CAMOSUN COLLEGE
School of Arts & Science
Department of Biology

BIOL-144-001
Human Physiology
Summer 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	Dustin Silvey		
(b) Office hours	Monday, Tuesday, Wednesday 1230-130		
(c) Location	F106D		
(d) Phone		**Alternative:**	(n/a)
(e) E-mail	silveyd@camosun.bc.ca		
(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. Describe the functioning of the major physiological systems of the human body at the cellular and systemic levels.
3. Explain the interactions between the major physiological systems of the body particularly as these interactions pertain to exercise and health.
4. Apply anatomical vocabulary in a physiological context.
5. Apply basic laboratory skills in the collection of physiological data (e.g., measuring, pipetting, handling of chemicals, data collection, data presentation, lab safety).
6. Utilize critical thinking to apply physiological concepts to specific problem-solving situations in the context of scientific method.

3. Required Materials

(a) Texts
Human Physiology: From Cells to Systems....

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

Lectures – in F336 Mondays 9:30am -12:20pm Wednesdays 9:30am -12:20pm
Labs – in F224 Tuesdays 9:30am – 12:20pm Thursdays 9:30am – 12:20pm

Detailed Course Schedule: Biol 144 Summer 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.

Lecture	Dates	Lecture Topics	Lab Activity
1	May 6 -7	**Homeostasis** • positive and negative feedback **Cell Membranes and Transport** • review of organelles • membrane structure • types of transport (including osmosis)	Lab 1: Introduction to the physiology labs – safety, science, and skills
2	May 8-9	**Neural Physiology** • membrane potentials • action potentials in neurons • neurotransmitters and synapses • neural patterns and circuits, reflexes	Lab 2: Movement of molecules
3	May 13-14	**Neural Physiology (cont'd)** **Senses** • sensory transduction (general) • physiology of general senses • physiology of special senses	Lab 3: Nervous system
4	May 15-16	**Cardiovascular Physiology** • electrical activities in the heart • cardiac cycle and controls • blood flow, blood pressure, and capillary exchange	Lab 4: Senses
5	May 20-21	**No Class, Holiday**	**No lab**
6	May 22-23	**Cardiovascular Physiology (cont'd, if needed)** **Respiratory System** • ventilation and lung volumes • gas laws and diffusion • transport of gasses (O_2 / CO_2)	Lab 5: Cardiovascular system

7	May 27-28	**Midterm** **Respiration (cont'd)** **Kidney & Renal Physiology** • filtration/reabsorption/secretion • micturition	Lab 6: Respiratory system and buffers
8	May 29-30	**Renal Physiology (cont'd)** • hormonal regulation of renal function • fluid, pH, electrolyte balance and connections to other systems	Lab 7: Urinalysis

Lecture	Dates	Lecture Topics	Lab Activity
9	June 3-4	**Renal Physiology (cont'd, if needed)** **Digestion** • chemical digestion (enzymes) • absorption • neural and hormonal controls •	Lab 8: Dive reflex
10	June 5-6	**Digestion (cont'd)** **Metabolic Physiology** • glucose metabolism (aerobic and anaerobic) • carbohydrate, protein, and lipid metabolism • absorptive and postabsorptive states **Muscular System** • action potentials in muscle cells • muscle contraction • muscle physiology (cell and whole muscle)	Lab 9: Digestion
11	June 10-11	**Endocrine and Hormonal Regulation** • hormones as chemical signals • mechanisms of hormone action **Hematology** • hemopoiesis and erythrocyte cycle • hemostasis **Immunology** • non-specific and specific defenses • response to exposure to antigen • topics in immunology	Lab 10: Muscle physiology
12	June 12-13	**Immunology (cont'd)** **Reproduction** • oogenesis and spermatogenesis • regulation of reproduction • regulation of pregnancy, parturition, and lactation	Lab 11: Hematology, endocrine system, and immunology

13	June 17-18	**Reproduction (cont'd)** • Last lecture: topic TBA (time to wrap up any final course topics, integrating themes, etc.)	Review for Lab Final
	June 19-26	**Review** **Final Exam – scheduled by registrar**	Lab Final (June 20)

5. Basis of Student Assessment (Weighting)

Lab Assignments		15%
Lab Final		25%
Lecture Midterm #1	(May 27th)	25%
Lecture Final Exam		35%

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

6. Grading System

(If any changes are made to this part, then the Approved Course description must also be changed and sent through the approval process.)

[X] 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 one lecture midterm (scheduled and written during class 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	*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 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	*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.