

COURSE SYLLABUS



COURSE TITLE: BIOL-116: Adv Placement Biology Lab

CLASS SECTION: RH01

TERM: Winter 2024

COURSE CREDITS: 3

DELIVERY METHOD(S): In-person

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

INSTRUCTOR DETAILS

NAME: Ryan Suleman MSc RMCCM MRSB

EMAIL: suleman@camosun.ca

OFFICE: F250D

HOURS: Monday 3:00-4:00pm (Virtual Zoom) & Thursday 3:00-4:30pm (In person)

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

This course consists of Biology laboratory exercises at the first-year level, suitable for Advanced Placement Biology students. Exercises are drawn from topics in cellular physiology and evolution theory.

PREREQUISITE(S):

One of:

- C in English 12
- C in Camosun Alternative

And one of:

- C+ in Biology 12
- C+ Camosun Alternative

CO-REQUISITE(S):

All of:

- BIOL 116 Advanced Placement Biology

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

Upon completion of this course a student will be able to:

1. Use basic laboratory techniques to prepare standard solutions and perform serial dilutions.
2. Use a spectrophotometer for analysis of solutions, including preparation of action spectra of plant pigments.
3. Use plant bioassays for illustrations of the effects of selected plant hormones on plant germination and growth.
4. Illustrate the relationship between tonicity of a solution and movement of fluids into and out of cells.
5. Use a simple respirometer to assess the relationship between environmental conditions and the rate of cellular respiration.
6. Identify and classify a wide variety of selected organisms to their major taxonomic groupings, and identify their defining characteristics and structures.
7. Apply evolutionary principles to interpret and devise phylogenetic trees and dichotomous keys.
8. Identify evidence for evolution and discuss its significance to evolutionary theory.
9. Interpret evolutionary case studies and apply the Hardy-Weinberg theorem to calculate allele and genotype frequencies.

WEEK (DATE RANGE)	LABORATORY
Jan 8 th -12 th	No Labs
Jan 15 th -19 th	Lab Intro/Safety & Lab 1 Enzyme Activity
Jan 22 nd -26 th	Lab 2 Cellular Respiration
Jan 29 th - Feb 2 nd	Lab 3 Photosynthesis
Feb 5 th -9 th	Lab 4 Research Experiments
Feb 12 th -16 th	Lab 5: Virtual Lab (TBA)
Feb 19 th -23 rd	Family Day (College closed) Reading break
Feb 26 th - Mar 1 st	Lab 6: Cell Division Lab 7: Blood Typing Lab
Mar 4 th -Mar 8 th	Lab 8: Bacterial Transformation(Wk1) Lab 9 DNA (Wk 1)
Mar 11 th - Mar 15 th	Lab 8: Bacterial Transformation (Wk2) Lab 9: DNA (Wk 2&3)
Mar 18 th - Mar 22 nd	March Break No Labs
Mar 25 th – Mar 29 th	March Break No Labs
April 1 st -April 5 th	Student Poster Symposium
April 8 th - April 12 th	Final Exam Review
April 15 th – April 23 rd	Final Lab Exam BIOL 116

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

- (a) BIOL 116 Lab Manual (W2024) Camosun College. Labs will be posted weekly to D2L
- (b) Lined Lab Notebook (available at Staples)

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

Evaluation	WEIGHTING
Pre-Lab Quizzes	10%
Lab Notebook/Preparation	5%
In-Lab Work	5%
Lab Reports	50%
Final Exam	30%
	TOTAL
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

Written Work

Lecture and lab assignments may be assigned at the instructor's discretion. It is the student's responsibility to be informed of any work expected and the dates the work is due. Assignments may be intended to be completed as individuals or as groups. The instructor will make clear which is which. Work intended to be submitted by an individual must be completed independently, keeping in mind student conduct requirements. Work intended for completion by a group must not be completed by an individual. Each person in a group will receive the same mark on any group work.

Unless otherwise indicated, all submitted written material (including numerical entries in data tables) must be prepared using word processing (typically MS Word) or graphing software (e.g. Excel). The only exceptions are calculations and some graphs, which may be submitted handwritten or hand drawn. Any exceptions will be clearly indicated. Submitted work that is inappropriately formatted, which includes last-minute handwritten corrections, will not be marked until all formatting is correct. Since properly formatting requires time, this will likely mean a late penalty will be assessed.

