

**LAND ACKNOWLEDGEMENT**

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (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
Concepts in Molecular Biology	BIOC 440	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	LSC 1510

COURSE CHAIR

Course Chair	Contact Details
LeAnn Howe (Pronouns: she/her/hers)	leann.howe@ubc.ca

COURSE INSTRUCTOR(S)

Course Instructor(s)	Contact Details	Office Location	Office Hours
LeAnn Howe (Pronouns: she/her/hers)	leann.howe@ubc.ca	LSC 5509	By appointment



Ivan Sadowski (Pronouns: he/him/his)	sadowski@ubc.ca	LSC 5508	By appointment
Eric Jan (Pronouns: he/him/his)	eric.jan@ubc.ca	LSC 5457	By appointment

LEARNING OUTCOMES

1. An understanding of emerging concepts and techniques in molecular biology.
2. Improved skills in interpreting, critiquing, and presenting primary literature.

COURSE OUTLINE

The course is divided into three sections. Each section will consist of:

1. Two lectures
2. Six assigned research articles. Depending on enrollment, some articles may be presented by students and followed by student-led in-class discussion, while others may be discussed in class without a presentation.

COURSE SCHEDULE

Course Introduction: Jan. 10

Section 1: 3D Genome Architecture (Dr. LeAnn Howe)

Lectures: Jan. 12, 17

Research article discussions: Jan. 19, 24, 26, 21, Feb. 2, 7

Section 2: DNA Repair (Dr. Ivan Sadowski)

Lecture: Feb. 9, 14

Research article discussions: Feb. 16, 28, Mar. 2, 7, 9, 14

Section 3: RNA Modifications/Editing (Dr. Eric Jan)

Lecture: Mar. 16, 21

Research article discussions: Mar. 23, 28, 30, Apr. 4, 6, 11

COURSE MATERIALS



Course information, including lecture slides and papers, will be posted on Canvas. This course does not use a textbook.

GRADING SCHEME

Assignment	Grade Weight
First oral presentation	30%
Second oral presentation	30%
Participation in class discussions	40%

GRADING AND COURSE POLICY

Oral presentations: Each student, together with a randomly assigned partner, will give two, 30-minute oral presentations of assigned papers and lead a subsequent discussion on the papers' impact, strengths and weaknesses. Two-thirds of the presentation grade will be based on individual performance and one-third of the presentation grade will be based on the group's performance.

Participation in class discussions: Students not presenting are expected to attend and to have read the presented articles in sufficient detail to participate in discussions. Students are expected to participate in every class and part of the participation grade will be based on regular participation. The remainder of the participation grade will be based on the quality of the contribution to the discussion. In awarding marks for quality, we are looking for evidence that students have carefully read and thought about the papers.

If you are ill, please do not attend class. If you miss an oral presentation due to illness, your presentation will be conducted by Zoom if possible or rescheduled for a later date. If you do miss a discussion class due to illness, missed marks can be made up by completing an assignment.

If the instructor is sick: We will all do our best to stay well, but if one of the instructors falls ill, 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. The 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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