

COURSE SYLLABUS



COURSE TITLE: BIOL-103: Non-Majors General Biology

CLASS SECTION: 002AB

TERM: Fall 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: Farnoosh Farhoomand, Ph.D. *(you can call me Farnoosh)*

EMAIL: FarhoomandF@camosun.ca *(I answer e-mails within 24h, Monday-Friday, 8:30am-4:30pm)*

OFFICE: **F246** *(Fisher building, second floor- come say hi during office hours, listed below)*

OFFICE HOURS: **Mondays 12:00pm- 1:00pm, Thursdays 12:00pm -12:30pm**

(office hours are for students to check in with progress, ask for support with assignments or studying, or ask questions about career, research, and anything academia)

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 is for the student interested in learning about the basics of the structure and function of living beings. Topics include cell biology, human anatomy and physiology, basic principles of biochemistry, genetics and nutrition.

PREREQUISITE(S):

One of:

- C in English 12
- C in Camosun Alternative

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Describe the concept of homeostasis.
2. Explain how basic physicochemical changes can impact cell function.
3. Work in a culture of scientific endeavor and use critical thinking skills.
4. Identify the critical roles played by water in the maintenance of life on earth.
5. Explain the structures and roles of biological macromolecules, particularly carbohydrates, proteins and lipids.
6. Describe the complexity and diversity of cellular ultrastructure and the functions of significant cellular organelles, in particular chloroplasts, mitochondria, ribosomes, Golgi apparatus, cilia and flagellae.
7. Describe basic metabolism and energy producing pathways within the cell.
8. Explain the concept of the gene in the contexts of both Mendelian inheritance as well as the biochemical expression of genetic information.
9. Relate the structure of nucleic acids to the storage and replication of genetic information.
10. Explain the mechanisms used to regulate and translate genetic information into the assembly of functional proteins.
11. Describe the interactions between the environment and long-term changes in genetic information, particularly in consideration to neoplasia.
12. Describe the anatomy of the human digestive, cardiovascular and excretory systems and explain how the physiology of these organ systems is related to organization at the molecular and cellular level.
13. Describe the structure and explain the functions of the human immune system. Apply this knowledge to immune dysfunction, particularly allergies and AIDS.

REQUIRED MATERIALS

- a. **PowerPoint slides** (primary content for lecture exams)
 - i. Available only on our D2L website (<http://online.camosun.ca/>), along with additional resources
 - ii. Pre-reading slides and associated resources and bringing slides to each lecture is crucial for success
- b. **BIOL 103 Lab Manual 2024/2025** (primary content for lab exams)
 - i. Available for purchase at Campus Bookstore or can be printed from our D2L website
 - ii. Pre-reading and completing pre-lab questions prior to each lab is a graded component of the course
- c. **Microsoft Word and Excel** (required for some lab assignments) Installation before 1st lab is required
 - i. FREE version of Microsoft 365 is available to students: <https://webservices.camosun.ca/o365-opt-in/>
 - ii. Contact IT support during first week if you have issues: <http://camosun.ca/services/its/contact.html>
- d. Recommended (not required): Open Stax Biology 1st Canadian Edition textbook
 - i. Free to access and print: <https://opentextbc.ca/biology/>
 - ii. Printed copies of select chapters available for purchase at Campus Bookstore
- e. Recommended (not required): Biology Colouring Book
 - i. E-colouring and printing access on D2L, available to purchase at Campus Bookstore

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.

Lectures:	002AB	Mondays	10:00 am-11:20am	F302
	002AB	Thursdays	10:00 am-11:20am	F268
Labs:	002A	Wednesdays	1:30pm-4:20pm	F226

Week	Dates	Lecture Topic/Activity	Chapter	Tuesday Labs
1	02-Sep M	<i>No Lecture- Holiday</i>		Lab Introductions
	05-Sep Th	1- Science	1.1	
2	09-Sep M	2- Biology	1.2	Lab 1- Science & Data
	12-Sep Th	3- Chemistry	2.1	
3	16-Sep M	4- Water & pH	2.2	Lab 2- Water & pH
	19-Sep Th	5- Macromolecules	2.3	
4	23-Sep M	6- Cell Biology	3.2 & 3.3	Lab 3- Microscopes & Cells
	26-Sep Th	7- Membranes & Transport	3.4 – 3.6	
5	30-Sep M	<i>No Lecture- Holiday</i>		<i>No Labs (Holiday Monday)</i>
	03-Oct Th	8- Enzymes	4.1	
6	07-Oct M	Lecture Exam #1 (Modules 1-7)		Lab 4- Osmosis
	10-Oct Th	9- DNA Replication	9.1 & 9.2	
7	14-Oct M	<i>No Lecture- Holiday</i>		<i>No Labs (Holiday Monday)</i>
	17-Oct Th	10- Protein Synthesis	9.3 & 9.4	
8	21-Oct M	11- Mutations		Lab 5- Enzymes
	24-Oct Th	12- Mitosis	6.1-6.3	
9	28-Oct M	13- Meiosis	7.1-7.3	LAB EXAM #1 (Labs 1-5)
	31-Oct Th	14- Genetics I	8.1 & 8.2	
10	04-Nov M	14- Genetics II	8.3	Lab 6- Cell Cycle and Cancer
	07-Nov Th	Lecture Exam #2 (Modules 8-14)		
11	11-Nov M	<i>No Lecture- Holiday</i>		Lab 7- Genetics
	14-Nov Th	15- Cellular Respiration	4.2-4.4	
12	18-Nov M	16- Homeostasis & Nutrition	11.1	Lab 8- Nutrition & Digestion
	21-Nov Th	17- Histology & Digestive System	11.2	
13	25-Nov M	18- Urinary System	11.1	Lab 9 - Anatomy
	28-Nov Th	19- Respiratory System	11.3	
14	02-Dec M	20- Circulatory System	11.3	LAB EXAM #2 (Labs 6-9)
	05-Dec Th	21- Immune System	12.3-12.4	
	09-17 Dec	Lecture Exam #3 (Modules 15-21)		

