



**CAMOSUN COLLEGE**  
**School of Arts & Science**  
**Department of Biology**

**BIOL-151-002A/B**  
**Human Physiology**  
**Winter 2019**

**COURSE OUTLINE**

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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.

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**1. Instructor Information**

(a) Instructor	Jennifer Giuliani
(b) Office hours	Wednesdays & Fridays 9:30-9:50am and 2:00-3:50pm (*plus other times by appointment)
(c) Location	F352
(d) Phone	250-370-3445 <b>Alternative:</b> (n/a)
(e) E-mail	<a href="mailto:GiulianiJ@camosun.bc.ca">GiulianiJ@camosun.bc.ca</a>
(f) Website	online.camosun.ca to login to D2L

**2. Intended Learning Outcomes**

Upon completion of this course the student will be able to:

1. Describe the concept of homeostasis and explain how it operates in the major physiological systems of the human body.
2. Demonstrate an understanding of the functioning of the major physiological systems of the human body at the cellular and systemic levels.
3. Explain how the major physiological systems of the body interact to bring about biological behaviors.
4. Understand how physiological processes are altered in injury or disease.
5. Apply anatomical vocabulary in a physiological context.
6. Perform laboratory procedures relevant to physiology (observe physiological phenomena, measure physiological data, organize / record / analyze results of physiological experiments).
7. Utilize critical thinking to apply physiological concepts to specific problem solving situations.

**3. Required Materials**

- (a) Texts  
Fundamentals of Human Anatomy and Physiology, 11<sup>th</sup> edition, Martini, Nath & Bartholomew,  
\*note: this is the same text that was used for Biol 150 Human Anatomy last semester

Lab Manual will be posted on D2L. More detailed information will be announced in class, and posted on D2L.

(Lab coats are encouraged, but *not required*. We will discuss this in greater detail during the first lab.)

#### 4. Course Content and Schedule

Section 001A/B	Section 002A/B
<u>Lectures – in F200</u> Wednesdays 10:00-11:20am Fridays 10:00-11:20am	<u>Lectures – in Y310</u> Wednesdays 12:30-1:50pm Fridays 12:30-1:50pm
<u>Labs – in F226</u> Section 001A: Mondays 1:30 – 4:20pm Section 001B: Mondays 9:30am – 12:20pm	<u>Labs – in F226</u> Section 002A: Tuesdays 9:30am – 12:20pm Section 002B: Tuesdays 1:30 – 4:20pm

A detailed, weekly course schedule can be found on the last pages of this course outline.

#### 5. Basis of Student Assessment (Weighting)

Lab Assignments	10%
Midterm Lab Exam (in lab, week 8)	10%
Final Lab Exam (in lab, week 14)	15%
Term Paper/Project (details TBA)	5%
Lecture Assignments/Activities	5%
Lecture Midterm #1 (Feb. 8 <sup>th</sup> )	15%
Lecture Midterm #2 (Mar. 15 <sup>th</sup> )	15%
Lecture Final Exam	25%

More detailed information on assignments, projects, and exams will be given in class.

#### 6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

#### 7. Recommended Materials 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 <http://camosun.ca/services/writing-centre/learning-skills.html>

#### General Information for Students

During the lab component of the course, you will work in small groups to perform demonstrations and experiments. Aim for equal (not necessarily identical) participation of all group members. Discuss individual responsibilities within the group and include the instructor in these discussions as needed.

## Attendance, Exams, and Submission of Assignments

It is expected that you will attend all lectures and labs. If you do miss a lecture, it is your responsibility to find out what you missed that day and get caught up. Attendance in the lab is required for completion of lab assignments. If you are unable to attend a lab, please contact your instructor as soon as possible to discuss possible arrangements.

Exams must be written at their scheduled time. This course will have two lecture midterms (scheduled and written during class time), one lab midterm exam and one final lab exam (scheduled and written during lab time) and one final exam (to be scheduled by the college registrar and written at the specified time during the final exam period). Please refer to the detailed course schedule for the dates and times of these exams. In particular, please wait until after the final exam schedule has been posted before booking any travel arrangements for the end of term. Ensure that your travel is scheduled for after the completion of your final exam for this class.

**\*\*If you are unable to write a scheduled exam due to extreme, extenuating circumstances, you must contact your instructor as soon as possible, prior to the exam. Proper documentation will be required for alternate arrangements to be made.**

All course assignments will have a specified due date. Be sure to submit all assignments on time to avoid deductions. A 10% deduction per day late will be applied to any assignments that are submitted after the due date/time.

Some course assignments will be group work; most course assignments will be individual work. When submitting your own, individual assignment, be sure that it is your work and yours alone. This applies even if you are working with a study group! I do encourage you to study and work with other students, but the work that you submit must still be your own.

These course expectations and policies will be discussed during the first week of classes. If you have any further questions, please contact your instructor.

## 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.

## Detailed Course Schedule: Biol 151 Winter 2019

The following schedule is a tentative outline of lectures and lab activities. It is subject to change as the need arises. Changes will be announced in class.

