

## **Exercise Physiology 3700 Fall 2007**

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

<b>Description</b>	This class will cover the acute physiological responses and chronic adaptations to exercise. This includes neuromuscular, metabolic, cardiovascular, hormonal, and respiratory systems as they pertain to acute and chronic exercise. The major goal of the class is to develop a basic understanding of exercise physiology.		
<b>Prerequisites</b>	cbio2200-2200L and cbio2210-2210L		
<b>Instructor</b>	Kevin McCully, Ph.D.		
<b>Office hours</b>	by appointment		
<b>Meetings</b>	Class	Monday, Wednesday	10:10 – 11:00am
	Room	205 Ramsey Center	
<b>Textbook</b>	Exercise Physiology: Theory and Application to Fitness and Performance, by Powers and Howley, McGraw Hill, 2007. 6 <sup>th</sup> Edition. Available at the university bookstore.		
<b>Evaluation</b>	7-8 quizzes (once every two weeks)	70%	
	Final Exam	30%	as stated in handbook
	Optional paper	5%	
<b>Grading policy</b>	plus minus system		

If a student wishes to have an exam re-graded, she/he must submit in writing the nature of the problem, and the exam, no later than one week after the exam has been returned. The entire exam will be rechecked.

**Attendance** Attendance of lectures is optional but encouraged. Most of the information on the exams will come from the textbook and the lecture slides. But some required information may only be presented in class. Attendance at all scheduled quizzes and the final is required. No make up exams will be given unless official UGA excuse is given (i.e., medical leave, etc.). Students are required to notify course instructor prior to an exam in order to obtain permission to reschedule an exam.

**WebCT** This course will make use of WebCT. Class information will be posted, as well as the slides used in lecture. Learning objectives will be posted on WebCT.

**Honors and Masters Credit**

Honors credit and Masters degree credit will not be given in this class

**(1) Course Objectives or Expected Learning Outcomes,**

The goals of the class are to develop a basic understanding of exercise physiology so that the student will be able to:

- a) understand the key aspects of the neuromuscular system
- b) understand the role of muscles and motor units in the control of muscle movement
- c) understand how the neuromuscular system responds to acute and chronic exercise
- d) understand the key aspects of skeletal muscle metabolism and how they influence muscle performance
- e) understand the key aspects of muscle fatigue and exercise induced muscle injury
- f) understand the key aspects of the humoral system in terms of how hormones impact exercise performance
- g) understand the key aspects of the heart and peripheral circulation system and how it functions during exercise
- h) understand the key aspects of the respiratory system and how it functions during exercise
- i) the endocrine response to acute and chronic exercise
- j) understand the key aspects of thermoregulation including the impact of exercise in warm and cold environments
- k) understand the key aspects of exercise in hyper and hypobaric environments
- l) understand what adaptations occur to acute and chronic exercise
- m) understand the key aspects behind overtraining, deconditioning, and tapering for athletic competition
- n) understand the impact of nutrition and ergogenic aids on exercise performance
- o) understand the impact of body composition and body weight on exercise performance
- p) understand key differences in the exercise performance between males and females
- q) understand the impact of development on exercise and performance
- r) understand the impact of aging on exercise and performance

**(2) Topical Outline**

**WEEK 1**

History and overview of exercise physiology

**WEEK 2**

Skeletal muscle physiology

**WEEK 3**

Neurological control of movement

WEEK 4

Neuromuscular adaptations to resistance exercise

WEEK 5

Metabolism and basic energy systems

WEEK 6

Hormonal regulation of exercise

WEEK 7

Metabolic adaptations to training

WEEK 8

Cardiovascular control during exercise

WEEK 9

Respiratory regulation during exercise

WEEK 10

Cardiovascular and respiratory adaptations to training

WEEK 11

Thermoregulation and exercise

WEEK 12

Exercise in different environments

Excessive training, overtraining, tapering, and detraining

WEEK 13

Ergogenic aids, nutrition, and performance

WEEK 14

Body composition and sports

WEEK 15

Impact of development, aging, and gender on exercise

(3) University Honor Code and Academic Honesty Policy.

All academic work must meet the standards contained in “A Culture of Honesty.” Each student is responsible to inform themselves about those standards before performing any academic work.

Copies of the honor code can be obtained from the Office of the Vice President for Instruction or may be viewed at the following web site:

<http://www.uga.edu/ovpi/>