Late Penalties

All assignments must be handed in by the time indicated on the assignment. Be sure to submit all assignments on time to avoid deductions. Where possible, late assignments will be graded but marks equivalent to 15% of the total value of the assignment will be deducted for each day (or partial day) past the deadline. For example, an assignment submitted two hours late would be deducted 15%; an assignment submitted 40 hours late would be deducted 30%. Pre-lab assignments may not be submitted after the start of the lab period.

Exams

The exam in this course are cumulative. Lab exam will occur during the final week. Do not make any April travel plans until the Final Exam Schedule is announced. Should an emergency or issue arise that prevents you from completing an exam at the scheduled time, you are required to contact your instructor ASAP and **before** the noted scheduled time. At that point your instructor will arrange for a deferred exam date with the Assessment Center, or re-weighting overall grade. Failure to obtain prior approval will result in the exam being automatically marked zero. No re-writes are allowed once an exam has been started or attempted. Study guides for each exam will be available on D2L closer to the exam dates.

Laboratory Safety & Attendance

Nothing is more important to the instructor than students enjoying a safe class and lab environment. Consider the following issues:

Lab footwear	<ul style="list-style-type: none">For safety reasons WorkSafeBC mandates, and federal regulations require, that students are required to wear closed shoes in all lab times. Flip flops, sandals or shoes with holes are not acceptable. Other footwear posing an instability risk (e.g. high heels or bicycle shoes) are prohibited.
Eating & drinking	<ul style="list-style-type: none">Eating or drinking anything in the lab is a violation of federal regulations, so absolutely nothing may be ingested while in the lab. Chewing gum and applying makeup or lip balm are similarly prohibited. No exceptions will be made, even for medications.If something must be consumed, then it may be taken out of the lab.
Hair	<ul style="list-style-type: none">It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.
Handwashing	<ul style="list-style-type: none">Hands should be thoroughly washed after removing lab coats and before leaving the lab.

In order to pass the course, students are required to meet the minimum lab attendance, participation and completion requirements.

- Laboratory activities involve practical applications of your knowledge and manual skills development. Development of these skills is a requirement to meet the Course Learning Outcomes.
- Meeting Course Learning Outcomes is a requirement for gaining credit in the course, as well as ensuring articulation, pre-requisite and transferability standards are met.
- Laboratory activities are in-person activities; attendance and participation are required. Online alternatives are not available.
- Laboratory attendance will be monitored by a sign-in/sign-out binder in the lab. It is your responsibility to record your attendance using this binder.
- Attendance from the sign-in/sign-out binder will be transferred to your D2L course page by your instructor. If you notice any discrepancies, please contact your instructor ASAP.
- If you arrive late to the lab, you may miss the opportunity to sign-in, and/or participate in graded assessments such as pre-lab quizzes.

Missed Labs Guidelines

- Students who will miss a laboratory session have an obligation to seek out concessions directly from their instructor in a timely manner, *before* the lab period occurs.
- If notification is provided *after* the lab has occurred, concessions may not be available (please see Student Concessions Policy for further guidance on academic concessions, including possible reasons to request a concession).
- If you miss *up to three (3) laboratory sessions*, you are still eligible to meet the Learning Outcomes for the course.
- Concessions offered for the first three (3) missed laboratory sessions will depend on the reason for laboratory absence and is up to instructor discretion. Concessions may include writing up the laboratory report with provided data, omitting the lab, or other concessions.
- If you miss a total of *four (4) or more labs for any reason* (including, but not limited to: life circumstances, legitimate illness or family/pet emergency, planned vacations, milestone family events, work commitments, childcare or eldercare commitments, competitive athletic events), *you will be unable to meet the learning outcomes for the class and will receive a failing grade (F) in the entire course*, regardless of marks received on graded lab and lecture components. Exceptions

will only be considered through an academic concession granted by the instructor or Dean/Associate Dean.

- This guideline applies to in-person laboratory activities only; for missed Lab Exams, please see the section in this outline on Exams.

If you are suffering from a serious medical illness that prevents you from participating in this course, Camosun College has a Compassionate Medical Withdrawal Policy (<https://camosun.ca/services/forms#medical>)

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures"

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.