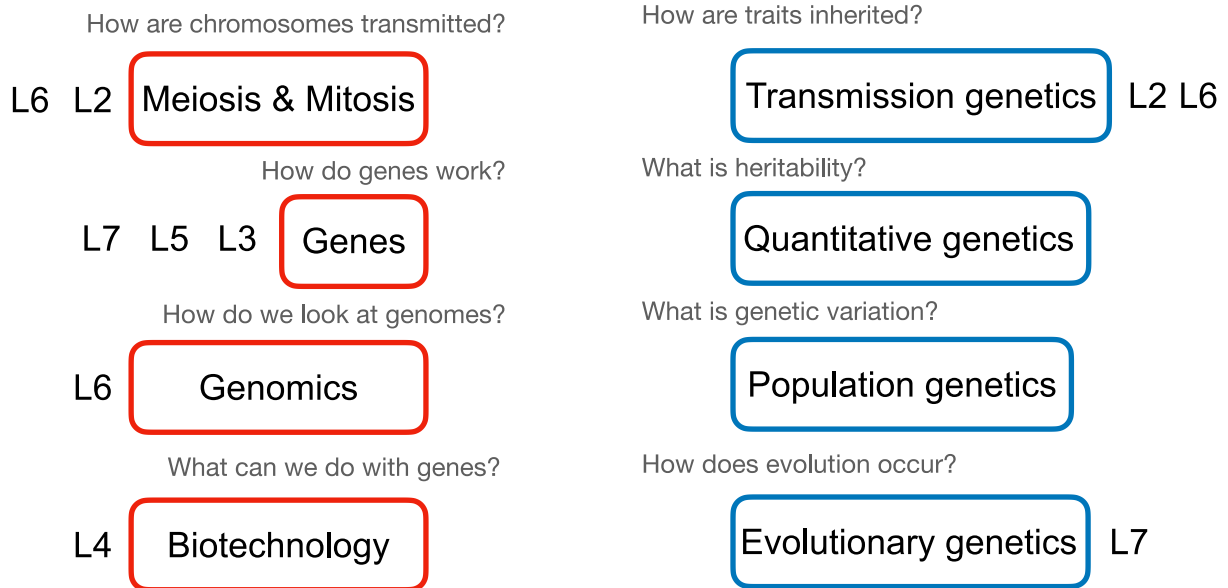


Principles of Genetics – BIOL 230 – A01
Course Outline, Spring 2023

General Course Information

Welcome! A fundamental truth in the world is that offspring look like their parents but are not perfect copies. Why is this the case? This course explores how traits are inherited, focusing on the quantitative and molecular basis of inheritance. We'll learn about genomes, genes and how they make us who we are. The course will be taught synchronously and 'face-to-face' and will be complemented by a lab section.

Topics



Lecture Contact Hours & Delivery of Course Materials

Tuesday, Wednesday & Friday @ Bob Wright Centre B150
10:30am-11:20am

NOTE: *Enrolment/attendance in a laboratory section is mandatory*

Prerequisite: BIOL225

Pre- or corequisite: CHEM231

If in doubt, contact grego@uvic.ca.

Instructors:

Dr. Greg Owens (grego@uvic.ca)

Dr. Lan Tran (biologylabs@uvic.ca)

About the Instructors

This course is co-taught by Dr. Greg Owens (Lectures and Course Coordination), and Dr. Lan Tran (Senior Lab Instructor). Greg is a Vancouver local who did his undergrad education at UVic in the old days. He returned to UVic in 2020 and has been researching evolutionary genomics in a variety of systems. Greg keeps shrimp in his office aquarium. Lan is a local and is a plant biologist with research interests in how plants produce natural chemicals and pollinator interactions. She previously studied at UVic and at UBC. You can find out more about the instructors under 'Course Information' on Brightspace.

