified. There will be NO exceptions to this policy.**

It is the agreement of all Faculty and Staff involved in MDSC521 that extensions will **NOT** be granted on any assignment or quizzes. The only exceptions to this are those in keeping with the University Calendar (illness, religious conviction, or domestic affliction) that are received in writing and with supporting documentation.

Desire 2 Learn (D2L)

Desire 2 Learn is located on the University of Calgary server and will be used extensively for communication with students. **It is the student's responsibility to ensure that s/he gets all posted communications and documents and that s/he receives emails sent by instructors or fellow students through D2L.** Your email address on D2L is the one you gave to the Registrar. Using an email address on the University server (name@ucalgary.ca) will ensure that you receive emails and that, should the server ever be down, instructors will be aware of it. Other servers sometimes filter D2L or instructor group mailings as spam; **we therefore require that you have your ucalgary.ca email address linked to D2L.**

Policies Governing the Course

Attendance

Note that 10% of the final grade is for class participation. Students are expected to attend and participate actively in lecture and laboratory sessions, including final project presentations.

Conduct During Lectures

Students are expected to conduct themselves in a mature and courteous manner during ALL lectures. Students are expected to frame their comments and questions to lecturers in respectful and appropriate language, always maintaining sensitivity towards the topic.

Students are expected to take notes during each session and should not rely solely on handout material supplied by the instructors.

Conduct During Laboratory Sessions

Laboratory sessions in this course involve the use of human cadaveric specimens. These materials are utilized as a real life representation of human anatomical features including the inherent variation present in individuals making up any community. Although these specimens serve as an irreplaceable resource, it is critical that every student not lose sight of the source of these resources and how they come to be available within the program. The anatomical specimens utilized within the Cumming School of Medicine are provided through the gracious generosity of individuals from families in Southern Alberta who agree to have their remains used for educational purposes at the time of death. As such, **ALL anatomical specimens (including skeletal preparations and individual organs) must be treated with the same regard and respect as would be appropriate for any living individual.** Due to the requirements of demonstrating specimens for study, these individuals may be presented in a manner that would be disturbing to their families or members of the general public. In order to protect everyone involved and to demonstrate our regard for these gracious individuals who have entrusted us with such sensitive and personal material, it is absolutely critical that **no photographs be generated that include these specimens, even inadvertently. Therefore, the Cumming School of Medicine has a strict policy that NO photography is allowed in the anatomical laboratories and the specimens will be treated with the highest regard at all times.**

Electronic Devices

The Bachelor of Health Sciences program aims to create a supportive and respectful learning environment for all students. Research studies have found that student use of electronic devices (laptops, tablets, etc) in the classroom negatively affects the learning of both the user and those sitting nearby. Inappropriate use of laptops is also disruptive to your fellow classmates and disrespectful to the lecturer. Their use in the classroom is **strongly discouraged** and may be

prohibited by instructors except in circumstances related to course content. Should laptops be permitted, their use is limited to taking notes and **NOT to surf the web, check email or do other unrelated work**. Students who use their laptops inappropriately or are otherwise disruptive during lectures will be asked to leave. Repeat offences may be considered non-academic misconduct and disciplined accordingly.

Cell phones and similar devices **must be turned off** (not merely silent) during class time. Students who disregard this rule during lectures or tutorials will be asked to leave. These items are not permitted under any circumstance during exams/quizzes, etc.

Copyright

It is the responsibility of students and professors to ensure that materials they post or distribute to others comply with the Copyright Act and the University's Fair Dealing Guidance for Students (library.ucalgary.ca/files/library/guidance_for_students.pdf). Further information for students is available on the Copyright Office web page (<http://library.ucalgary.ca/copyright>)

A Note Regarding Instructor Intellectual Property

Generally speaking, course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may **NOT** be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course *at the same time* may be allowed under fair dealing.

