



CAMOSUN COLLEGE
School of Arts & Science
Department of Biology

BIOL-103-002AB
Non-Majors General Biology
Winter 2020

COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/biol.html>

Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1. Instructor Information

(a) Instructor	Brooke Cameron (Lecture, Lab Section A); Charles Molnar (Lab Section B)
(b) Office hours	Brooke: Mondays 10:30am-1:30pm, Wednesdays 12:30pm-2:30pm Charles: TBA
(c) Location	Brooke: Fisher 246 Charles: Fisher 340B
(d) Phone	Brooke: 250-370-3196 Charles: 250-370-3449
(e) E-mail	Brooke: cameronb@camosun.bc.ca Charles: molnar@camosun.bc.ca
(f) Website	http://online.camosun.ca – Log in to D2L to access course materials

2. Intended Learning Outcomes

Upon completion of this course the 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.

3. Required Materials

- (a) **Recommended:** Concepts of Biology (2017), Openstax by Rice University. Available to download for free at openstax.org/details/concepts-biology and also posted on the course D2L site. *A shortened hard copy version (containing only the chapters we will use) is available to purchase at the Camosun Bookstore, Lansdowne Campus.*
- (b) **Required:** BIOL 103 Lab Manual (2019-2020). Available in the Camosun Bookstore, Lansdowne Campus and on D2L (to print)

4. Course Content and Schedule

Lectures	Mondays	2:30PM-3:50PM	F200
	Thursdays	2:30PM-3:50PM	F100
Labs	Section A: Wed	3:30PM-6:20PM	F226
	Section B: Wed	8:30AM-11:20PM	F226

Please note: the following is a tentative schedule of course topics and events. Any changes to this schedule will be announced in class and posted on D2L.

Week	DATE	LECTURE TOPICS	TEXT CH.	LAB TOPICS
1	Jan. 6 – 10	Introduction to Biology & Scientific Method Chemistry of Life	1 2	Introduction: Safety, Graph work and Microscopes
2	Jan. 13 – 17	Water & pH Organic Macromolecules	2 3	Lab 1: Measurements & Equipment
3	Jan. 20 – 24	Cell Biology Cell Membranes/ transport	4	Lab 2: Microscopes & Cells
4	Jan. 27 – 31	Energetics & Enzymes Cellular Respiration	6	Lab 3: Organic Macromolecules
5	Feb. 3 – 7	EXAM 1 (Mon, Feb. 3rd) Cell Division / Mitosis	6	Lab 4: Diffusion & Osmosis
6	Feb. 10 – 14	Meiosis Mendelian Genetics	7 8	Lab 5: Enzymes
7	Feb 17- 21	NO CLASSES/LABS FAMILY DAY AND READING WEEK		
8	Feb. 24 – 28	Non-Mendelian Genetics DNA Replication	8	LAB EXAM 1
9	Mar. 2 – 6	Protein Synthesis	9	Lab 6: Mitosis
10	Mar. 9 – 13	Mutations Gene Expression/Control	9 10	Lab 7/8: Genetics & CATLAB
11	Mar. 16 – 20	EXAM 2 (Mon. Mar. 16th) Homeostasis/Excretion	16	Lab 10: Human Anatomy
12	Mar. 23 – 27	Nutrition & Digestion	16	Lab 9: Nutrition
13	Mar. 30 – Apr. 3	Circulation Respiration	16	Lab 10: Human Anatomy pt II; Review
14	Apr. 6 – 9	Immune System	18	LAB EXAM 2
15	Apr. 14 – 22	EXAM 3 TBA - Exam Period		

5. Basis of Student Assessment (Weighting)

(a) Assignments & Quizzes:

Lab Assignments & Quizzes (weekly)	15%
Lecture Assignments (in-class, handouts)	10%

(b) Lecture Exams:

Exam 1 (Mon, Feb 3)	15%
Exam 2 (Mon, Mar 16)	15%
Exam 3 (April 14-22, TBA)	25%

(c) Lab Exams:

Lab Exam 1 (Week 8 in-lab: Feb 26)	10%
Lab Exam 2 (Week 14 in-lab: April 8)	10%

*Please note: Exams 1 and 2 as well as Lab Exams are all non-cumulative, while Exam 3 is cumulative (more info to be posted on D2L closer to exam dates).

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

7. Recommended Materials to Assist Students to Succeed Throughout the Course

Take advantage of our Biology Help Center for FREE drop-in tutoring and help:
<http://camosun.ca/services/help-centres/science-help.html#biol>

Laboratory Attendance

Laboratory attendance for this course is mandatory and will be recorded. It is expected that students will read and prepare for each lab BEFORE arrival. A 1% final grade penalty applies to any unexcused absence from lab. More than three missed labs may result in the inability to write the lab exam. 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.

Students are expected to attend labs and lab exams during their assigned section (A or B). Lab assignments can only be handed in for labs actually attended (except in cases of documented illness/emergency).

Written Work and Late Penalties

Lecture assignments will 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. Work intended to be submitted by an individual must be completed independently, keeping in mind student conduct requirements.

All assignments must have the following information in the top right corner of the page: full name, course and 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. There is a **10%/day late penalty** (rounded to the nearest full mark) except in cases of documented illness/emergency. Late assignments will **not** be accepted after marked assignments have been returned to the rest of the class one week after the due date.

Plagiarism

You are encouraged to discuss assignments with your lab partner, however, **each assignment has to be your 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>). Plagiarism is a serious offence and is considered to be academic misconduct, and so **will not be tolerated**. A student caught plagiarizing will forfeit all credit for the assignment and perhaps the course. Except where work is assigned to a group, all written work, **including lab data processing** and graphs, must be done individually.

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 a make-up exam or adjust the weighting of the final exam to make up the missing marks.

*** 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

A student caught cheating on an exam will forfeit all credit for that exam and perhaps for the course. 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:

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. 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.
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 4 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 chapters assigned to each week. 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 if you need extra clarification and help, or simply would like to discuss a topic a little further.

Summary of Student Responsibilities

1. Regularly attending classes and actively engaging in lecture times.
2. It is the student's responsibility to catch up on anything that may have been missed (e.g. important announcement or assignments).
3. Students must hand in required assignments on time or be subject to penalty.
4. Students must work independently, except when a group effort is required (cheating and plagiarizing may result in a loss of credit for that assignment or exam, or potentially loss of credit for the course).
5. Students **MUST** be present for all lecture and lab exams and midterms.
6. Students must know and follow all Safety Rules and Procedures, with **NO EXCEPTIONS**.
7. The use of cell phones is prohibited in the lab and during any exams.
8. All labs and lectures start punctually.

8. College Supports, Services and Policies



Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.