Assessment

You will have the opportunity to demonstrate your progress and proficiency through various forms of evaluation, including:

Lecture Component (60%)

Weekly quizzes (8 out of 10 quizzes)	8%
Lecture midterm exam	20%
Lecture final exam	32%

Laboratory Component (40%)

My Gene project (presentation and final tree write-up; course requirement)	10%
Participation (in-lab and TopHat questions)	5%
Assignments	15%
Lab exam (course requirement)	10%

To pass the course, students must:

- 1) Write the final **lecture** exam
- 2) Meet the minimum **lab** attendance requirement (attend at least 6 of the 8 labs)
- 3) Complete the **lab** My Gene **project**
- 4) Write the **lab** exam
- 5) Score a grade of 20, or greater, points out of a possible 40 (50%) in the **Laboratory** component
- 6) Score a grade of 50.0 points, or greater, combined across **Lecture** and **Laboratory** components

If any of 1 through 4 are not completed, the student will automatically fail the course and receive an "N" ('Incomplete') on their transcript. If a student successfully completes 1 through 4, but is not successful in either 5 or 6, they will receive an "F" on their transcript.

Weekly Quizzes

Each week you will have a quiz on the material from the previous week worth 0.5%. Quizzes will be 2-5 questions, multiple-choice, open book on Brightspace and **must be completed individually**. Quizzes may be started anytime from Friday at 5 pm to the following Monday at Noon. Once started you will have one hour (60 minutes) to complete the quiz, although we do not expect it to take the full hour. **At the end of the semester, the lowest two quiz marks will be dropped from your record.** Consequently, we will not be allowing deferred quizzes. If you have a long-term issue that forces you to miss more than two quizzes, please contact the course coordinator (grego@uvic.ca).

Writing Tests and Exams in Biology 230

All lecture tests and exams will be administered online using Brightspace. These assessments will be open book and must be written individually, using a student's own mobile device or home computer, or on computer on campus (a limited number will be reserved for this purpose). The lecture midterm is on February 8th during the scheduled lecture timeslot (10:30 am to 11:20 pm). Deferred tests are scheduled for the Saturday following the original date (Feb 11th), at 9:00am, but be sure to contact the course coordinator (grego@uvic.ca) in advance. **As an open book exam, you are allowed to use your notes, the lectures or the internet. You are not allowed to communicate with others, or use AI software in the exam.**

Required Materials and Technology

1. The Brightspace (BRS) course website: <https://bright.uvic.ca/d2l/home/265794> will serve as the primary means of sharing learning resources, so please check this page regularly for important information and announcements.
2. Suggested textbook: - 'Genetics Analysis and Principles' by Robert J. Brooker, 7th (2021) edition, McGraw- Hill Ed. It is available through the UVic Bookstore. The textbook is not required but can supplement your learning. Previous editions of the textbook are largely the same, but we cannot guarantee that they will cover all of the material in the course.
3. Lecture materials: live lectures will be recorded and will be posted on Brightspace along with electronic (.pdf) versions of the lecture slides. **Do not distributed lecture slides onto the internet.**
4. Lab materials: You are required to have a lab coat which can be purchased from the UVic bookstore. You also require subscription to TopHat to access the lab manual.
5. In case instructors have to deliver lectures remotely via Zoom, be sure to login first using your UVic Single Sign On (SSO) and then use the link provided by the instructor in BRS:
. You can install Zoom using this link:
<https://www.uvic.ca/systems/support/avmultimedia/zoomvideoconferencing/installzoom.php>

Additional inquiries and contact/office hours

Lecture content: Office hours are from 12 to 1 pm on Fridays in Cunningham 040b. Please wear a mask when attending office hours.

Laboratory content: Office hours will be posted on Brightspace. Inquiries about lab registration should be emailed to biology.reghelp@uvic.ca. Lab absences and non-registration inquiries should be emailed to biologylabs@uvic.ca.

Administrative questions: If you have any administrative related questions, please post your question on Brightspace under 'Administrative Q & A forum'. Those could be questions like 'When do we write quiz 1?' (Hint: often you find the answers to those question in the course outline or on Brightspace)

Scientific questions: if you have any topic related question, please post your question on Brightspace under 'Scientific Q & A forum'. Those could be questions like 'Does the *lacI* gene belong to the lac operon?' This is a great study tool before quizzes/exams!

Lab-specific questions: if you have any questions related to the laboratory content, please post your question on Brightspace under 'Lab Q & A forum'.

