

COURSE SYLLABUS



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

CLASS SECTION: 001AB

TERM: Winter 2022

COURSE CREDITS: 4

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](#).

For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>.

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 explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Brooke Cameron

EMAIL: cameronb@camosun.ca

OFFICE: Fisher 246

HOURS: Tuesdays 1:30pm-2:30pm (F246) and 4:00-4:30pm (F268)

Wednesdays and Thursdays from 12:30pm-1:30pm (F246) and Thursdays 3:00-3:30pm (F268)

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 & RECOMMENDED PREPARATION / INFORMATION

- a) All lecture resources will be available on D2L in the format of PowerPoint slides, which will be used for weekly lectures (available for download/printing), along with additional resources
- b) **Microsoft Word and Excel** is required for completing laboratory assignments
 - i. A FREE version of Microsoft 365 is available to all Camosun students, go to <https://webservices.camosun.ca/o365-opt-in/>
 - ii. Contact IT support if you have issues: <http://camosun.ca/services/its/contact.html>
- c) Hard copy of **BIOL 103 Lab Manual 2021** is a requirement for all lab sessions
 - i. Available for purchase at Campus Bookstore, or
 - ii. Available for download and print on our D2L website
 - iii. Labs must be read and pre-lab questions must be completed prior to arrival for lab sessions
- d) Recommended textbooks (NOT a requirement)
 - i. **Open Stax Biology 2e** is free to access: <https://openstax.org/details/books/biology-2e>
 - Printed copies of select chapters available for 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: | 001AB | Tuesdays | 2:30pm-3:50pm | F268 |
| | 001AB | Thursdays | 1:30pm-2:50pm | F268 |
| Labs: | 001A | Wednesday | 1:30pm-4:20pm | F226 |
| | 001B | Friday | 12:30pm-3:30pm | F226 |

| WEEK | DATES | TEXTBOOK CH. | LECTURE TOPICS | LAB TOPICS |
|------|-----------------|------------------------------------|--|------------------------------|
| 1 | Jan. 10-14 | 1.1 1.2 | 1- Biology 2- Science | Lab Introductions |
| 2 | Jan 17-21 | 2.1 2.2 | 3- Chemistry 4- Water & pH | 1- Science |
| 3 | Jan. 24-28 | 2.3 3.2 & 3.3 | 5- Macromolecules 6- Cell Biology | 2- Water and pH |
| 4 | Jan. 31- Feb. 4 | 3.4, 3.5, & 3.6 4.1 | 7- Cell Membranes & Transport 8- Energy & Enzymes | 3- Microscopes and Cells |
| 5 | Feb. 7-11 | 4.2, 4.3 & 4.4 | LECTURE EXAM #1 (Tuesday, Feb 8) 9- Cellular Respiration | 4- Osmosis |
| 6 | Feb. 14-18 | 6.1, 6.2, & 6.3 7.1, 7.2, & 7.3 | 10- Mitosis 11- Meiosis | 5- Enzymes |
| 7 | Feb. 21-25 | | <i>Reading Week- No Lectures</i> | <i>Reading Week- No Labs</i> |
| 8 | Feb. 28- Mar. 4 | 9.1 & 9.2 9.3 & 9.4 | 12- DNA Replication 13- Protein Synthesis | LAB EXAM #1 |
| 9 | Mar. 7-11 | 8.1 & 8.2 | 14- Mutations 15- Genetics | 6- Cell Cycle and Cancer |
| 10 | Mar. 14-18 | 8.3 | 15- Genetics Part II LECTURE EXAM #2 (Thurs, Mar 17) | 7- Genetics Lab |
| 11 | Mar. 21-25 | 9.5 | 16- Gene Regulation 17- Histology | 8- Nutrition & Digestion |
| 12 | Mar. 28-Apr. 1 | 11.1 11.2 | 18A- Homeostasis & Nutrition 18B- Digestive System | 9&10- Anatomy Part I & II |
| 13 | Apr. 4-8 | 11.1 11.3 | 19- Urinary System 20- Respiratory System | LAB EXAM #2 |
| 14 | Apr. 11-15 | 11.3 12.2, 12.3 & 12.4 | 21- Circulatory System 22- Immune System | <i>Good Friday- No Labs</i> |
| 15 | Apr. 18-22 | | LECTURE EXAM #3 (Date TBA) | |

