CAMOSUN COLLEGE	**School of Arts & Science** **BIOLOGY DEPARTMENT** **BIOL 151-001A/B** **Human Physiology** **Winter 2015**

COURSE OUTLINE

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

W *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

Instructor:	Jennifer Giuliani
Office Hours:	Wednesdays and Fridays 10:00-11:30am *other times by appointment
Location:	F352
Phone:	370-3909
Email:	giulianij@camosun.bc.ca
Website:	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

Camosun College Biology 151 Human Physiology Lab Manual, Winter 2015.
(note: Winter 2014 manual is also ok)

Fundamentals of Human Anatomy and Physiology, 10th edition, Martini, Nath & Bartholomew, Pearson Education, 2015.
*note: this is the same text that was used for Biol 150 Human Anatomy last semester!

It is also recommended that you have your own lab coat to bring to each lab. These are available for purchase in the bookstore. However, they are not required. More details will be given in the first lab.

4. Course Content and Schedule

Labs: Section A: Tuesdays 9:30am-12:20pm, F224
Section B: Tuesdays1:30-4:20pm, F224

Lectures: Wednesdays 8:30-9:50am, Y201
Fridays 8:30-9:50am, Y201

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

5. Basis of Student Assessment (Weighting)

Lab Assignments + Quizzes	15%
Lab Exam (week 13)	15%
Lecture Assignments + Poster Project	15%
Lecture Test 1	15%
Lecture Test 2	15%
Lecture Test 3 (Final Exam)	25%

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

6. Grading System

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

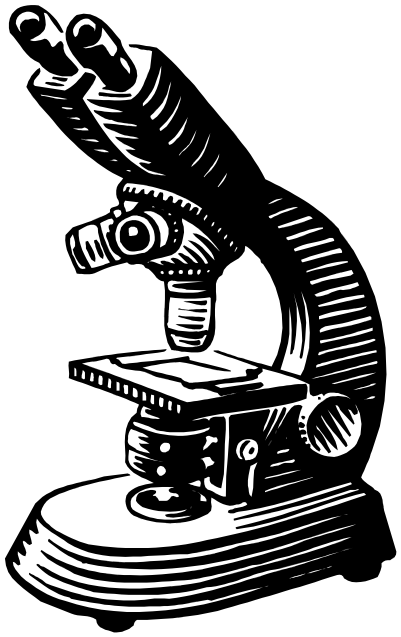
Temporary Grades

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	*Incomplete*: 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	*In progress*: 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. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* 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.

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.



General Information for Students

Physiology is about how things work. This subject requires more thought than Anatomy (memorization, however, is still needed). There are reasons that each topic is included in this course. These may not be obvious to you but you should ask yourself why. You should ask yourself lots of questions! You will be able to answer some just by thinking, many by reading, and others by talking to fellow students and occasionally, an instructor. Most of the really good questions have no answers so don't expect perfection. Asking questions will help you to understand as well as remember.

During the lab component of the course, you will work in small groups to perform demonstrations and experiments. These activities illustrate some of the topics that are covered during lecture and also give you experience in some aspects of experimentation. Group work is fundamental to the lab activities. 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.

My hope is that all students will get something useful out of this course. It is a requirement for a range of programs in the health professions. Aside from that, the topics can be related to many aspects of day to day life. Not only can it be intellectually satisfying to gain a deeper understanding of a subject but there can be added value if that understanding leads to modified behavior and increased quality of life.

Science is a cultural activity that only a small minority of people become directly involved in. Yet the advances in understanding that it yields affects us all in many ways. This course affords an opportunity to learn a little more about how scientific information is accumulated and used.

Detailed Course Schedule

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 Topic	Lab Activity
1	Jan 5-9	**Homeostasis** **Cell Physiology** • cell membranes and transport	Introduction
2	Jan 12-16	**Neuromuscular Physiology** • membrane potentials • action potentials in different cells • neurotransmitters and synapses • muscle contraction	Ex 1: Cell viability
3	Jan 19-23	**Neuromuscular Physiology (cont'd)** **Cardiovascular Physiology** • electrical activities in the heart • cardiac cycle and controls • blood flow, blood pressure, and capillary exchange	Ex 2: Movement of molecules
4	Jan 26-30	**Cardiovascular Physiology (cont'd)** **Respiration** • ventilation and lung volumes • gas laws and diffusion • transport of gasses (O_2 / CO_2)	Ex 3: Enzyme activity Ex 4: Muscle mechanics
5	Feb 2-6	**Kidney & Renal Physiology** • filtration/reabsorption/secretion • fluid, pH, electrolyte balance **Lecture Test 1**	Ex 3: Enzyme activity Ex 4: Muscle mechanics
6	Feb 9-13	Feb 9: Family Day (College closed) **Renal Physiology (cont'd)** Feb 12 & 13: Reading Break (no classes)	**T.B.A.
7	Feb 16-20	**Digestion** • chemical digestion (enzymes) • absorption • neural and hormonal controls	Ex 5: Electromyography
8	Feb 23-27	**Nervous System & Senses** • reflexes • general senses • other neural patterns and pathways	Ex 6: Cardiovascular action

Detailed Course Schedule (cont'd)

Wk	Dates	Lecture Topic	Lab Activity
9	Mar 2-6	**Endocrine and Hormonal Regulation** • hormones as chemical signals • mechanisms of hormone action	Ex 7: Respiration
10	Mar 9-13	**Metabolic Physiology** • cellular respiration • carbohydrate, protein, and lipid metabolism • absorptive and postabsorptive states **Lecture Test 2**	Ex 8: Sense organ action
11	Mar 16-20	**Metabolic Physiology (cont'd)** **Hematology** • hemopoiesis • erythrocyte cycle • hemostasis **Start Immune Response**	Ex 9: Urinalysis
12	Mar 23-27	**Immune Response** • non-specific and specific defenses	Lab Review
13	Mar 30-Apr 3	**Reproduction** • oogenesis and spermatogenesis • regulation of reproduction • regulation of pregnancy, parturition, and lactation	Lab exam
	April 3	Good Friday (College closed)	
14	April 6	Easter Monday (College closed)	Poster Presentations
	Apr 6-10	**Reproduction (cont'd)**	
	Apr 13-21	**Final Exam– scheduled by registrar**	