Please include "BIOL 230" in the subject line of all e-mail correspondence
We try to get back to you within 48h

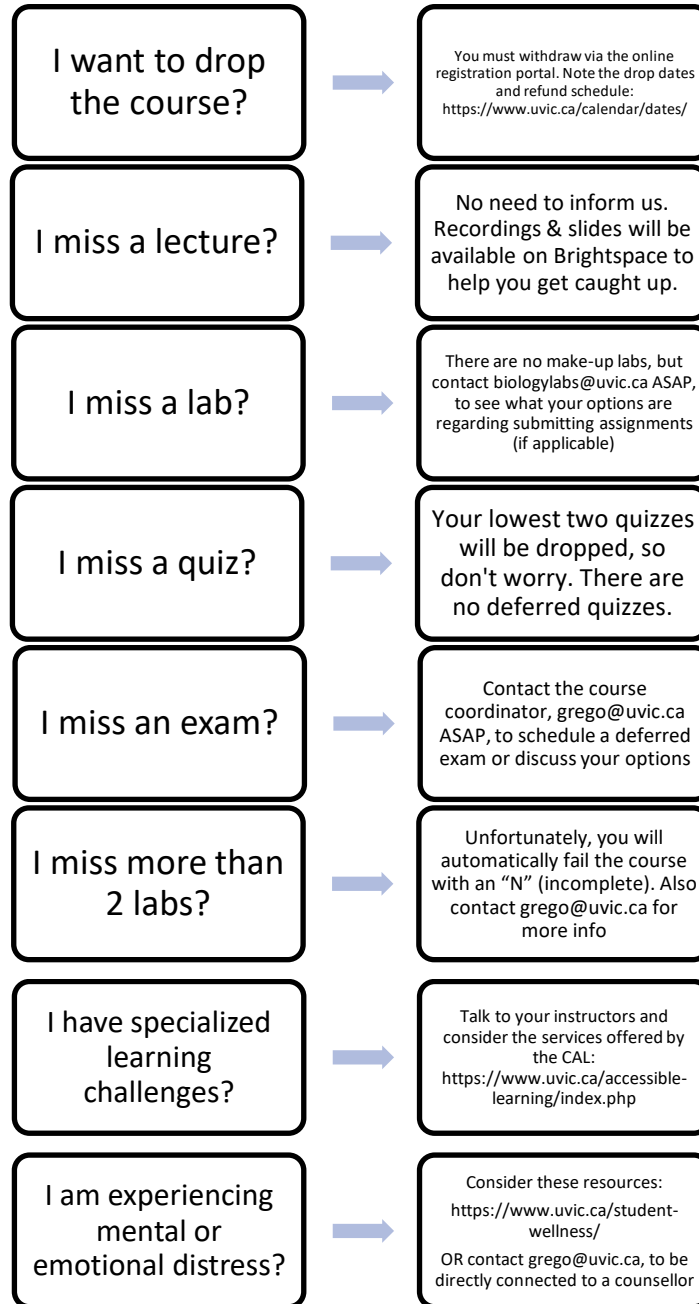
Important dates (check your lab manual for assignment due dates)

- Jan 10th Introduction of the course and the team
- Jan 13-16th first weekly participation quiz on Brightspace
- Jan 22rd Last day for 100% reduction of second term fees
- Jan 25th Last day for adding courses that begin in the second. term
- Feb 8th Midterm online during class time (Remember: no quiz this week)
- Feb 11th Deferred midterm online at 9 am
- Feb 12th Last day for 50% reduction of tuition fees for standard courses
- Feb 20-24th reading week, no lectures, no labs
- Apr 5th Last class for biol230

Frequently Asked Questions

Detailed policies are outlined in this syllabus, as well as the lab manual—please read those carefully. For ease, a selection of questions and answers are depicted in the graphic, below.

What happens if...



Tentative lectures schedule:

1. Introduction,
2. Mendelian inheritance
3. Mitosis and meiosis
4. Transcription
5. Translation
6. Gene expression
7. Biotechnology
8. Genomics
9. Genetic Mapping
10. Extension of Mendelian inheritance
11. Population genetics
12. Quantitative genetics
13. Evolutionary genetics

Lab Manual

This semester, we will be using the Top Hat digital learning platform which hosts this semester's **Biology 230 Genetics Laboratory Manual**. To gain access to your Top Hat course, where the Ebook will be located, click on this link: <https://app-ca.tophat.com/e/>. Your unique course code is: **048703**.

