

LAND 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 their culture, history, and traditions from one generation to the next on this site.

COURSE INFORMATION

Course Title	Course Code Number	Credit Value
Advanced Techniques in Biochemistry	BIOC 460	3

PREREQUISITES

One of BIOC 303, BIOT 380, and all of BIOC 402, BIOC 410

COREQUISITES

None

COURSE LOCATION AND TIME

Time (Day(s), Hour)	Room
TUE, THU 9:30 – 11:00	Biological Sciences, 1001

COURSE CHAIR

Course Chair	Contact Details
Dr. Sheila Teves (Pronouns: she/her/hers)	sheila.teves@ubc.ca

COURSE INSTRUCTOR(S)

Course Instructor(s)	Contact Details	Office Location	Office Hours
Dr. Leonard Foster (Pronouns: he/him/his)	foster@msl.ubc.ca	NCE 416	By appointment



Dr. Sriram Subramaniam Pronouns: he/him/his)	sriram.subramaniam@ubc.ca	CBH 3404	By appointment
Dr. Christopher Overall Pronouns: he/him/his)	chris.overall@ubc.ca	LSI 4401	By appointment
Dr. Alice Mui (Pronouns: she/her/hers)	alice.mui@ubc.ca	Jack Bell Research Center	By appointment
Dr. Shoukat Dedhar Pronouns: he/him/his)	sdedhar@ubc.ca	BCCRC	By appointment

LEARNING OUTCOMES

The goals are to learn about cutting edge techniques in biochemical research, acquire advanced ability to read primary research articles, and assess the validity and impact of data. It is composed of three sections:

1. Imaging technologies - Sheila Teves and Sriram Subramaniam
2. Proteomics and mass spectrometry - Christopher Overall and Leonard Foster
3. Signalling – Alice Mui and Shoukat Dedhar

This is not a lecture course. The instructor provides a short introduction to the topic. Recent research papers are selected by the instructors, and students present and discuss the papers in class.

COURSE OUTLINE

1. At the beginning of each section, the instructors will introduce and present major concepts in the field.
2. At the beginning of each section, students will be randomly organized into groups of 2 students. Each group will be assigned one research article, for which they will be responsible for presenting the main findings to the class, and leading the discussion regarding that paper.
3. The assigned list of papers will be made available to all students at least a week before each section begins.



COURSE SCHEDULE

Date	Instructor	Assigned papers	Presenters
Jan 10	Teves		Teves
Jan 12	Foster		Foster
Jan 17	Teves		
Jan 19	Teves		
Jan 24	Teves		
Jan 26	Foster		
Jan 31	Foster		
Feb 3	Foster		
Feb 2	Subramaniam		
Feb 7	Subramaniam		
Feb 9	Subramaniam		
Feb 14	Subramaniam		
Feb 21		READING WEEK – NO CLASSES	
Feb 23		READING WEEK – NO CLASSES	
Feb 23	Overall		
Feb 28	Overall		
Mar 2	Overall		
Mar 7	Overall		
Mar 9	Mui		
Mar 14	Mui		
Mar 16	Mui		
Mar 21	Mui		
Mar 23	Dedhar		
Mar 28	Dedhar		
Mar 30	Dedhar		
Apr 4	Dedhar		
Apr 6			
Apr 11			
Apr 13			

COURSE MATERIALS

There is no textbook for the course. All course material will be posted throughout the term via Canvas.



GRADING SCHEME

Assignment	Grade Weight
Presentation	50 %
Class Participation	50 %

GRADING AND COURSE POLICY

Grading for presentations and class participations will follow the rubrics outlined below. There are no midterms or final exams for the course.

However, if you are ill or experiencing COVID-19 related symptoms or if you have been exposed to someone with COVID-19 symptoms, please stay at home and do not come into class.

If you need to be absent from class due to exposure or mild symptoms (cough, sore throat, headache, etc) and you are NOT scheduled to present, you are expected to 'zoom' into class by requesting a zoom link from the professor. You will also be required to submit at least one question to be asked of the presenters ahead of the presentation (deadline by 9 AM of the scheduled class day). Failure to attend class by zoom (if experiencing symptoms) and submit a question at the deadline will result in deduction in participation marks.

If you need to be absent from class due to exposure or mild symptoms (cough, sore throat, headache, etc) AND you are scheduled to present, you are expected to deliver your presentation by zoom. Alternatively, you will deliver your presentation at a later date to the professors alone in an oral exam format.

If you are suffering from severe COVID-19 symptoms (difficulty breathing, severe fatigue, loss of speech or mobility), and you are NOT scheduled to present, you can submit a writing assignment to make up for lost marks.

If you are suffering from severe COVID-19 symptoms (difficulty breathing, severe fatigue, loss of speech or mobility), AND you are scheduled to present, you will deliver your presentation at a later date to the professors alone in an oral exam format.

If the instructor is sick: We will all do our best to stay well, but if one of the instructors falls ill then they will not come to class. If that happens, all efforts will be made to communicate that to students in a timely manner prior to class time, usually via an announcement in Canvas. Depending on the situation a substitute lecturer will take over, the lecture may take place over zoom, or the class may be cancelled.

ACADEMIC MISCONDUCT

UBC and the Department of Biochemistry and Molecular Biology take the issue of academic misconduct very seriously; the honest assessment of student learning is key to both the success of the university and success for individual students. Cheating, in any form, undermines the value of a degree and can have serious consequences for your continued academic success. As such it is important to know what your



responsibilities are, what constitutes misconduct and how you can avoid it. With some effort and forethought no student should ever have to find themselves facing discipline for academic misconduct; inform yourself as to the expectations placed on you and what your responsibilities are. UBC definition of academic misconduct can be found in the [UBC Calendar](#) and additional information is available in this [UBC resource link](#).