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 |
|---|-------------|
| Weekly Lecture Quizzes | 2.5% |
| Weekly Pre-Lab Questions and Lab Completion | 2.5% |
| Weekly Lab Assignments | 20% |
| Lecture Exam #1- Tuesday, Feb 8 | 10% |
| Lecture Exam #2- Thursday, Mar 17 | 15% |
| Lecture Exam #3- Date TBA | 25% |
| Lab Exam #1 | 12.5% |
| Lab Exam #2 | 12.5% |
| 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>

(a) Weekly Lecture Quizzes (2.5%)

- (i) D2L Quizzes are open-book and the use of the PowerPoint slides is encouraged
- (ii) Quizzes will be available at the start of each week and close the following **Tuesday at 5pm**
- (iii) Each quiz allows for **2 attempts**, with your highest grade being kept
- (iv) A missed submission will count as a zero for that week

(b) Weekly Pre-Lab Questions and Lab Completion (2.5%)

- (i) Each lab will have questions to complete in the lab manual PRIOR to arrival to the lab session
- (ii) Before leaving each lab, manuals will be checked by instructor for completion and accuracy

(c) Weekly Lab Assignments (20%)

- (i) Lab assignments are due one week after the lab session and may be in the form of a D2L quiz, a hand-written or typed report, and/or demonstration of in-lab data
- (ii) Written assignments are allowed to be submitted **ONE** day late with a **10% penalty** but will not be accepted after that

(d) Lecture Exams (10%, 15%, and 25%)

- (i) Lecture exams #1 and #2 take place during regular lecture hours and are NOT cumulative, nor open-book. Phones/smart watches are NOT permitted and will result in a zero on the exam if found on your person.
- (ii) Lecture exam #3 is cumulative and takes place during final exam week. A study guide specifying previous content that will be covered will be provided one week prior to the exam.

(e) Lab Exams (12.5% and 12.5%)

- (i) Lab exams take place during regular lab hours and are NOT cumulative nor open-book. They are strictly based on lab material/content.

Lecture Attendance

Aside from the first week of classes, attendance will NOT be required for lectures. All lectures from previous terms have been recorded and uploaded onto D2L for review as needed. The audio for the lectures will be recorded and uploaded for review purposes. EXAMS are the only exception- students MUST attend exams, no exceptions.

Laboratory Attendance

Laboratory attendance for this course is mandatory. It is expected that students will read and prepare for each lab BEFORE arrival. Lateness in arriving, failure to attend the lab or leaving the lab before its scheduled finish time will result in forfeiting credit for that lab, including any written assignments.

Written Assignments

All assignments must have the following information in the top right corner of the page: full name, course, section, and date. Failure to have this information on the first page may result in loss of marks. 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**.

Unless otherwise stated, all assignments are due at the beginning of the lab/class of the due date. Late assignments will **not** be accepted after a one-day grace period (10% penalty).

Missed Lecture Exams

All lecture 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 documented evidence of the circumstance (i.e. medical documentation).

In the event of emergency circumstances, it is at the instructor's discretion whether to administer an oral or written make-up exam.

**** HOLIDAYS OR SCHEDULED FLIGHTS ARE NOT CONSIDERED TO BE EMERGENCIES ****

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

Missed Lab Exams

Without exception, all lab exams must be written at the scheduled times. Lab exams differ from lecture exams in their formatting and the fact that they cover lab content in a non-cumulative manner. Due to the nature of our shared lab space with other courses, lab exams cannot be made up outside of our regularly scheduled lab time. In the event of emergency circumstances (see lecture exam), it is up to the instructor whether an oral exam may be scheduled.

Cheating & Plagiarism

Cheating is a serious offence and is considered to be academic misconduct. A student caught cheating on an exam, quiz, or assignment will forfeit all credit for that submission, as well as have a note sent to the Dean. Cheating includes but is not limited to:

- (a) using unauthorized materials or resources in a quiz/exam (including cell phones and smart watches),
- (b) providing information to another person regarding exam content

Plagiarizing is appropriating the work of another person (including the ideas or language) and passing them off as your own (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>). For example, having a classmate “help” by seeing and copying their work is a serious form of plagiarism and will result in forfeit all credit for that submission, as well as have a note sent to the Dean.

Except where work is assigned to a group, all written work, **including lab data processing** and graphs, must be done individually.

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>).

Student Safety

Consider the following laboratory safety practices:

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

Study Habits

Good (and regular!!) study habits are required to do well in this course. You should plan on a minimum of 3 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. It is highly recommended that students print them out (3 to a page) and bring them to each lecture (or have them in front of them as they watch recordings). These slides 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 watch recommended videos to really solidify your understanding. It is also recommended practice to transcribe these 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 to check-in, have a chat, or clarify a concept or assignment. It makes a world of difference.

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.