Academic Accommodations Based on Disability

It is the student's responsibility to register with Student Accessibility Services to be eligible for formal academic accommodation. If you are a student who may require academic accommodation and have not registered with Student Accessibility Services, please contact their office at (403) 220-8237; <http://www.ucalgary.ca/access/>. Students will be provided with all necessary accommodations to ensure equal opportunity to succeed in this course. Please provide the instructor your accommodation letter from Student Accessibility Services within 14 days after the start of this course so that all needed arrangements for exams and assignments can be made.

Accommodations on Protected Grounds other than Disability

Students who require an accommodation in relation to their coursework based on a protected ground other than disability, should communicate this need, preferably in writing, to the designated BHSc program contact, Mrs. Jennifer Logan (jljlogan@ucalgary), or to Dr. Ebba Kurz, Associate Dean, Undergraduate Health and Science Education, Cumming School of Medicine. Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

Academic Misconduct

Cheating, plagiarism, and other forms of academic misconduct are very serious offences that will be dealt with rigorously in all cases. Consequences include failure on the assignment, failure in the course and possibly suspension or expulsion from the BHSc program or the University. The Cumming School of Medicine follows a zero tolerance policy regarding dishonesty. **All incidences of academic dishonesty will be reported to the O'Brien Centre Office and be recorded in their student records.** The University calendar is explicit about what is construed as academic misconduct and on the appropriate penalties. Students are referred to the "Student Misconduct" sections of the University Calendar for further information.

Recording of Lectures

Audio or video recording of lectures is prohibited except where explicit permission has been received from the instructor.

Other Important Information

Freedom of Information and Protection of Privacy Act

This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP) and students should identify themselves on written assignments (exams and term work.) by their name and ID number on the front page and ID on each subsequent page. Assignments given by you to your course instructor will remain confidential unless otherwise stated before submission. The assignment cannot be returned to anyone else without your expressed permission to the instructor. Grades will be made available on an individual basis and students will not have access to other students' grades without expressed consent. Similarly, any information about yourself that you share with your course instructor will not be given to anyone else without your permission.

Appeals

If there is a concern with the course, academic matter or a grade, first communicate with the instructor. If these concerns cannot be resolved, students can proceed with an academic appeal, as per Section I of the University Calendar. Students must follow the official reappraisal/appeal process and should contact the Student Ombuds Office (<http://www.ucalgary.ca/ombuds>) for assistance with this and with any other academic concerns, including academic and non-academic misconduct.

Resources for Support of Student Learning and Wellness

Student Success Centre	http://www.ucalgary.ca/ssc/
Student Wellness Centre	http://www.ucalgary.ca/wellnesscentre/
Distress Centre	http://www.distresscentre.com/

Student Ombuds' Office

The Student Ombuds' Office supports and provides a safe, neutral space for students. For more information, please visit www.ucalgary.ca/ombuds/ or email ombuds@ucalgary.ca.

Student Union (SU) Information

The SU Vice-President Academic can be reached at (403) 220-3911 or suvpaca@ucalgary.ca; the SU representative for the Cumming School of Medicine can be reached at medrep@su.ucalgary.ca.

Emergency Evacuation/Assembly Points

Assembly points for emergencies have been identified across campus. Assembly points are designed to establish a location for information updates from the emergency responders to the evacuees; and from the evacuated population to the emergency responders. The primary assembly point for the Health Science Centre is the Health Research Innovation Centre (HRIC) Atrium. The alternate assembly point is Parking Lot 6.

Safewalk

Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call 220-5333. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths.

Additional Information for MDSC 521

Final Project Information

Your mission is to produce, using your choice of educational approaches, a 40-minute teaching session for your peers. Topics for this project will include both functional and clinical concepts, and will be chosen in consultation with the Instructor. You will be required to work in a group of four to develop the relevant material to explain, at a senior undergraduate level, their chosen topic. All members of each group are expected to contribute equally to the final project content and presentation. We welcome a creative approach to this project, and past projects have included a variety of games, rap videos, documentary-style interviews, creative group activities and more!

NOTE: The purpose of this project is not to cut and paste resources from other places, but to assemble information and then present it, in your own words and creatively, to your peers. You may use material from the Internet if it is properly cited; you may not copy text from Internet sources into your project directly. Please consult the Instructor first if you are unsure about how to use a source.

