

# COURSE SYLLABUS



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

CLASS SECTION: 001A/B

TERM: F2023

COURSE CREDITS: 3

DELIVERY METHOD(S): In person

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

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

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## INSTRUCTOR DETAILS

NAME: Ryan Suleman MSc, RMCCM, MRSB

EMAIL: [suleman@camosun.bc.ca](mailto:suleman@camosun.bc.ca)

OFFICE: F250D

HOURS: Tuesday 2:30pm-3:30pm & 5:30pm -6:20pm

Friday 9:00-10:00am (Virtual Office Hours) & 10:00-11:00am (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.*

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## 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

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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 & RECOMMENDED PREPARATION / INFORMATION

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### (a) Recommended Textbook

*Concepts of Biology, 1<sup>st</sup> Canadian Edition* is a free online textbook: <https://opentextbc.ca/biology/>  
(Printed copies of select chapters available for purchase at Lansdowne Campus Bookstore)

### (b) Lab Resources

i) *Biology 103 Lab Manual* is **REQUIRED** and available for purchase as Lansdowne Campus Bookstore.  
(Labs must be read and pre-lab questions must be completed prior to arrival at each lab session.)

ii) Microsoft Word and Excel are **REQUIRED** for completing lab assignments. A FREE version of Microsoft365 is available to all Camosun students, go to <https://webservices.camosun.ca/o365-opt-in/>

Contact IT support if you have issues: <http://camosun.ca/services/its/contact.html>

### (c) Lecture Resources

Lectures are based on PowerPoint slides and will be delivered in person. The slides will be posted on the course D2L website, along with additional resources for review and activities to complete. Slides may be downloaded or printed to help follow the lectures.

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:** 001AB Tuesday 3:30-4:50pm F266 & Friday 12:30-1:50pm F268

**Labs:** 001A Tuesday 6:30pm-9:00pm F226  
 001B Wednesday 9:30am-12:20pm F226

WEEK or DATE RANGE	ACTIVITY or TOPIC	Labs
(Week 1) September 5 <sup>th</sup> - 8 <sup>th</sup>	Course Introduction Module 1: Intro & Scientific Method	<b>No Labs: Monday is Labour Day</b>
(Week 2) September 11 <sup>th</sup> -15 <sup>th</sup>	Module 2: Chemistry of Life and Macromolecules	Lab 1: Science & Data
(Week 3) September 18-22 <sup>nd</sup>	Module 3: Cell Structure and Function	Lab 2: Water and pH
(Week 4) September 25 <sup>th</sup> -29 <sup>th</sup>	Module 4: Cellular Respiration and Photosynthesis	Lab 3: Microscopes and Cells
(Week 5) October 2 <sup>nd</sup> – October 6 <sup>th</sup>	Review for Midterm 1 <b>LECTURE MIDTERM #1</b>	<b>No Labs: Monday is National Day for Truth and Reconciliation</b>
(Week 6) October 9 <sup>th</sup> – October 13 <sup>th</sup>	Module 5: Mitosis & Meiosis	<b>No Labs: Monday is Thanksgiving</b>
(Week 7) October 16 <sup>th</sup> -October 20 <sup>th</sup>	Module 5 cont'd Module 6: Genetic Inheritance	Lab 4: Osmosis
(Week 8) October 23 <sup>rd</sup> -October 27 <sup>th</sup>	Module 6 cont'd Module 7: Transcription & Translation	Lab 5: Enzymes
(Week 9) October 30 <sup>th</sup> - November 3 <sup>rd</sup>	Module 7 cont'd Module 8: Gene Control	<b>Lab Exam 1</b>
(Week 10) November 6 <sup>th</sup> -November 10 <sup>th</sup>	Module 8 cont'd Review for Midterm 2	Lab 6: Mitosis
(Week 11) November 13 <sup>th</sup> -November 17 <sup>th</sup>	<b>LECTURE MIDTERM #2</b> Module 9: Homeostasis, Urinary System	<b>No Labs: Monday is Remembrance Day (Lab 7 to be completed at home)</b>
(Week 12) November 20 <sup>th</sup> - November 24 <sup>th</sup>	Module 9 cont'd Module 10: Digestive System	Lab 8: Nutrition
(Week 13) November 27 <sup>th</sup> - December 1 <sup>st</sup>	Module 11: Circulation & Respiration	Lab 9 & 10: Anatomy

WEEK or DATE RANGE	ACTIVITY or TOPIC	Labs
(Week 14) December 4 <sup>th</sup> - December 8 <sup>th</sup>	Module 12: Immune System	<b>LAB EXAM #2</b>
December 9 <sup>th</sup> - December 20 <sup>th</sup>	Final Exam (TBD)	<b>No Labs</b>

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

DESCRIPTION	WEIGHTING
Lecture Quizzes (x 11)	5%
Lecture Assignments (x 4-5)	5%
Prelab Questions and Lab Completion (x 10)	5%
Lab Assignments (x 10)	20%
Lecture Midterm Exam #1	10%
Lecture Midterm Exam #2	10%
Lab Exam #1	12.5%
Lab Exam #2	12.5%
Lecture Final Exam (TBD)	20%
<b>TOTAL</b>	<b>100%</b>

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](#) policy for more information.  
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

#### COURSE GUIDELINES & EXPECTATIONS

##### **Notes about evaluation methods:**

**Lecture Quizzes** on D2L are open-book and use of the PowerPoint slides is encouraged. Quizzes are due two days after completion of each module at 11:59pm (**no late submissions accepted**). Each quiz allows for **2 attempts**, with your highest grade of the two being kept. A missed submission will result in a zero.