If you have a pre-existing Top Hat account, log-in with your credentials. If you are new to Top Hat and do not have an account, we have a great orientation video created just for you: <https://success.tophat.com/s/article/Student-Getting-Started-with-Top-Hat>. Please register with your **UVIC** email. You will find information on how to purchase your Top Hat Subscription, Manage your account settings, and learn more about Top Hat's IOS and Android App. Upon checkout, you will be prompted to pay with a credit card. If you have purchased the Top Hat Access Key directly from your bookstore, click on "redeem access code" to proceed to put in the 13-digit code. Don't worry if you don't see any content in the course right away, I will make it available to you as we progress through the semester. You should now have access to Top Hat Ebook!

As a note, if you are using a computer or laptop, Google Chrome or Firefox are the recommended browsers. If you are using a smartphone, you will need to download the Top Hat app from the IOS or Android App store. If you are using a tablet, it is recommended that you use the Google Chrome browser to access Top Hat, and not the app.

If you have any issues, please contact Top Hat's Support Team directly at support@tophat.com. Response times can take up to 24 hours. For faster response, you can chat with support at <https://success.tophat.com/s/contact-main>.

In order to get the best help please provide:

- Email you have used to register or will use to register
- Top Hat Course Link
- Top Hat Join Code
- Detailed Explanation of your issue with screenshots

How do we connect?

- Brightspace will be used to post lecture slides, pre-recorded lectures, assignments, Q&A forums, quizzes, announcements and more...
- *Administrative questions:* If you have any administrative related questions, please post your question on Brightspace under 'Administrative Q & A forum'. Those could be questions like 'When do we write quiz 1?' (Hint: often you find the answers to those question in the course outline or on Brightspace)
- *Scientific questions:* if you have any topic related question, please post your question on Brightspace under 'Scientific Q & A forum'. Those could be question like 'Does the *lacI* gene belong to the lac operon?' This is a great study tool before quizzes/exams!
- *Lab-specific questions:* if you have any questions related to the laboratory content, please post your question on Brightspace under 'Lab Q & A forum'.

Appendix & Policies

Public Health Concerns, Expectations and Policies

We are currently living through a global pandemic in which we have a shared responsibility in maintaining safety in our communities. All staff and students are expected to abide by the guidelines provided by the University of Victoria (<https://www.uvic.ca/covid19/>).

Academic Integrity

The University of Victoria and the Department of Biology take academic integrity (including plagiarism) as a serious matter. Please read this:

https://www.uvic.ca/calendar/undergrad/index.php#/policy/Sk_0xsM_V

Missed examinations and assignments

You are NOT required to provide a medical note. If a test is missed (with valid reason), contact your instructor immediately. Your instructor may opt to have you write a deferred test (scheduled for 9am on the Saturday following the original test date), or have those grades reallocated to another assessment. If the Final Lecture Exam + Lab Test 2 is missed, arrangements must be made to: 1) Write a deferred exam before the end of the exam period, or 2) Request an Academic Concession to write the exam at a later date. For missed laboratory assignments, refer to the Laboratory Manual and contact your TA/Senior Laboratory Instructor as soon as possible.

Territory Acknowledgment

The instructors of BIOL230 are grateful to live and work in the unceded territories of the Lekwungen speaking First Nations, and we support the University of Victoria's official territory acknowledgment:

“We acknowledge and respect the lək'wəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱ SÁNEĆ peoples whose historical relationships with the land continue to this day.”

Code of Conduct, and Commitment to Equity, Diversity and Inclusion (EDI)

All participants of BIOL230 are expected to treat each other with mutual respect. The course team welcomes students of all backgrounds, regardless of nationality, ethnicity, gender, sexual orientation, religion, age, etc.

Accessibility and special needs

Students with special needs will be welcomed and accommodated, provided those needs are registered through the Centre for Accessible Learning (<https://uvic.ca/services/cal>; phone: 250-472-4947)

Course Grade and Academic Transcript

Grades for all UVic courses are submitted as percentiles. A student's academic transcript will include the percentile grade and a letter grade plus the class average and the number of students registered in the course at the time of the final exam. Percentiles will be rounded to the nearest whole number; a grade of xx.5 will be rounded up. Percentile grades will be converted to letter grades on the student's academic transcript according to the table given below.

A+ 90-100%; A 85-89%; A- 80-84%; B+ 77-79%; B 73-76%;

B- 70-72%; C+ 65-69%; C 60-64%; D 50-59%; F <49%

A grade less than 50% is a failing grade and results in an "F" on your transcript. Failure to complete lab requirements, including missing more than 2 labs will result in an incomplete grade and an "N" on your transcript