



School of Arts & Science
BIOLOGY DEPARTMENT
BIOL 142
Physiology for Sport Education
Quarter 2 Winter 2008

COURSE OUTLINE

CALENDAR DESCRIPTION

This course provides an overview of functional relationships within the human body. Physiological processes are studied at both the cellular and organ system level, with an emphasis on homeostasis as it relates to exercise, health and disease. This course is designed for students in Exercise and Wellness, Sport Management and Athlete and Coach Development Diploma programs, as well as Allied Health Programs.

PREREQUISITES

Grade of C+ or better in English 12, Grade 11 level science, Math 11

1. Instructor Information

(a)	Instructor:	Peggy Hunter		
(b)	Office Hours:	TBA		
(c)	Location:	F246C		
(d)	Phone:	370-3427	Alternative Phone:	
(e)	Email:	hunterp@camosun.bc.ca		
(f)	Website:	http://hunterp.disted.camosun.bc.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. 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 sport performance and health.
4. Relate 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).

3. Required Materials

Texts	Essentials of Anatomy and Physiology (3rd edition), Martini, F. and Bartholomew, E. (2007).
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4. Course Particulars and Schedule

Class hours: 3 hrs lecture/week
 Out of class: 6 hrs/week minimum
 Credits: 3 credits

COURSE SCHEDULE - WINTER 2008

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

WEEK/DATE	LECTURE TOPIC		LAB
1. Jan 7–11	Intro to Cellular physiology <ul style="list-style-type: none"> • homeostasis • cell membranes • transport mechanisms • enzymes 	Ch 1 p7 Ch 2 p28-55 Ch 3 p56-87	Lab 1: Intro to Laboratory Science
2. Jan 14–18	Digestive Physiology <ul style="list-style-type: none"> • chemical digestion - enzymes • absorption - chemicals, routes, locations • neural and hormonal controls • gastrointestinal function during exercise 	Ch 16 540-550	Lab 2: Intro to Chemical Concepts
3. Jan 21–25	Metabolism <ul style="list-style-type: none"> • carbohydrate metabolism • lipid and protein metabolism • interconversion of molecules • energy transfer in exercise • absorptive and postabsorptive states, hormonal control Endocrine Physiology	Ch 17 p552-517 Ch 10 p330-336	Lab 3: Digestion of Organic Molecules
4. Jan 28–Feb 1	Neural Physiology <ul style="list-style-type: none"> • membrane potentials • synapse and neurotransmitters • neural integration • reflex pathways 	Ch 8 p243-252	Lab 4: Cellular Respiration and Glucose Monitoring
5. Feb 4 –8	MIDTERM 1 Sensory Perception <ul style="list-style-type: none"> • general senses • theories of smell, taste, vision and hearing 	Ch 9 p298-301 p309-314 p315-329	Lab 5: Reflexes and cranial nerve tests
6. Feb 11-13 Feb 14–15	READING BREAK Sensory Reception (cont'd)		NO LAB
7. Feb 18–22	Muscle Physiology <ul style="list-style-type: none"> • neuromuscular junction • sliding filament contraction theory • gross muscle physiology 	Ch7 p184-203	Lab 6: Sensory perception
8. Feb 25–Feb 29	Cardiovascular Physiology <ul style="list-style-type: none"> • ECG (action potentials) • cardiac cycle and controls 	Ch12 p398-411	Lab 7: Muscle Physiology

9. Mar 3–7	Cardiovascular Physiology continued • blood flow / blood pressure capillary exchange	Ch 13 p418-429	Lab 8: Cardiovascular Physiology
10. Mar 10–14	Hematology • erythrocyte cycle • hemostasis Immunology • specific vs non-specific defense	Ch11 p364-387 Ch 14 p452-480	Lab 9: Hematology and Immunology
11. Mar 17–20	MIDTERM 2 Respiratory Physiology • ventilation • lung volume and capacities • gas laws and diffusion • blood flow/gradients (O ₂ /CO ₂)	Ch 15 492-513	Lab 10: Respiratory Physiology
12. Mar 24 Mar 25– 27	EASTER HOLIDAY Respiratory Physiology (cont'd)		NO LAB
13. Mar 31-Apr 4	Renal Physiology • filtration/reabsorption /secretion • fluid/electrolyte balance • acid/base balance	Ch 18 p578-611	Lab 11: Urinalysis
14. Apr 7-11	Renal Physiology (cont'd) Reproductive Physiology • hormonal regulation of reproduction	Ch 19 p621-622 P630-643	LAB EXAM
Apr 14–22	FINAL EXAM		

5. 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 at camosun.ca or 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.

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6. Basis of Student Assessment (Weighting)

Quizzes/Assignments	20%
Lecture midterm 1	25%
Lecture midterm 2	25%
Final	30%
	100%

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 on the College web site in the Policy Section.

Student Responsibilities

1. Students are expected to hand in any required assignments on time. Assignments are due at the **beginning** of the class period on the due date. Assignments not handed in at the beginning of class will be considered late, for which there is a 10% penalty/day.
2. Attendance correlates highly with academic success. If unable to attend a lecture or lab session, the student is responsible for arranging with a classmate to obtain information such as notes, handouts and announcements.
3. Examinations must be written as scheduled except in the case of illness or emergency. The student must notify the instructor **in advance** of the examination. Documentation acceptable to your instructor is required to schedule a make-up exam.
4. Any evaluation of work for in-class/lab assignments, reports and/or participation will not be given if a student is not present for any reason.
5. Weekly quizzes will be written at the beginning of every class; if you are late for class you will not be allowed to write the quiz
6. Students are expected to work independently on assignments unless instructed that the evaluation is based on group effort. Please see ACADEMIC MISCONDUCT.

Concerning spelling

Mastering the usage of anatomical and physiological terminology will be important to you for several reasons. Correct usage (pronunciation and spelling) will

- Foster self confidence
- Help to earn the respect of your professional colleagues
- Reduce the chances of practical mistakes which may cause harm or embarrassment. Consider the difference between the terms **peroneal** and **perineal**

You will be expected to use acceptable pronunciation and correct spelling for presentations, assignments and exams. **Penalties for spelling errors will be applied.** If writing is illegible, no marks will be given.