



School of Arts & Science
BIOLOGY DEPARTMENT
BIOL 151-001B
Human Physiology
Summer 2017

COURSE OUTLINE

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

- * 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:	Geoff Morris
(b)	Office Hours:	Tuesday/Thursday 11:30-1:30
(c)	Location:	F340D
(d)	Phone:	250-370-3434
(e)	Email:	morisg@camosun.bc.ca
(f)	Website:	http://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

- (a) 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

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

4. Course Content and Schedule

Lectures: Tuesday/Thursday
1:30-4:20 Y211

Labs: Monday/Wednesday

Section A 1:30-4:20 F238

Section B 9:30-12:20 F238

5. Basis of Student Assessment (Weighting)

Lab/Lecture Assignments	20%
Lab Quizzes (2 x 5%)	10%
Lab Exam	20%
Lecture Midterm	20%
Lecture Final Exam	30%

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	<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. (For these courses a final grade will be assigned to either the 3 rd course attempt or at the point of course completion.)
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.

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.

Plagiarism

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

Plagiarism is a serious offence and is considered to be academic misconduct, and so **will not be tolerated**. Except where work is assigned to a group, all written work, **including lab data processing** and graphs, must be done individually.

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:

- (a) using unauthorized materials or resources in a quiz/exam, and
- (b) 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-and-support/e-2.5.pdf>) and penalties may be severe.

Student Safety

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

Lab footwear	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.
Handwashing	<ul style="list-style-type: none">• 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.

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.

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.

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.
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Detailed Course Schedule: Biol 151 Summer 2017

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	Lab Activity	Lecture
1	May 1-2	Lab 1: Introduction to the physiology labs, scientific literature & chemistry review.	Homeostasis <ul style="list-style-type: none"> positive and negative feedback Cell Membranes and Transport <ul style="list-style-type: none"> review of organelles membrane structure types of transport (including osmosis)
1	May 3-4	Lab 2: Movement of molecules	Neural Physiology <ul style="list-style-type: none"> membrane potentials action potentials in neurons neurotransmitters and synapses neural patterns and circuits, reflexes (in lab)
2	May 8-9	Lab 3: Neural circuits & reflexes	Muscular System <ul style="list-style-type: none"> glucose metabolism action potentials in muscle cells muscle contraction muscle physiology (cell and whole muscle)
2	May 10-11	Lab 4: Muscle mechanics & EMG	Cardiovascular Physiology <ul style="list-style-type: none"> electrical activities in the heart cardiac cycle and controls blood flow, blood pressure, and capillary exchange
3	May 15-16	Lab Quiz: lab 1-4 Lab 5: Cardiovascular Physiology	Cardiovascular Physiology (cont'd)
3	May 17-18	Lab 6: Respiration & Buffering Capacity	Cardiovascular Physiology (cont'd, if needed) Respiration <ul style="list-style-type: none"> ventilation and lung volumes gas laws and diffusion transport of gasses (O₂ / CO₂)
4	May 22-23	No lab (Holiday)	Respiration (cont'd) Kidney & Renal Physiology <ul style="list-style-type: none"> filtration/reabsorption/secretion micturition hormonal regulation of renal function fluid, pH, electrolyte balance

4	May 24-25	Lab 7: Urinalysis	Lecture Midterm Kidney & Renal Physiology (cont'd)
5	May 29-30	Lab 8: Digestion	Renal Physiology (cont'd, if needed) Digestion <ul style="list-style-type: none"> • chemical digestion (enzymes) • absorption • neural and hormonal controls
5	May 31- June 1	Lab Quiz: lab 5-8 Lab 9: Senses	Metabolic Physiology <ul style="list-style-type: none"> • cellular respiration • carbohydrate, protein, and lipid metabolism • absorptive and postabsorptive states
6	June 5-6	Lab TBA	Metabolic Physiology (cont'd) Endocrine and Hormonal Regulation <ul style="list-style-type: none"> • hormones as chemical signals • mechanisms of hormone action Start Hematology
6	June 7-8	Lab 10: Hematology, Endocrine System, and Immunology	Hematology <ul style="list-style-type: none"> • hemopoiesis and erythrocyte cycle • hemostasis Start Immunology
7	June 12-13	Lab Review	Immune Response <ul style="list-style-type: none"> • non-specific and specific defenses Reproduction <ul style="list-style-type: none"> • oogenesis and spermatogenesis • regulation of reproduction • regulation of pregnancy, parturition, and lactation
7	June 14-15	Lab Exam (Lab 1-10)	Reproduction (cont'd) If time allows: Review
8	June 19-21		Final Exam: schedule by registrar