CAMOSUN COLLEGE
School of Arts & Science
Department of Biology

BIOL-151-001
Human Physiology
Summer 2018

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.*

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1. Instructor Information

(a) Instructor	Geoffrey Morris
(b) Office hours	Monday/Wednesday 12:00-1:30pm; Tuesday/Thursday 12:30-1:00pm
(c) Location	Fisher 340D
(d) Phone	250-370-3434
(e) E-mail	morrisg@camosun.bc.ca
(f) Website	online.camosun.ca

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

Fundamentals of Human Anatomy and Physiology, 11th edition, Martini, Nath & Bartholomew, Pearson Education, 2018. *with MasteringA&P
*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

Lectures – in Y211
Mondays/Wednesdays 1:30 – 4:20pm

Labs – in F238
Section 001A: Tuesdays/Thursdays 1:30 – 4:20pm
Section 001B: Tuesdays/Thursdays 9:30am – 12:20pm

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

5. Basis of Student Assessment (Weighting)

Lab Assignments (1 per lab)	10%
Lab Quizzes (2 x 5%)	10%
Lab Exam (June 19: Labs 1-10)	15%
Dynamic Study Modules (online)	5%
Lecture Assignments/Quizzes	10%
Lecture Midterm (June 4)	20%
Lecture Final Exam	30%

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

6. Grading System

[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

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.

9. Course Policies

Student Safety

Nothing is more important to the instructor than students enjoying a safe class and lab environment. Consider the following issues:

Lab footwear	• 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	• Eating or drinking anything in the lab is a violation of federal regulations, so 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	• It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.
Handwashing	• Hands should be thoroughly washed *after* removing lab coats and *before* leaving the lab.

Laboratory Attendance

Lab work is critical to the course objectives and much effort has been expended to ensure the lab experience is interesting and educational, both from academic and practical points of view. Therefore, attendance throughout the entire laboratory session is mandatory and will be noted. Labs will start promptly (after a five-minute grace period) because information necessary for performing the laboratory correctly and safely is given at the beginning of the lab. Late attendance 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. If a lab session is missed, another student's data *may not* be used to complete a lab assignment for credit. Exceptions can be made *at the instructor's discretion* in legitimate cases of emergency (e.g. illness); in such cases the instructor must receive *advance notification* and *documented evidence* of the situation (e.g. medical certificate) and grant approval for any accommodation. In cases when a lab is done over two weeks, missing one of the weeks without instructor approval will result in a 50% reduction in the grade for any assignment associated with that lab.

Written Work

Lecture and lab assignments may be assigned at the instructor's discretion. It is the student's responsibility to be informed of any work expected and the dates the work is due. Assignments may be intended to be completed as individuals or as groups. The instructor will make clear which is which. Work intended to be submitted by an individual must be completed independently, keeping in mind student conduct requirements. Work intended for completion by a group *must not* be completed by an individual. Each person in a group will receive the same mark on any group work.

Unless otherwise indicated, all submitted written material (including numerical entries in data tables) must be prepared using word processing (typically MS Word) or graphing software (e.g. Excel). The only exceptions are calculations and *some* graphs, which may be submitted handwritten or hand drawn. Any exceptions will be clearly indicated. Work submitted inappropriately formatted, which includes last-minute handwritten corrections, will not be marked until all formatting is correct. Since correcting formatting requires time, this will likely mean a late penalty will be assessed.

Late Penalties

All assignments must be handed in by the *time indicated on the assignment*. Be sure to submit all assignments on time to avoid deductions. Late assignments will be graded but marks equivalent to 15% of the total value of the assignment will be deducted for each day past the deadline.

Missed Exams

Without exception, all 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 certificate).

**** 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.

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 presentations will be uploaded to the course website. 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.

Summary of Student Responsibilities

1. Attending classes and actively engaging in lecture times are optimal for learning and therefore are in the best interests of student success. Should it be necessary to miss a lecture, however, it is the student's responsibility to catch up on anything that may have been missed (e.g. important announcement or assignments).
2. Students must hand in required assignments on time or be subject to penalty.
3. Evaluation of written or oral work will not be given if a student is not present.
4. Students must work independently, except when a group effort is required.
5. Students must know and follow all Safety Rules and Procedures. Students must sign the Safety Contract before participating in any laboratory activity.
6. All safety measures must be followed, with no exceptions.
7. The use of cell phones is prohibited in the lab.
8. All laboratories start punctually.

Detailed Course Schedule: Biol 151 Summer 2018

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 and on D2L.

Wk	Dates	Lecture Topics	Lab Activity
1	May 7-8	**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, scientific literature and chemistry review.
1	May 9-10	**Neural Physiology** • membrane potentials • action potentials in neurons • neurotransmitters and synapses • neural patterns and circuits, reflexes (in lab)	Lab 2: Movement of molecules
2	May 14-15	**Muscular System** • glucose metabolism • action potentials in muscle cells • muscle contraction • muscle physiology (cell and whole muscle)	Lab 3: Neural circuits and reflexes
2	May 16-17	**Cardiovascular Physiology** • electrical activities in the heart • cardiac cycle and controls • blood flow, blood pressure, and capillary exchange	Lab 4: Muscle mechanics and EMG
3	May 21-22	**Victoria Day (No Lecture)**	**Lab Quiz 1: Labs 1-4** Lab 5: Cardiovascular physiology
3	May 23-24	**Cardiovascular Physiology (cont'd)**	Lab 6: Respiration and Buffering Capacity
4	May 28-29	**Respiration** • ventilation and lung volumes • gas laws and diffusion • transport of gasses (O_2 / CO_2)	Lab 7: Urinalysis

Wk	Dates	Lecture Topics	Lab Activity
4	May 30-31	**Kidney & Renal Physiology** • filtration/reabsorption/secretion • micturition • hormonal regulation of renal function • fluid, pH, electrolyte balance	**Review for Lecture Midterm**
5	June 4-5	**Lecture Midterm** **Renal Physiology (cont'd)**	Lab 8: Digestion
5	June 6-7	**Digestion** • chemical digestion (enzymes) • absorption • neural and hormonal controls	**Lab Quiz 2: Labs 5-8** **Lecture**: Endocrine and Hormonal Regulation -hormones as chemical signals -mechanisms of hormone action
6	June 11-12	**Metabolic Physiology** • carbohydrate, protein, and lipid metabolism • absorptive and postabsorptive states	Lab 9: Senses (*will include some lecture in lab time this week)
6	June 13-14	**Hematology** • hemopoiesis and erythrocyte cycle • hemostasis	Lab 10: Hematology, Endocrine System, and Immunology
7	June 18-19	**Immunology** • non-specific and specific defenses	**Lab Exam** (Labs 1-10 inclusive)
7	June 20-21	**Reproduction** • oogenesis and spermatogenesis • regulation of reproduction • regulation of pregnancy, parturition, and lactation	**Review for Lecture Final**
	June 25-27	**Final Exam – scheduled by registrar**	