

SCHOOL OF HUMAN KINETICS, UNIVERSITY OF BRITISH COLUMBIA
Human Kinetics (HKIN) 190
Human Functional Anatomy and Applied Physiology I
(Summer 2007)

Instructor: Dr. Matthew Fedoruk
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Office: Room 322, Wesbrook Building
Office Hours: by appointment
Lectures: Tuesday/Thursday: 9 - 11AM
Osborne Centre, Unit 1, Rm 203A/B
Laboratories: Tuesday/Thursday: 11AM - 1PM
Osborne Centre, Unit 1, Rm 203A/B

****Important: include "HKIN 190" in the subject line of ALL Emails.***

Required Textbooks:

Principles of Anatomy and Physiology (GJ Tortora, B Derrickson; 11th ed., 2006)
Additional lecture and lab material will be available online (WebCT)

Optional:

A Brief Atlas of the Skeleton Surface Anatomy, and Selected Medical Images (1st Edition, GJ Tortora)

Illustrated Notebook to accompany Principles of Anatomy and Physiology (11th Edition GJ Tortora, B Derrickson)

Description:

Gross human anatomy is the science of the structure of the human body and its parts that can be observed with the naked eye while human physiology is the science of the function of the living human body. In this course, we will concentrate on the structure and function of the neural, muscular, and skeletal systems of the human body.

Learning Objectives – by the end of this course, you should be able to:

1. Demonstrate knowledge and think critically about the basic structure (anatomy) and function (physiology) of the human body.
2. Integrate and apply your knowledge of anatomy and physiology with regards to the study of basic human movement.
3. Be able to problem solve in the laboratory setting in the context of human kinetics.
4. Be an active and productive participant in group learning situations.
5. Demonstrate professional behaviour toward class participation.

Course Evaluation:

Examinations on lecture material: 60% of the final grade

Lecture Quizzes: 10% (5 quizzes worth 2% each)

Midterm: 15% (Tuesday, July 10th, 2007)

Final: 35% (Date/Time to to-be-announced by the University)

Laboratory Examinations: 40% of the final grade

Lab Bellringer #1: 5% (Thursday, June 28th, 2007)

Lab Bellringer #2: 10% (Tuesday, July 10th, 2007) (same day a lecture midterm)

Final: 25% (Thursday, July 26th, 2007) (final day of class)

Course Policies

1. Full attendance is expected at all lectures and lab sessions. Students must participate in a mature fashion in the lecture and laboratory and are expected to show respect for their fellow students and the instructors. Students are expected to dress appropriately for and participate in all lab sessions. Disruptive behaviour, including the use of mobile phones, will not be tolerated in the classrooms.

2. The University accommodates students with disabilities who have registered with the Disability Resource Centre. Students whose attendance or academic performance may be severely affected by medical, emotional, or other disabilities should consult with the instructor at least 2 weeks before scheduled tests or exams to discuss any special accommodations that might be needed in order to complete course requirements. Supportive documentation from either the Disability Resources Center or a physician will be required by the Undergraduate Advising Office.

3. The University accommodates students whose religious obligations conflict with attendance or completing scheduled tests and examinations. A list of religious holidays involving fasting, abstention from work or study, or participation in all-day or fixed-time activities is available at <http://www.students.ubc.ca/current/holidays.cfm>. Any required accommodations should be communicated to the course instructor, preferably in the first week of class.

4. **Graded work** in this course constitutes the lecture quizzes & midterm, laboratory bellringers, and final examinations. Your attendance at these tests is mandatory. Students must write the quizzes, midterms, bellringer tests, and lab final examinations on the scheduled date. Students who miss any of these evaluations due to unauthorized absence will receive a grade of zero. Students who cannot complete the graded work due to an **authorized absence** will write a makeup test on a date to be determined in consultation with the instructor.

5. **Authorized Absences:** Students who know in advance that they will be unavoidably absent should appeal for special accommodation from the instructor as early in the term as possible to determine how any missed graded work will be completed. The School of Human Kinetics will not normally consider special accommodation without timely notification. **A minimum of two weeks notification is expected and documentation will be required.**

6. Where prior notification of absence from graded work is not possible (e.g. due to unforeseen illness or family crisis), students should contact the instructor as soon as possible upon their return to class. **Supportive documentation, submitted to the Undergraduate Advising Centre, will be requested.**

7. Students who miss the final examination in December **MUST** apply to the Undergraduate Advising Office at the earliest possible date to request consideration for Academic Concession. Students will be asked to complete an Academic Concession Form and provide supportive documentation. Academic Concession is a privilege, not a right, and can be granted only by the Undergraduate Advising Office.

8. Students who plan to be absent from graded work for varsity athletics, family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the official course drop date.

Physiology Lectures – Syllabus:

Date	Lecture #	Topic
19-June	1	introduction to physiology
21-June	2	<u>cell physiology</u> : membrane structure and transmembrane transport, membrane potential
26-June	3	introduction to the <u>nervous system</u> : graded potentials, action potentials, neurons, synapses
28-June	4	sensory receptors and sensory transduction
3-July	5	<u>central nervous system</u> : BBB, CSF, brain functional anatomy
5-July	6	brain functional anatomy: diencephalon, cerebellum, brainstem, spinal cord
10-July	7	MIDTERM (15%) somatic sensory pathways somatic motor pathways, reflex pathways
12-July	8	cranial nerves autonomic nervous system
17-July	9	introduction to <u>skeletal muscle</u> : structure, mechanism of muscle contraction
19-July	10	muscle mechanics muscle metabolism
24-July	11	<u>bone</u> function and structure, growth bone remodelling
26-July	12	<u>integumentary system</u>
TBA		FINAL EXAM (35%)

Lecture Quizzes:

Each quiz is worth 2% (total 10%). They will be given out and completed in lecture class. There is only one correct answer for each question. These are designed to encourage students to keep up with the lecture material.

Content of quizzes will be as follows:

Quiz #1: Neurons, membranes, and neurotransmitters

Quiz #2: The brain and spinal cord

Quiz #3: Spinal reflexes and the ANS

Quiz #4: Bones and muscle structure

Quiz #5: Muscle

Anatomy Labs – Syllabus:

Date	Lab #	Topic
19-June	1	Introduction, Anatomical Terminology Axial Skeleton (vertebral column, thorax)
21-June	2	Bones and Muscles of the Skull
26-June	3	Upper Limb Bones and Joints
28-June	4	LAB BELLRINGER #1 (5%) – Labs 1-3
3-July	5	Introduction to Muscles Muscles and Other Structures of the Shoulder and Arm
5-July	6	Muscles and Other Structures of the Forearm and Hand
10-July	7	LAB BELLRINGER #2 (10%) – Labs 1-5
12-July	8	Lower Limb Bones and Joints
17-July	9	Muscles of the Hip and Thigh, Femoral Triangle
19-July	10	Muscles of the Leg and Foot, Popliteal Fossa
24-July	11	Review Lab
26-July	12	FINAL LABORATORY EXAM (25%) – Labs 1-8

Laboratory groups will be assigned the first week of labs and these groups will remain the same for the duration of the course. Learning anatomy will include surface anatomy and palpation. This involves being able to locate and identify anatomical landmarks on yourself and each other. Please dress appropriately (e.g. a pair of shorts for the second half of term) for the surface anatomy components of the lab. Students are expected to behave in a professional manner at all times in the laboratory classroom.