

CAPS 427 Course Syllabus

CAPS 427. Gross Human Anatomy Lab (3 Credits)

Academic Calendar Description:

A clinical and surgical exploration of the body's structure and function in normal and select pathological conditions. [1-4-0]

Prerequisites

CAPS 391.

Corequisites: None

Other Requirements:

This course is restricted to CAPS Majors and Honours students.

Instructional Schedule: 2 x 3 hour sessions each week

Student Expectations

All classes are compulsory and students are expected to complete a mini research project and deliver a final report in an academic article format, poster and oral presentation / seminar for the class.

Course Structure

Sessions 1 and 2 are an introduction to the gross anatomy lab, group discussions of the research topics, the rationale for the projects and their potential clinical applications. In sessions 3 and 4 each group will present the results of their preliminary literature review and finalize what measurements will be made, how to make the measurements and the best approach to examine the anatomy. Beginning with session #5 the lab will begin with each group providing a brief, oral, update to the class on their progress and their next steps followed by gross anatomy lab time

provided for the structures of interest. Measurements will be performed on prosections and dissections of fresh, or previously dissected, cadaveric material.

Learning Activities

Students will work in groups of 4 and be closely engaged in dissection, microdissection, and preparation of prosections (if needed). Students will explore the detailed anatomy of one body system of their interest by designing and running a mini research project on that selected body system. At the end of term, each group will provide an oral presentation of their results (30 minute maximum; 20-minute presentation plus 10 minutes Q&A). Examples of research projects:

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- 1) "Studying the prevalence of an additional ligament, Anterolateral ligament (ALL), at the knee joint and its role in biomechanics of this joint" This study will require dissection of all available knee joints and measuring the length and width of the ALL ligament when present and observe the additional attachments of this ligament with other structures such as the lateral meniscus. Using appropriate statistical analyses these data would examine potential differences in males / females, left / right side of the body and possibly different ethnic backgrounds. The results of this study can help in understanding the biomechanics and significance of the Anterior Cruciate Ligament (ACL), and the best surgical approach in repairing a torn ACL along with ALL.
- 2) "Study on variations of anterolateral triangle (ALT) on the base of the skull". This study will require dissection of all available skulls and measuring the area and borders of the ALT with Caliper. Then these data could be compared in males / females, left / right side of the body and possibly different ethnic backgrounds. This triangle is one of the skull base surgical approaches to the cavernous sinus and its contents. Understanding its variation in terms of size and location is crucial for surgery.

Students can select from a list of research projects provided by the instructor, or one of their own design. All proposals must be approved by the instructor in session #2.

Learning Materials

All learning and reading material will be provided in PDF format / printed copies prior to the start of each session. One of the following texts are recommended:

1. Gray's Anatomy For Students, 3rd Edition (2015) by Drake, Vogl, and Mitchell (\$120)
2. Essential Clinical Anatomy 5th Edition (2014) by Keith L. Moore (\$207)
3. Clinical Anatomy, 9th Edition (2012) by Richard S. Snell (\$130)
4. Atlas: Grant's, Netter, Thieme, Rohen, McMinn, are extremely helpful. (\$85 to \$133)

These will be freely available at Woodward library or on the publisher website for purchase

Journals: Freely available from UBC Library
Anatomical Record
Annals of Surgery

Instructor Contacts

Majid Alimohammadi <majid.alimohammadi@ubc.ca>
Associate Professor of Teaching, Dept of Cellular and Physiological Sciences

Other Instructional Staff

TA's to be updated annually

Acknowledgement

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site.

Learning Outcomes

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

- Explain the detailed gross anatomy of one of the systems listed below
- Perform expert dissection of the studied organ / system
- Execute a lab-based research project
- Prepare a scientific poster.
- Prepare and deliver an oral presentation and answer questions about the research.
- Write a report in the form of an article.
- Describe clinical applications of the research project
- Complete microdissections to provide prosections for the gross anatomy lab

Students will study one of the following organ systems in depth and detail. Students are free to choose any specific system of interest or one provided by the instructor:

- Cardiovascular System
- Respiratory System
- Digestive System
- Urogenital System
- Nervous system
- Musculoskeletal system
- Lymphatic system

Schedule of Topics

WEEK 1.