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 noticed 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

DESCRIPTION	WEIGHTING
Lecture Assignments	5%
Weekly Pre-Lab Questions and Lab Completion	1%
Weekly Lab Assignments (10)	10%
Lecture Exam #1 (Oct 7 th)	18%
Lecture Exam #2 (Nov 7 th)	18%
Lecture Exam #3 (Date TBA)	18%
Lab Exam #1 (Oct 30 th)	15%
Lab Exam #2 (Dec 4 th)	15%
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>

Lecture Assignments (5%)

Throughout the course there will be homework assignments, in-class participation-based assignments, and handout lecture assignments that will engage students with the course content and test their comprehension and communication skills. In-class participation-based assignments are typically completed in groups while homework and handout assignments are to be done individually. D2L Quizzes are also a form of lecture assignment and are typically 2 chances with your highest grade being kept.

Weekly Pre-Lab Questions and Lab Completion (1%)

Each week, students may need to complete pre-lab questions prior to the lab itself to demonstrate that they have read and understood the lab procedures and content. Completion is checked promptly at the start of lab time. Late arrival will result in a grade of zero for the pre-lab questions and lost marks for in-lab participation. Students will also need to show their lab manuals at the session and demonstrate proper lab safety and procedure for full marks. Late arrivals will lead to a grade reduction for this section.

Weekly Lab Assignments (10%)

Weekly lab assignments are due one week after the lab and may be in the form of handwritten responses, typed reports, or quizzes. Depending on the content of the assignment, some may be worth more than others- your instructor will clarify. Assignments must be submitted on time for prompt grading and return (late work is not accepted).

Exams (74%)

Aside from the final exam, all exams will take place during regular lecture and lab hours and are non-cumulative. Lecture exams are based on PowerPoint slides, while lab exams are based on Lab Manual and lab assignments. All exams are closed-book and the use of phones, smart watches, or other electronic devices during exams is NOT permitted. A missed exam will result in a grade of zero, there are no re-weighting of final exams or deferrals. NOTE: DO NOT book travel before learning the final exam schedule.

COURSE GUIDELINES & EXPECTATIONS

Lecture Attendance

Lecture attendance is expected for students to do well in this course. Arriving on-time and with a copy of the PowerPoint slides is crucial for success. Reviewing the available resources to prepare is highly encouraged. If a lecture is missed, students must check D2L and the course outline to see what material must be reviewed.

Lab Attendance

Lab attendance is mandatory (no more than 3 labs can be missed before a student will be given a failing grade in the course, see School Information below). A missed lab results in a missed opportunity to submit the associated lab assignment. Arriving on-time having pre-read the lab manual is crucial for individual and group success.

Arriving more than **5 minutes** after the start of the lab time is considered late and will only be acceptable one time. If a lab session is missed, another student's data **may not** be used to complete a lab assignment for credit. Exceptions can be made **at the instructor's discretion** in legitimate cases of emergency (e.g. illness); in such cases the instructor must receive **advance notification** and **documented evidence** of the situation (e.g. medical certificate) and grant approval for any accommodation.

Study Habits

This course is content-heavy and students will need to stay on top of the material if they are to do well. Visiting office hours and/or the science help centre (<https://camosun.ca/services/academic-supports/help-centres/science-help-centre>) are highly encouraged, as is the formation of study groups to review material with peers. Students to visit office hours, the science help centre, and study together develop better accountability.

Common Challenges

In this science-based course, many students struggle with the amount of content covered. When completing assignments, cheating and plagiarism are often more likely to occur as students lack the confidence to complete their work on their own. The consequences for cheating and plagiarism are outlined by Camosun College policies (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>). Please reach out if you need support BEFORE it becomes an academic integrity issue. We are here to ensure you understand the rules and regulations of the college.

SCHOOL OR DEPARTMENTAL INFORMATION

Laboratory Attendance Policy

To pass the course, students are required to meet the minimum in-person lab attendance, participation, and completion requirements. Students who will miss a laboratory session have an obligation to seek out concessions directly from their instructor BEFORE the lab period occurs. If a student misses a total of four (4) or more labs for any reason, they will be unable to meet the learning outcomes for the class and will receive a failing grade (F) for the course, regardless of marks received on graded lab and lecture components. Please note that 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.

Week	Labs
1	Lab Introductions
2	Lab 1- Science & Data
3	Lab 2- Water & pH
4	Lab 3- Microscopes & Cells
5	<i>No Labs (Holiday Monday)</i>
6	Lab 4- Osmosis
7	<i>No Labs (Holiday Monday)</i>
8	Lab 5- Enzymes
9	LAB EXAM #1
10	Lab 6- Cell Cycle and Cancer
11	<i>090- No Labs (Holiday Monday) 103- Lab 7 Genetics</i>
12	Lab 8- Nutrition & Digestion
13	Lab 9 - Anatomy
14	LAB EXAM #2