What consequences can arise from academic misconduct?

The severity of the discipline can range from a letter of reprimand or a zero on the assignment in question all the way to expulsion from the University. Perhaps the most common outcome in these cases are grades of zero in the course in which the misconduct occurred.

EQUITY DIVERSITY AND INCLUSION (EDI) POLICIES

It is our goal that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and diversity that the students bring to this class be viewed as a resource, strength and benefit. We make a commitment to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. We will foster a climate within the classroom where students of diverse backgrounds and identities feel comfortable sharing their opinions and experience with varied topics throughout the class. We (like many people) are learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable or if you observe a situation where someone else is made to feel uncomfortable, please talk to us about it. This includes concerns about any class-related interactions that lead to feelings of exclusion or marginalization. We welcome and encourage your feedback on how we can better cultivate a sense of inclusion in our course. This can be done through meetings, email or anonymous feedback through canvas. We aim to do our best to address each situation as it arises and effect meaningful changes moving forward. For more information visit our [departmental EDI webpage](#).

STUDENT RESOURCES

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 on [the UBC Senate website](#).

Mental Health Resources

In case you are struggling with mental health, or are feeling stressed or anxious, [UBC Counselling services](#) provides information about a number of resources for students to use. Additionally, UBC students receive [mental health coverage of up to \\$1500](#) under the AMS Health & Dental Plan (more information about coverage [here](#)).



Here2Talk is available for BC post-secondary students to talk with trained counsellors 24/7 (via voice call or text messages). If you are a student living in UBC residence, Counsellors in Residence can also be a valuable resource to provide mental health support. If you have a UBC email address, Therapy Assistance Online (TAO) is a free online resource that provides tools to manage stress, relationship problems, substance use, etc.

COVID RELATED POLICIES

For UBC's latest response to COVID-19, please visit covid19.ubc.ca. For our in-person meetings in this class, it is important that all of us feel as comfortable as possible engaging in class activities while sharing an indoor space. Non-medical masks that cover our noses and mouths are a primary tool to make it harder for COVID-19 to find a new host. The higher the rate of vaccination is in our community overall, the lower the chance of spreading this virus. You are an important part of the UBC community. Please arrange to get vaccinated if you have not already done so. **If you're sick, it's important that you stay home – no matter what you think you may be sick with (e.g., cold, flu, other).**

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**Presentation grading rubric**

MARK (%)	PRESENTATION RUBRIC
90-100	Very engaged presenter. The oral presentation, visual aids and answers to questions reflect a high level of attention, preparation and understanding of the paper. Has carefully read the paper being presented as well as additional relevant experimental methods or review papers. Provides a critical assessment of the primary data and clearly understands and communicates the impact of the paper. The presentation shows not only material from the paper being presented but also additional material to clarify, extend or deepen the presentation. The presentation reflects effective teamwork. The presentation is clear, logical, complete and delivered in a dynamic manner and is delivered within the allocated time.
80-89	Engaged presenter. The oral presentation, visual aids and answers to questions reflect a solid level of attention, preparation and understanding of the topic. Has carefully read the paper being presented as well as additional relevant experimental methods or review papers. Clearly understands and communicates the impact of the paper. The presentation shows not only material from the paper being presented but also additional material to clarify the presentation. The presentation reflects effective teamwork. The presentation is clear, logical, and complete and is delivered within the allocated time.
70-79	Average presenter. The oral presentation, visual aids and answers to questions reflect an adequate level of attention, preparation and understanding of the topic. Has carefully read the paper being presented but has not read additional relevant experimental methods or review papers. The impact of the paper is described, but not well supported. The presentation shows material from the paper being presented but little if any relevant additional material. The presentation reflects adequate teamwork. The presentation is not always clear, logical, complete or is not delivered within the time allocated.
69 and below	Poor presenter: The oral presentation, visual aids and answers to questions reflect a minimal level of attention, preparation and understanding of the topic. Has read the paper being presented but has not read additional relevant experimental methods or review papers. The presentation shows material from the paper being presented but no relevant additional material. The presentation reflects ineffective teamwork. The presentation is not clear, logical, or complete and is not delivered within the time allocated.

**Participation grading rubric**

MARK (%)	PRESENTATION RUBRIC
90-100	Very engaged participation. Student contributes questions and comments in all classes. The questions and comments are insightful and reflect a high level of attention and preparation. Has carefully read all papers being presented by others and has often read additional relevant materials such as review and methods papers. The questions and comments consistently add to, extend or deepen the discussion. Completes all in-class assignments, arrives at class on time and does not miss classes.
80-89	Engaged participation. Student contributes questions and comments in all classes. The questions and comments are often insightful and reflect a solid level of preparation. Has carefully read all papers being presented by others and has sometimes read additional relevant materials such as review and methods papers. The questions and comments consistently add to the discussion and often deepen or extend it. Completes all in-class assignments, arrives at class on time and does not miss classes.
70-79	Average participation. Student contributes questions and comments in most classes. The questions and comments are seldom insightful and reflect only an adequate level of preparation. The questions and contributions occasionally add to, deepen or extend the discussion. Has read all papers being presented by others but only superficially. Completes all in-class assignments, occasionally comes to class unprepared or late.
69 and below	Poor participation. Student contributes questions and comments in few classes. The questions and comments are not insightful and reflect an inadequate level of preparation. The questions and comments rarely add to the discussion. The student has read few of the papers being presented by others. Does not complete all written in-class assignments, often comes to class unprepared, or late, or is absent.