Session 1: Introduction to the course, the gross anatomy lab and dissection methods

Session 2: Each group discusses their project topic, the rationale for that topic and its potential clinical application.

WEEK 2

Session 3: Each group presents the results of their preliminary literature review.

Session 4: Finalizing the method for the measurements, landmarks from which to make

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the measurements, how to make the measurements and the dissection approach.

WEEK 3

Session 5: Dissection & collection of data

Session 6: Dissection & collection of data

WEEK 4

Session 7: Dissection & collection of data

Session 8: Dissection & collection of data

WEEK 5

Session 9: Dissection & collection of data

Session 10: : Dissection & collection of data

WEEK 6

Session 11: Dissection & collection of data

Session 12: Dissection & collection of data

WEEK 7

Session 13: Dissection & collection of data

Session 14: Dissection & collection of data

WEEK 8

Session 15: Dissection & collection of data

Session 16: Dissection & collection of data

WEEK 9

Session 17: Dissection & collection of data

Session 18: Dissection & collection of data

WEEK 10

Session 17: Dissection & collection of data

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Session 18: Dissection & collection of data

WEEK 11

Session 20: Statistical analysis of collected data for the research project

WEEK 12

Session 21: Research paper, poster and PowerPoint

preparation
Session 22: Research paper, poster and

PowerPoint preparation

WEEK 13

Session 23: Presentation / Seminar
Session

24: Presentation / Seminar

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Assessments of Learning

Assessment is based on attendance, performance in dissecting human specimens, final report (academic research paper) and oral presentation /seminar.

Grading scheme

Gross Anatomy Laboratory Performance*	45%
Final Report / research paper**	30%
Presentation / Seminar***	25%

*Grading Rubrics (GAL Performance)

Category	Outstanding	Meets minimum Standards	Below Required Standards	Incomplete	Score
Preparation	7 <ul style="list-style-type: none"> States the detailed anatomy of the area to be dissected Follows all guidelines of the Gross Anatomy Lab (GAL) usage Has all proper dissection and recording tools Has prepared the cadaver professionally 	3 <ul style="list-style-type: none"> Has good knowledge of the anatomy of the area to be dissected Follows most important guidelines of the the Gross Anatomy Lab (GAL) usage Has gathered essential dissection and recording tools Has prepared the cadaver professionally 	1 <ul style="list-style-type: none"> Knows a few key features of the anatomy of the area to be dissected Knows the guidelines of the the Gross Anatomy Lab (GAL) usage Has identified essential dissection and recording tools but fails to collect them all Cadaver preparation is suboptimal 	0	7
	10	5	2	0	10

Dissection Skills	<ul style="list-style-type: none"> A proper and accurate application of the dissection tools and methods 	<ul style="list-style-type: none"> A clear and accurate understanding of the dissection tools and methods but not applying them properly 	<ul style="list-style-type: none"> Methods and usage of tools are stated but are not clear, inaccurate or both 		
	20	10	5	0	20
Findings	<ul style="list-style-type: none"> Has dissected / identified all anatomical structures / features required for the research project 	<ul style="list-style-type: none"> Has dissected / identified most of the anatomical structures / features required for the research project 	<ul style="list-style-type: none"> Has dissected / identified a few anatomical structures / features required for the research project 		
	5	3	1	0	5
Recording Data	<ul style="list-style-type: none"> Has identified all the required data Used proper recording tools 	<ul style="list-style-type: none"> Has identified and most of the required data Used proper recording tools 	<ul style="list-style-type: none"> Has identified and recorded a few of the required data but not sufficiently or properly or both 		
	3	2	1	0	3
Cleanup	<ul style="list-style-type: none"> Has cleaned up the work station according to GAL regulations 	<ul style="list-style-type: none"> Satisfactory cleanup of the work station 	<ul style="list-style-type: none"> Suboptimal cleanup of the work station 		