Answer the following questions as you prepare to create your learning object:

1. What is the general topic I want to present? Clinical condition, or anatomical feature of interest?
2. What are the objectives that I want my learners to be able to achieve? Objectives should be S.M.A.R.T.: specific, measurable, attainable, relevant, and time-bound.
3. Which aspects of human anatomy do my learners need to understand?
4. Which aspects of human development will help my learners understand the relevant anatomy?
5. If you are working on a clinical condition: how can I help my learners make connections to physiology and clinical practice (symptoms and treatments)?
6. If you are working on a detailed anatomical feature: how can I help my learners understand the importance of this feature in a clinical context?
7. What different types of learning styles exist? How can I target more than one of these? Think about using text, pictures, animations, sound, etc.
8. How can I help my learners achieve the objectives I've outlined? Think about using review questions or activities to help solidify concepts.

Final Project Rubric

Score	Originality and Organization (10)	Content (10)	Use of Creative Media (10)
10	<p>The chosen topic is interesting and contains significant anatomical content</p> <p>The presentation is engaging and appropriate for a senior undergraduate learner</p> <p>The presentation sets up the learner for success</p>	<p>The medical condition being taught is fully explained, including presentation, usual course of treatment, and expected outcome</p> <p>The anatomical correlates of the condition are explicit and fully explained</p> <p>The presentation includes an overview of the relevant physiology to facilitate understanding</p>	<p>Multiple learning styles are targeted, and the approach is engaging and appropriate</p> <p>Learning aids such as review questions or quizzes are included</p> <p>The approach acts as a help, not a hindrance, to learning</p>
5	<p>The chosen topic is simple and contains little anatomical content</p> <p>The presentation is formulaic or dull, and is too simple for a senior undergraduate learner</p> <p>The presentation does not facilitate learning</p>	<p>The medical condition being taught is only partially explained, is overly simplified, or does not include treatment and/or expected outcome</p> <p>The anatomical correlates of the condition are not explicit or incompletely explained</p> <p>There is no, or very little, presentation of relevant physiology</p>	<p>A single learning style is targeted (i.e. The presentation consists of text only)</p> <p>Learning aids such as review questions or quizzes are not included or not relevant</p> <p>The approach interferes with learning</p>
2 (or less)	<p>The chosen topic has no anatomical content</p> <p>The presentation does not follow any logical order</p> <p>The presentation contains misleading, or factually incorrect, information</p>	<p>The medical condition being taught is not explained, and symptoms, treatments, and outcome are not part of the presentation</p> <p>The anatomical correlates are not explained</p> <p>There is no relevant physiology</p>	<p>There is no attempt made to assist learners</p> <p>Learning aids, if present, contain incorrect information, or are not present at all</p> <p>The approach is abused (i.e. Content is inappropriate, materials are plagiarized)</p>

Course Schedule (Subject to Change)

Week	Lab	Lecture
Sep 12	No Lab	Introduction Metabolism I: Gastrointestinal System
Sep 19	Metabolism I	Metabolism II: Gastrointestinal System Metabolism II: Cardiovascular System
Sep 26	Metabolism II	Metabolism II: Respiratory System Reproduction I: Male
Oct 3	Reproduction and Review	Reproduction II: Female Reproduction II: Kidney and Pelvic Floor
Oct 10	THANKSGIVING No Lab	THANKSGIVING No Lecture Integration I: Metabolism and Reproduction
Oct 17	Exam Session 1	No Lecture Locomotion I: Back and Spine
Oct 24	Locomotion I	Locomotion II: Lower Limb Locomotion II: Upper Limb
Oct 31	Locomotion II	Locomotion II: Upper Limb Communication I: Brain and Spinal Cord
Nov 7	Communication I	Communication I: Motor Systems Communication I: Sensory Systems
Nov 14	Communication II	Communication II: Cranial Nerves Communication II: Visceral Nervous System
Nov 21	Review	Integration II: Locomotion and Communication Integration II: Locomotion and Communication
Nov 28	Exam Session 2	No lecture Presentations
Dec 5	Presentations	Presentations No lecture