



CAMOSUN COLLEGE
School of Arts & Science
Department of Biology

BIOL-103-002A/B
Non-Majors General Biology
Winter 2019

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, BEd., MSc.
(b)	Office Hours:	Interurban: Mondays 1:30pm-2:30pm, Tuesdays 10:30am-11:30am Lansdowne: Wednesdays and Fridays 10:00am-11:30am
(c)	Location:	Lansdowne Campus, F246
(d)	Phone:	250-370-3196
(e)	Email:	CameronB@camosun.bc.ca
(f)	Website:	http://online.camosun.ca (D2L)

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) Concepts of Biology (2013), 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) BIOL 103 Lab Manual (2018). Available in the Camosun Bookstore, Lansdowne Campus.

4. Course Content and Schedule

Biology 103-002A/B Lectures: Wednesday 8:30AM-9:50AM F200
 Friday 8:30AM-9:50AM F200

Biology 103-002B Lab: Wednesday 12:30PM-3:30PM F226
 Biology 103-002A Lab: Thursday 9:30AM-12:20PM 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/or posted on D2L.

**Text book chapters noted here will be covered, at least in part. However, in many cases we will not be covering the whole chapter in Biology 103. More specific page and figure numbers will be referenced during our lectures

Week	Date	LECTURE	Chapter	LAB
1	Jan 7 – Jan 11	Intro to Bio & Scientific Method Chemistry of Life	1 2	Lab 0: Safety, Lab Procedures, Graphing
2	Jan 14 – Jan 18	Water & pH Organic Macromolecules	2 3	Lab 1: Measurements & Equipment
3	Jan 21 – Jan 25	Cell Biology Cell Membranes & Transport	4	Lab 2: Microscopes & Cells
4	Jan 28 - Feb 1	Energetics & Enzymes Cellular Respiration	6	Lab 3: Organic Macromolecules
5	Feb 4 – Feb 8	MIDTERM I- Wed, Feb 8 Mitosis	6	Lab 4: Diffusion & Osmosis
6	Feb 11 – Feb 15	Meiosis Mendelian Genetics & Inheritance	7 8	Lab 5: Enzymes
7	Feb 18 – Feb 22	READING WEEK- NO CLASSES OR LABS		
8	Feb 25 – Mar 1	Non-Mendelian Genetics DNA Replication	8	LAB EXAM I
9	Mar 4 – Mar 8	Protein Synthesis	9	Lab 6: Mitosis & Meiosis
10	Mar 11 – Mar 15	Mutations/Cancer Gene Expression/Control	9	Lab 7/8: Genetics
11	Mar 18 – Mar 22	MIDTERM II- Wed, Mar 13 Homeostasis & Excretion	10	Lab 9: Nutrition
12	Mar 26 – Mar 29	Nutrition & Digestion	16	Lab 10: Human Physiology
13	Apr 2 – Apr 5	Circulation Respiration	16	Lab 10: Human Physiology & Review
14	Apr 8 – Apr 12	Immune System	17	LAB EXAM II
15	Apr 15 - Apr 26	FINAL EXAM TBA		

5. Basis of Student Assessment (Weighting)

(a) Assignments & Quizzes:

Lab	15%
Lecture	10%

(b) Lecture Exams:

Midterm 1 (Wed, Feb 8)	15%
Midterm 2 (Wed, Mar 13)	15%
Final exam (April 15-26, TBA)	25%

(c) Lab Exams:

Lab Exam 1 (Week 8 in-lab: Feb 27/28)	10%
Lab Exam 2 (Week 14 in-lab: April 10/11)	10%

Midterms and lab exams will be unit-based (non-cumulative). The final lecture exam (during exam period) will be cumulative, with greater emphasis on the last unit. Formats for tests will be majority multiple choice questions with short essay questions. Lab exams will consist of stations with equipment and/or specimens, with accompanying questions testing both practical and theoretical knowledge. All tests and exams are mandatory and cannot be excused.

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

Lecture Attendance

Students are expected to attend all classes and be on time. If an in-class assignment was missed, it cannot be made up. It is your responsibility to acquire *all* information given during a class missed, incl. notes, hand-outs, assignments, laboratory data, changed exam dates etc.

Laboratory Attendance

A 1% final grade penalty applies to any unexcused absence from lab. Students are expected to attend labs and lab exams during their assigned section (A or B). Switching between sections on a permanent or temporary basis requires instructor's permission. Lab assignments can only be handed in for labs actually attended (except in cases of documented illness/emergency). You are encouraged to discuss assignments with your lab partner, however, **each assignment has to be your individual work – beware of plagiarism**. It is absolutely necessary to read and

mentally **work through each exercise before coming to lab**. Late attendance will not be tolerated and may result in inability to attend the lab and subsequent loss of credit for any assignments. 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.

Missed Lecture Exams

Without exception, 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 previous page), it is at the instructor's discretion whether to adjust the weighting of the lab exams to make up the missing marks.

Written Work and Late Penalties

Unless otherwise stated, all assignments are due at the *beginning* of the lab/class of the due date. There is a **15%/day non-negotiable 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. 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**.

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.

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 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 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.