MDSC521
HUMAN ANATOMY

Instructor:

Dr. Heather Jamniczky
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Office Hours/Policy on Answering Student Emails

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

Teaching Assistant:

Ms. Rachelle Lee
rcwlee@ucalgary.ca

Time and Location:

Lectures: MW 1030-1150 O1504/1506
Laboratories: M 1430-1630 ATSSL

Prerequisite/Co-Requisite:

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

Course 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.

Overarching Theme

This course places human anatomy into a functional context by emphasizing three major areas of focus: metabolism, locomotion, and communication within the body. The course will make use of several different approaches including individual and group work, discussion and case studies, informal and formal presentations, and capstone projects. This course fits into the BHSc program as a key component following from studies in human physiology and organismal biology, providing students with a mechanistic understanding of human anatomy.

Global Objectives

- Students will develop fluency in the use of anatomical language, and will develop their ability to place anatomical information into a clinical and functional context.

- Students will be able to explain the relevance of anatomical knowledge to basic and clinical sciences, and use anatomical concepts as a framework for clinical problem solving.
- Students will develop the ability to teach anatomical concepts effectively.

Learning Objectives

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

- Identify major components of each anatomical system on prosected material.
- Explain the key functions of the major components of each anatomical system, and place these functions into a clinical context where appropriate.
- Demonstrate links between different components of human anatomy and explain the functional significance of these links.
- Synthesize anatomical information across systems to explain the mechanism(s) behind commonly encountered clinical problems with anatomical correlates.
- Produce a scientifically accurate, pedagogically sound learning session for a clinically relevant aspect of human anatomy, including the development of learning objectives and the production of materials to support those objectives.
- Deliver a concise, effective, scientifically accurate learning session 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

Evaluation

The University policy on grading and related matters is described in section F.2 of the 2018-2019 Calendar.

In determining the overall grade in the course, the following weights will be used:

Lecture Exam 1	10%
Lecture Exam 2	10%
Pre-lab Online Quizzes (1% ea; individual)	10%
Laboratory Worksheets (5% ea; individual)	35%
Laboratory Demonstrations (5% ea; group)	15%
Final Project (group)	20%

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

A student's final grade for the course is the sum of the separate assignments. It is not necessary to pass each assignment separately in order to pass the course.

A Note regarding Writing Assignments:

Writing skills are important to academic study in all disciplines. In keeping with the University of Calgary's emphasis on the importance of academic writing in student assignments (section E.2 of 2018-19 Calendar), writing is emphasized, and the grading thereof in determining a student's mark in this course. The Bachelor of Health Sciences values excellence in writing. Competence in writing entails skills in crafting logical, clear, coherent, non-redundant sentences, paragraphs and broader arguments, as well as skills with the mechanics of writing (grammar, spelling, punctuation). The University of Calgary offers a number of instructional services through the Students' 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:

Late assignments will lose 5% per day late past the deadline for all assignments*. 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 (debilitating illness, religious conviction, or severe domestic affliction) that are received in writing and with supporting documentation. Please be advised that students should notify the instructor before the assignment deadline to discuss.*

Desire2Learn (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 they get all posted communications and documents and that they receive emails sent by instructors or fellow students through D2L.** Only your @ucalgary.ca email address may be linked to D2L. Please ensure that you are regularly checking your @ucalgary.ca account.

If you need help accessing or using D2L, please visit the Desire2Learn resource page for students: http://elearn.ucalgary.ca/d2l-student/.

Policies Governing the Course:

Attendance

Students are expected to attend and participate actively in lecture and laboratory sessions, including final project presentations by classmates.

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. The use of laptops and other electronic note-taking devices is permitted; however, their use in the classroom should be for course-related work/note-taking only. Please do **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.