**Lecture Assignments** will be posted online and announced in class. These assignments must be completed **individually**. Late assignments will be graded but marks equivalent to **10%** of the total value of the assignment will be deducted for each day past the deadline, including weekends. Late assignments will **NOT** be accepted once marked assignments have been returned to the class.

**Pre-lab Questions and Lab Completion:** Each lab will have questions to complete in the lab manual PRIOR to arrival to the lab session. Before leaving each lab, manuals will be checked by instructor for completion and accuracy.

**Lab Assignments** are due at the beginning of the next lab period, unless otherwise specified by the instructor. Late assignments will be graded but marks equivalent to **10%** of the total value of the assignment will be deducted for each day past the deadline, including weekends. Late assignments will NOT be accepted once marked assignments have been returned to the class.

**Lecture Midterm Exams** take place during regular lecture hours, whereas the **Lecture Final Exam** takes place during the final exam period (as scheduled by the College Registrar) and is cumulative. These exams are strictly based on lecture content and are all closed-book exams. The use of phones, smart watches, or other electronic devices during exams is NOT permitted and will result in a zero on the exam.

**Lab Exams** take place during regular lab hours. These are closed-book exams strictly based on lab content and are not cumulative. The use of phones, smart watches, or other electronic devices during exams is NOT permitted and will result in a zero on the exam.

### **GUIDELINES FOR LAB ATTENDANCE IN BIOLOGY AT CAMOSUN**

**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 gradebook 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.
- Lab manuals for each week will be provided on D2L, it is the student responsibility to print these off *in advance* of the lab for completion during the lab period.

#### **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.
- 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 with 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.
- 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> )

### **Lecture Attendance**

Aside from the first week of classes, attendance will NOT be required for lectures (EXAMS are the only exception to this). However, attending and participating in lectures is strongly recommended to ensure success in this course. If a class is missed, the student is responsible for arranging to obtain information such as notes, handouts, assignments, and announcements.

### **Written Assignments**

All assignments must be submitted according to the instructor's criteria. A **professional format** is expected, i.e. a neat, legible, clean copy. "Rough" drafts risk rejection and a subsequent late penalty or reduced marks. If the assignment is more than one page, separate pages **must be stapled**.

All assignments are due at the date and time specified. As described on the previous page, late assignments will be accepted with a penalty of **10% per day**, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class.

### **Plagiarism**

You are encouraged to discuss assignments with your classmates, however, **individual assignments must be your own individual work – beware of plagiarism.**

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

Except where work is assigned to a group, all written work must be done individually. Plagiarism is a serious offence and is considered to be academic misconduct and **will not be tolerated**. A student caught plagiarizing will forfeit all credit for the assignment and a note will be sent to the Dean regarding the student's behaviour.

### **Missed Exams**

All exams must be written at the scheduled times. However, it is understood that emergency circumstances occur (e.g. illness or emergency in the immediate family); for such circumstances accommodation may be offered at the discretion of the instructor, provided the student:

- (a) notifies the instructor **in advance** of the exam (not after), and
- (b) provides **acceptable documentation** of the circumstance where possible (i.e. medical documentation).

In the event of emergency circumstances, it is at the instructor's discretion whether to administer a make-up exam or re-allocate marks to an upcoming exam.

### **\* HOLIDAYS, SCHEDULED FLIGHTS, AND WORK ARE NOT CONSIDERED TO BE EMERGENCIES \***

Be sure not to make travel or work plans for the end of semester until the final exam schedule is finalized and posted. Please ask any family members who might make travel plans on your behalf to consult with you before booking tickets.

### **Cheating**

Cheating is a serious offence and is considered to be academic misconduct. Cheating includes but is not limited to:

- (a) using unauthorized materials or resources in a quiz/exam, and
- (b) providing information to another person regarding exam content.

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>) and penalties may be severe.

### **Student Safety**

Consider the following laboratory safety practices. These are required to participate in all laboratory activities. Students must sign a safety contract in the first lab and follow all safety rules and procedures.

<b>Lab footwear</b>	<ul style="list-style-type: none"><li>• For safety reasons <b>WorkSafeBC</b> mandates that students are <b>required to</b> wear closed shoes in all lab times. Flip flops, sandals, or shoes with holes are NOT acceptable.</li></ul>
<b>Eating &amp; drinking</b>	<ul style="list-style-type: none"><li>• Absolutely <b>NOTHING</b> may be ingested while in the lab. Chewing gum and applying makeup or lip balm are similarly prohibited.</li><li>• If something must be consumed, then it may be taken out of the lab.</li></ul>
<b>Hair</b>	<ul style="list-style-type: none"><li>• Long hair must be tied back securely.</li></ul>
<b>Hand washing</b>	<ul style="list-style-type: none"><li>• Hands should be thoroughly washed <b>BEFORE</b> leaving the lab.</li></ul>

### **Study Habits**

Good (and regular!!) study habits are required to do well in this course. You should plan on a minimum of 6 hours outside of scheduled class time for the completion of assignments and for general studying. Joining a study group can help make this more fun.

Lecture notes will be posted on D2L in PowerPoint form. These should be used as a study guide, not as your sole source of information. You will need to write down additional key words for examples and explanations given during lecture and read the assigned chapters. It is also recommended practice to transcribe your notes into a study-friendly format after each lecture, incorporating additional information from your textbook. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

**Please take advantage of office hours if you need assistance with course material or assignments.**

## SCHOOL OR DEPARTMENTAL INFORMATION

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### STUDENT RESPONSIBILITY

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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

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

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

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### 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](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto: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.