



COURSE OUTLINE

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

Ω Please note: the College electronically stores this outline for five (5) years only.
It is **strongly recommended** you keep a copy of this outline with your academic records.
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Dr. Kate Pettem
(b)	Office Hours:	Tues. and Thurs. 12:30- 2:00pm (Camosun @ Belmont) and by appointment
(c)	Location:	A119 (Camosun @ Belmont) and F352 (Lansdowne)
(d)	Phone:	250-370-3925 (Lansdowne)
(e)	Email:	pettemk@camosun.bc.ca
(f)	Website:	https://online.camosun.ca/

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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 Textbook:** Openstax by Rice University, 2013. Concepts of Biology. Available to download for free at openstax.org/details/concepts-biology and also posted on our class website (D2L). A shortened hard copy version (only the chapters we will use) is available to purchase at the Camosun Bookstore, Lansdowne Campus.
- (b) **Lab Manual:** Biology 103 Lab Manual (Fall 2016), Camosun College. Available in the Camosun Bookstore, Lansdowne Campus. Also note that you will need a regular scientific calculator for the labs – you will not be able to use your smart phone as a calculator!

- (c) **Lecture Outlines:** Lectures will be delivered in a PowerPoint format. PowerPoint slides will be made available on the Biology 103 D2L website. These may be used or printed at the student's discretion to help follow the lectures.

4. Course Schedule

Lectures: Tues. and Thurs. 11:00 AM – 12:20 PM, Camosun @ Belmont Campus, A111

Labs: Fri. 9:30 AM – 12:20 PM, Camosun @ Belmont Campus A111
OR Lansdowne Campus, Fisher Building, Rm 226 (see last page for schedule)

5. Basis of Student Assessment (Weighting)

Lab Assignments: 7.5%
Lecture Assignments: 7.5%

Exams:
Midterm 1 15%
Midterm 2 15%
Lab Exam 1 15%
Lab Exam 2 15%

Final Exam: 25%

Midterms I and II, as well as the lab exams, will be unit exams.
The final lecture exam will be cumulative.
Please bring a pen and pencil to all exams.

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

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 E-1.5 at camosun.ca 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>

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.
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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.

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, using unauthorized materials in a quiz/exam and 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-&-support/e-2.5.pdf> and <http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.1.pdf>) and may be severe.

Lab Safety

Under NO circumstances will students ingest food or drink in the lab. Taking oral medication or applying makeup or lip balm in the lab is also prohibited. You may leave the lab at a convenient time if you are thirsty, need a snack or require medication. For safety reasons students are required to wear closed shoes and pants in all lab times. Flip flops, sandals or shoes with holes are not acceptable.

Failure to adhere to the lab safety principles will result in the inability to enter the lab, or expulsion from the lab, and the subsequent loss of credit for that lab, including any pre-lab assessment credit.

Laboratory Attendance

A 1% final grade penalty applies to any unexcused absence from lab. Frequent lates may count as an absence. Should you miss roll call at the beginning of lab, please identify yourself to the instructor as "late" or you may remain marked "absent." You need to attend labs and lab exams during your assigned section. Switching between sections on a permanent or temporary basis requires the instructor's permission. Lab assignments can only be handed in for labs actually attended.

It is absolutely necessary to read and mentally work through each exercise before coming to lab. Otherwise you may not be able to finish on time, annoy your lab partner, or flunk a pre-lab pop quiz. Please also come prepared with a pencil and pen.

Missed Exams and Assessments

Quizzes and the exams must be written at the scheduled times. Under no circumstances will a make-up exam be administered. 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 (a) the instructor is notified in advance of the exam (not after) and (b) the student provides documented evidence of the circumstance (i.e. medical certificate). The accommodation will be in the form of a make-up exam or adjusting the weighting of the final lecture exam to make up the missing marks, at the discretion of the instructor.

Please note: holidays or scheduled flights are not considered to be emergencies!

Late Penalties

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 (including weekend days). The format is expected to be professional, i.e. a neat, legible, clean copy. "Rough" drafts risk rejection and a subsequent late penalty. If the assignment is more

than one page, separate pages **must be stapled** before you come to class. Electronic submissions will not be accepted unless otherwise stated by the instructor.

Study Habits

You will probably find Biology 103 not very difficult, but surprisingly labor-intensive. 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 provided in point 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. 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.

Biology 103 – F2016 - Course Schedule*(Note: Scheduled dates are subject to change)**Topics may be added or deleted depending upon time constraints*

WK	WEEK OF	LECTURE TOPICS	TEXT CH.	LAB Location	LAB #	LAB TOPICS
1	Sept. 5 - 9	Course Introduction Scientific Method Biochemistry Basics Water & pH	1 2	B	-	Safety / Meet / Greet / Practice
2	Sept. 12 - 16	Organic Macromolecules Cell Biology	2 3	B	1	Measurements & Equipment
3	Sept. 19 - 23	Energetics Cell Membranes/ transport	3 4	B	2	Microscopes & Cells
4	Sept. 26 - 30	Enzymes Cellular Respiration	4	L	3	Organic Macromolecules
5	Oct. 3 - 7	MIDTERM EXAM 1 (Tues. Oct. 4th) Cell Division / Mitosis	6	L	4	Diffusion & Osmosis
6	Oct. 10 - 14	Meiosis Mendelian Genetics	7 8	L	5	Enzymes
7	Oct. 17 - 21	Sex-linked traits Inheritance Patterns	8	B	-	LAB EXAM 1
8	Oct. 24 - 28	DNA Replication Protein Synthesis	9	B	6	Mitosis & Meiosis
9	Oct. 31 – Nov. 4	Transcription/Translation Mutations	9	B	7/8	Genetics (Fingerprint lab & Cat lab)
10	Nov. 7 - 11	MIDTERM EXAM 2 (Tues. Nov. 8th) Gene Expression/Control Cancer	10		-	NO LABS (Remembrance Day)
11	Nov. 14 - 18	Homeostasis Excretion	16	B	9	Nutrition
12	Nov. 21 - 25	Nutrition Digestion	16	L	10	Human Physiology
13	Nov. 28 – Dec. 2	Circulation Respiration	16	L	10	Human Physiology
14	Dec. 5 – 9	Immune System	17	B	-	LAB EXAM 2
	Dec. 12 – 20	Exam Period FINAL EXAM TBA	-		-	-

Note: Lab locations:

L = Lansdowne Campus, Fisher Building, Room 226

B = Camosun @ Belmont Campus, Belmont High School, Room A111