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****Grading Rubrics (Final Report)**

Category	Outstanding	Meets Standards	Below Required Standards	Inc.	Score
Introduction	5	3	1	0	5

	<ul style="list-style-type: none"> States the main topic of the research project Previews the structure of the research project 	<ul style="list-style-type: none"> States the main topic of the research project Provides an incomplete preview of the structure of the research project 	<ul style="list-style-type: none"> An unfocused introduction with incomplete preview of the structure of the research project 		
Experimental Approach & Results	20	10	5	0	20
	<ul style="list-style-type: none"> A clear, concise and accurate description of the methods and discussion of the results 	<ul style="list-style-type: none"> An accurate description of the methods and inadequate discussion of results 	<ul style="list-style-type: none"> Methods and results are stated but are not clear, accurate or neither 		
Clinical Significance	5	3	1	0	5
	<ul style="list-style-type: none"> Engaging, thought provoking, clear and concise statement about the clinical significance of the research 	<ul style="list-style-type: none"> A clear and concise statement about significance of the research 	<ul style="list-style-type: none"> Statement about significance of research is unclear or inaccurate 		

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***Grading Rubrics (Presentation / Seminar)

Category	Outstanding	Meets Standards	Below Required Standards	Inc	Score
Introduction	4 <ul style="list-style-type: none">Engaging and thought provokingStates the main topic of the seminarPreviews the structure of the seminarProvides a clear & concise description of the research questions presented in the seminar	2 <ul style="list-style-type: none">States the main topic of the seminar, provides an incomplete preview of the structure of the seminar and the research questions or both	1 <ul style="list-style-type: none">An unfocused introduction with incomplete preview of seminar structure, research questions or both	0	4
	5	3	1	0	5

Experimental Approach & Results	<ul style="list-style-type: none"> A clear, concise and accurate description of the methods and explanation of the results 	<ul style="list-style-type: none"> A clear and accurate description of the methods and results 	<ul style="list-style-type: none"> Methods and results are stated but are not clear, inaccurate or both 		
Clinical Significance	3 <ul style="list-style-type: none"> Engaging, thought provoking, clear and concise statement about the clinical significance of the research 	2 <ul style="list-style-type: none"> A clear and concise statement about the clinical significance of the research 	1 <ul style="list-style-type: none"> Statement about the clinical significance of research is unclear or inaccurate 	0	3
New Questions	3 <ul style="list-style-type: none"> Two clear and concise questions based on the findings presented by the seminar and those garnered outside the seminar 	2 <ul style="list-style-type: none"> Two questions based on the findings presented by the seminar speaker 	1 <p>A single question related to the seminar topic</p>	0	3
Poster / PowerPoint Presentation / Article	5 <ul style="list-style-type: none"> Produced a proper article and followed all scientific criteria Produced a clear Power Point Presentation for the seminar Produced / printed a research poster 	3 <ul style="list-style-type: none"> Produced an article based on scientific criteria Produced a clear Power Point Presentation for the class. 	1 <ul style="list-style-type: none"> Produced an article and followed most of the scientific criteria 		5

University Policies

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values

academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available at [the Policies and Resources section of the UBC Senate website.](#)

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about

what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President’s Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University’s policies and procedures, may be found in the [Discipline for Academic Misconduct](#) section of the UBC Academic Calendar.

- No assignment may be submitted to any other instructor of any course for a grade.
- The minimum penalty for plagiarism in any assignment is a zero for the assignment; the maximum penalty is a zero for the course.

UBC Grading Standards

Undergraduate Grading Scale

Percentage (%)	Letter Grade
90-100	A+
85-89	A
80-84	A-
76-79	B+
72-75	B
68-71	B-
64-67	C+
60-63	C
55-59	C-
50-54	D
0-49	F

Copyright

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

Students are NOT allowed to record the lectures unless with a prior permission from the course director.