Wk	Dates	Lecture Topics	Lab Activity
1	Jan 7-11	<b>Homeostasis</b> <ul style="list-style-type: none"> <li>positive and negative feedback</li> </ul> <b>Cell Membranes and Transport</b> <ul style="list-style-type: none"> <li>review of organelles</li> <li>membrane structure</li> <li>types of transport (including osmosis)</li> </ul>	Lab 1: Introduction to the physiology labs – safety, science, and skills
2	Jan 14-18	<b>Neural Physiology</b> <ul style="list-style-type: none"> <li>membrane potentials</li> <li>action potentials in neurons</li> <li>neurotransmitters and synapses</li> <li>neural patterns and circuits, reflexes</li> </ul>	Lab 2: Movement of molecules
3	Jan 21-25	<b>Neural Physiology (cont'd)</b> <b>Senses</b> <ul style="list-style-type: none"> <li>sensory transduction (general)</li> <li>physiology of general senses</li> <li>physiology of special senses</li> </ul>	Lab 3: Nervous system
4	Jan 28 - Feb 1	<b>Cardiovascular Physiology</b> <ul style="list-style-type: none"> <li>electrical activities in the heart</li> <li>cardiac cycle and controls</li> <li>blood flow, blood pressure, and capillary exchange</li> </ul>	Lab 4: Senses
5	Feb 4-8	<b>Cardiovascular Physiology (cont'd)</b> <b>Lecture Midterm #1:</b> Friday, Feb. 8 <sup>th</sup> in class	Lab 5: Cardiovascular system
6	Feb 11-15	<b>Cardiovascular Physiology (cont'd, if needed)</b> <b>Respiratory System</b> <ul style="list-style-type: none"> <li>ventilation and lung volumes</li> <li>gas laws and diffusion</li> <li>transport of gasses (O<sub>2</sub> / CO<sub>2</sub>)</li> </ul>	Lab 6: Respiratory system and buffers
7	Feb 18-22	<b>Feb 18:</b> Family Day (College closed) <b>Feb 19 – 22:</b> Reading Break (no classes)	No labs this week!
8	Feb 25 - Mar 1	<b>Respiration (cont'd)</b> <b>Kidney &amp; Renal Physiology</b> <ul style="list-style-type: none"> <li>filtration/reabsorption/secretion</li> <li>micturition</li> </ul>	Midterm Lab Exam (Labs 1-6) and Lab 7: Urinalysis

<b>Wk</b>	<b>Dates</b>	<b>Lecture Topics</b>	<b>Lab Activity</b>
9	Mar 4-8	<b>Renal Physiology (cont'd)</b> <ul style="list-style-type: none"> <li>hormonal regulation of renal function</li> <li>fluid, pH, electrolyte balance and connections to other systems</li> </ul>	Lab 8: Dive reflex
10	Mar 11-15	<b>Renal Physiology (cont'd, if needed)</b>  <b>Digestion</b> <ul style="list-style-type: none"> <li>chemical digestion (enzymes)</li> <li>absorption</li> <li>neural and hormonal controls</li> </ul> <b>Lecture Midterm #2:</b> Friday, March 15 <sup>th</sup> in class	Lab 9: Digestion
11	Mar 18-22	<b>Digestion (cont'd)</b>  <b>Metabolic Physiology</b> <ul style="list-style-type: none"> <li>glucose metabolism (aerobic and anaerobic)</li> <li>carbohydrate, protein, and lipid metabolism</li> <li>absorptive and postabsorptive states</li> </ul> <b>Muscular System</b> <ul style="list-style-type: none"> <li>action potentials in muscle cells</li> <li>muscle contraction</li> <li>muscle physiology (cell and whole muscle)</li> </ul>	Lab 10: Muscle physiology
12	Mar 25-29	<b>Endocrine and Hormonal Regulation</b> <ul style="list-style-type: none"> <li>hormones as chemical signals</li> <li>mechanisms of hormone action</li> </ul> <b>Hematology</b> <ul style="list-style-type: none"> <li>hemopoiesis and erythrocyte cycle</li> <li>hemostasis</li> </ul> <b>Immunology</b> <ul style="list-style-type: none"> <li>non-specific and specific defenses</li> <li>response to exposure to antigen</li> <li>topics in immunology</li> </ul>	Lab 11: Hematology, endocrine system, and immunology
13	Apr 1-5	<b>Immunology (cont'd)</b>  <b>Reproduction</b> <ul style="list-style-type: none"> <li>oogenesis and spermatogenesis</li> <li>regulation of reproduction</li> <li>regulation of pregnancy, parturition, and lactation</li> </ul>	Lab review and Assignment/project work
14	Apr 8-12	<b>Reproduction (cont'd)</b>  Last lecture: topic TBA (time to wrap up any final course topics, integrating themes, etc.)	Final Lab Exam (Labs 1-11 inclusive)
	Apr 15-26	<b>Final Exam – scheduled by registrar</b>	