

## CAPS 430 Course Syllabus

**Welcome to CAPS 430, a 6 credit lab series for Honours students in Cellular and Physiological Sciences. This is a team-taught course with each faculty member teaching in their area of expertise. At the end of this course, you will have a technical understanding of representative wet and dry lab approaches that are common to many biomedical fields, from human physiology to cell biology, model system assays of human disease gene variants, and bioinformatics. Due to our inability to perform in-lab, bench work this year, all labs will be provided online. We provide a blend of labs that utilize online teaching resources, recordings of TAs performing the laboratory, and have increased our emphasis on group presentations as well as bioinformatics approaches to lab science - which has become a critical methodology for all clinical and biomedical fields.**

**Labs are offered online Fridays 10am - 4pm PST throughout both terms.**  
Course material and communications are all accessible through the UBC Canvas LMS.

**Please contact the course directors if you anticipate or experience any problems with software used in labs, or in accessing online content, or with synchronous online lab attendance. We will strive to work with you to complete the lab course, even if you encounter software / connectivity issues.**

### **Course Directors:**

Dr. Douglas Allan	doug.allan@ubc.ca
Dr. Christina Hull	christina.hull@ubc.ca

### **Instructors:**

Dr. Sally Osborne	sally.osborne@ubc.ca
Dr. Christopher Loewen	christopher.loewen@ubc.ca
Dr. Mark Cembrowski	mark.cembrowski@ubc.ca
Dr. Barry Mason	barry.mason@ubc.ca
Dr. Elizabeth Rideout	rideoute@mail.ubc.ca
Dr. Dan Luciani	dluciani@bcchr.ca
Dr. Barry Young	byoung@mail.ubc.ca

### **Teaching Assistants:**

Mo Miao, Peter Overby, Seevasant Indran, Kaitlin Sullivan, Daniel Pasula, Puja Biswas, Chien Chao (contactable via Canvas)

## **Assessment, Evaluation & Grading**

Distribution of Marks for each lab, or lab series

<b>Pre-Lab Quiz</b>	<b>20%</b>
<b>Lab report</b>	<b>80%</b>
<b>Total Mark</b>	<b>100%</b>

### **Pre-lab quizzes: (20%).**

Available on Canvas at 5pm 1 week prior to the lab, and closing 1hr prior to the lab. **Failure to complete a pre-lab quiz during the scheduled window will result in a mark of zero.**

Students will have 60 mins to answer a set of questions (a mix of multiple choice, True/False, short answer), to assess a general understanding of the lab material. All lab material to be reviewed for the pre-lab quiz will be clearly outlined by the lab instructor.

### **Labs:**

All labs will be held synchronously using Collaborate Ultra - and recorded for review up to the lab report deadline. All students should log into the lab 10 minutes prior to lab start time in order for us to record attendance and troubleshoot any connectivity issues. Labs will necessarily vary in their content and approach. Therefore, explicit instruction for how each lab will be run will be provided in each lab manual. This may include preview videos to watch, pre-lab software download and testing, live demonstrations, LT online labs. In labs, we will utilize breakout rooms for group work. The chat function can be used to communicate with your instructors and TAs.

### **Lab Reports:**

Typically, you will be given one week post-lab to complete a lab report and submit it to the relevant assignments page in Canvas. However, each lab may have unique instructions and deadlines. Request for concessions on deadlines at the earliest possible date.

### **Academic Concession:**

All pre-lab quizzes, labs and lab reports are mandatory. Concessions are detailed below. Students will not be granted concession for conflicting responsibilities. Students must resolve such conflicting responsibilities in advance of the lab or assignment. In the case of requiring a concession for valid medical, changing personal responsibilities or compassionate grounds, the student must communicate with course directors to determine a suitable course of action, in collaboration with lab instructors.

### **General missed assignment policy:**

For your final course grade, we will automatically drop the lowest mark you received for a quiz or lab report. This will provide an automatic concession for a missed quiz or lab report, for which you would have received a mark of zero. In the event you miss a quiz or synchronous lab within a lab series (that has one quiz, two labs and one report), you may be provided an extension on the quiz but will be required to complete the report. Any additional concessions for a lab series must be approved in advance with course directors.

**Missed Pre-Lab Quiz.**

All pre-lab quizzes are mandatory. Your lowest pre-lab quiz mark will not count to your final grade - to account for any concession to a quiz in which you would have received a grade of zero. Any additional concessions are not guaranteed and must be approved with course directors and lab instructors ahead of time.

**Missed Labs.**

All students are required to attend all labs. If you miss a class, or experience connectivity issues, you may request access to the lecture recording. Please communicate with us if you anticipate or experience problems. All labs will be available online for viewing up to the lab report deadline. Any concessions are not guaranteed and must be approved with course directors and lab instructors ahead of time.

**Missed Lab Reports.**

All lab reports are mandatory. Your lowest lab report mark will not count to your final grade - to account for any concession to a lab report in which you would have received a grade of zero. Any additional concessions are not guaranteed and must be approved with course directors and lab instructors ahead of time.

**TERM 1 - all classes synchronous - Collaborate Ultra (10-4pm)**

Sept 18	General Introductions (Allan, Hull. TA: Miao).
Sept 25	Bioinformatics (Allan, Loewen. TA: Miao)
Oct 2	Human Electrocardiogram (Hull)
Oct 9	Human Respiratory (Osborne. TA: Overby)
Oct 16	Human Cardiovascular/Respiratory and Exercise (Hull, TA: Overby)
Oct 30	pH lab series 1 (Loewen, Young. TA: Indran)
Nov 6	pH lab series 2 (Loewen, Young. TA: Indran)
Nov 13	R workshop series 1 (Cembrowski. TA: Sullivan)
Nov 20	R workshop series 2 (Cembrowski. TA: Sullivan)
Nov 27	Research Design series 1 (Allan, Loewen. TA: Miao)

## **TERM 2 - all classes synchronous - Zoom (10-4pm)**

Jan 8	Research Design series 2 (Allan, Loewen, Hull. TA: Miao)
Jan 15	Neuroscience series 1 (Mason, Hull)
Jan 22	Neuroscience series 2 (Mason, Hull)
Jan 29	Human Endocrinology (Hull, TA: Overby)
Feb 5	Calcium Imaging (Luciani. TA: Pasula)
Feb 12	Lipid Metabolism (Rideout. TA: Biwas or Chao)
Feb 19	MIDTERM BREAK
Feb 26	Human disease variant series 1: Human variant and disease informatics (Allan, Loewen, Hull. TA: Miao, Indran)
Mar 5	Human disease variant series 2: Engineering gene variants (Allan, Hull. TA: Miao)
Mar 12	Human disease variant series 3: Variant functionalization in model systems (Allan, Loewen. Young, Hull. TA: Miao, Indran)
Mar 26	Human disease variant series 4: Databash. Student group presentations (Allan, Loewen, Young, Hull. TA: Miao, Indran)

### **UBC Statement of 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.

**The information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.**