Cell phones (or similar devices) should **be turned off** (not merely silent) upon entering the classroom. Sending/receiving text messages or leaving the class to take calls is disruptive to the entire class and will not be tolerated unless absolutely necessary. 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 or Medical Condition

It is the student's responsibility to register with Student Accessibility Services to be eligible for formal academic accommodation in accordance with the Procedure for Accommodations for Students with Disabilities (https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf). 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
The University of Calgary is committed to the highest standards of academic integrity and honesty. The University of Calgary has created rules to govern all its members regarding the creation of knowledge and the demonstration of knowledge having been learned. These rules are contained principally in Sections J to L of the *University of Calgary Calendar.* Students are expected to be familiar with these standards and to uphold the policies of the University in this respect. The Calendar also stipulates the penalties for violating these rules. Please know that the University and the Cumming School of Medicine take these rules seriously. **All incidences of academic dishonesty in this course, such as cheating and plagiarism, will be reported to the Associate Dean for investigation;** infractions will be noted on the record of a student found to be guilty.

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); 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. Work assigned to you by 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. See http://www.ucalgary.ca/policies/files/policies/privacy-policy-2011.pdf for more information.

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 may 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. Students should be aware that concerns about graded term work may only be initiated **within 15 days** of first being notified of the grade.

Resources for Support of Student Learning, Success, Safety and Wellness

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

Wellness and Mental Health Resources
The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370 MacEwan Student Centre, https://www.ucalgary.ca/wellnesscentre/services/mental-health-services) and the Campus Mental Health Strategy (http://www.ucalgary.ca/mentalhealth/).

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 representatives for the Cumming School of Medicine can be reached at medrep1@su.ucalgary.ca or medrep2@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 Sciences Centre is the Health Research Innovation Centre (HRIC) atrium. The alternate assembly point is Parking Lot 6. For more information, see the University of Calgary's Emergency Management website:
http://www.ucalgary.ca/emergencyplan/assemblypoints.

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 403-220-5333 or visit
http://www.ucalgary.ca/security/safewalk. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.

Class Schedule

Week	Lab (1/week, 120 mins)	Lecture (2/week, 75 mins ea)
Sep 10	Lab 1 Metabolism 1: Gastrointestinal System	Introduction and Metabolism 1: Gastrointestinal System Metabolism 1: Gastrointestinal System
Sep 17	Lab 2 Metabolism 2: Cardiovascular and Respiratory Systems	Metabolism 2: Cardiovascular System Metabolism 2: Respiratory System
Sep 24	Lab 3 Metabolism 3: Urinary and Reproductive Systems	Metabolism 3: Male Reproductive System Metabolism 3: Female Reproductive System
Oct 1	Lab 4 Metabolism Review: Labs 1-3	Metabolism 3: Kidney and Bladder Review
Oct 8	THANKSGIVING NO LAB	THANKSGIVING No Lecture **EXAM 1: Metabolism**
Oct 15	Lab 5 Locomotion 1: Lower Limb, Back and Spine	Locomotion 1: Lower Limb 1 Locomotion 1: Lower Limb 2
Oct 22	Lab 6 Locomotion 2: Upper Limb	Locomotion 1: Back and Spine Locomotion 2: Upper Limb 1
Oct 29	Lab 7 Locomotion Review: Labs 5-6	Locomotion 2: Upper Limb 2 Communication 1: Brain and Spinal Cord
Nov 5	Lab 8 Communication 1: Brain and Spinal Cord	Communication 1: Motor Systems Communication 1: Sensory Systems
Nov 12	READING BREAK NO LAB	READING BREAK NO LECTURES
Nov 19	Lab 9 Communication 2: Cranial Nerves	Communication 2: Cranial Nerves 1 Communication 2: Cranial Nerves 2
Nov 26	Lab 10 Communication review: Labs 8-9	Review **EXAM 2: Locomotion and Communication**
Dec 3	**Presentations**	**Presentations** **Presentations**

Additional Information for MDSC 521

Capstone 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, model-building 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.

Capstone Project Rubric

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