

**Department of Kinesiology
College of Education
University of Georgia**

**KINS 3700
Applied Exercise Physiology
Fall Semester 2009**

Instructor Information

Instructor: Mike Schmidt, Ph.D.
Office Location: 101D Ramsey Center
Phone: 706.542.6577
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Office Hours: Monday and Wednesday, 11:00–12:00, or by appointment

Course Location and Meeting Time

Location: 205 Ramsey Center
Days: Tuesday, Thursday
Time: 11:00am – 12:15pm

Course Information

Description:

This class will cover the acute physiological responses and chronic adaptations to exercise. This will include the respective roles of the neuromuscular, metabolic, cardiovascular, hormonal, and respiratory systems during acute and chronic exercise and the adaptations that occur to these systems in response to exercise. The major goal of the class is to develop a basic understanding of exercise physiology and its application to health and human performance.

Textbook:

Wilmore, Costill & Kenney (2008). Physiology of Sport and Exercise (4th Edition). Champaign IL: Human Kinetics. Available at the UGA bookstore.

Prerequisites:

CBIO2200-2200L and CBIO2210-2210L (Anatomy and Physiology I and II)

Course Learning Objectives

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

- a) Describe the underlying physiological mechanisms needed to exercise.
- b) Discuss the physiological effects of acute exercise and training.
- c) Identify the key aspects of muscle fatigue and exercise induced muscle injury.
- d) Compare and contrast the key concepts of thermoregulation during exercise in warm and cold environments.
- e) Discuss the impact of body composition and nutrition on exercise performance.
- f) Identify key differences in the exercise performance capacity of males and females.
- g) Describe the key aspects behind overtraining, deconditioning, and tapering for athletic competition.
- h) Design conditioning programs for selected populations or environmental conditions.
- i) Describe the impact of growth and development on exercise and performance.
- j) Identify key changes in physiological function that occur with human aging.
- k) Define physical activity and discuss the relationship between physical activity and important health conditions such as obesity, diabetes, and cardiovascular disease.

Course Requirements and Grading

Exams: There will be a total of 3 exams in class and one final exam at the end of the semester during finals week. Prior to each exam, a detailed list of learning objectives will be provided to assist students in exam preparation. No make up exams will be given unless an official UGA excuse is provided (i.e., medical leave, etc.). Students are required to notify the course instructor prior to an exam in order to obtain permission to reschedule. A student who wishes to have an exam re-graded must discuss concerns with the instructor within one week after the exam has been returned.

Attendance: Students are expected to attend class and participate in class discussions. Attendance will be taken throughout the semester on 10 random occasions. Each absence will result in a 1% reduction in the student's course grade.

Evaluation:	Exam 1	15%
	Exam 2 (midterm)	30%
	Exam 3	15%
	Exam 4 (final)	30%
	Attendance	10%

Grading Scale: Grades will be based on the ‘plus minus system’ using the percentage of the total possible points earned in the class. Specifically:

A	= 93.0-100
A-	= 90.0-92.9
B+	= 87.0-89.9
B	= 83.0-86.9
B-	= 80.0-82.9
C+	= 77.0-79.9
C	= 73.0-76.9
C-	= 70.0-72.9
D	= 60.0-69.9
F	= <60.0

Note: These cut-points will be strictly adhered to!

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 these 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/honesty>

Students with Disabilities

Students with disabilities who require reasonable accommodations in order to participate in course activities or meet course requirements should contact the instructor or designate during regular office hours or by appointment.

Additional Information

WebCT: Class information including lecture slides and grades will be posted on WebCT.

Cell Phones: Please ensure cell phones are silenced or turned off during the class period.

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

Course Schedule*

*This schedule is subject to change. Any changes will be announced in class and/or through WebCT.

Date	Topic	Associated Readings
8/18	Introduction to the course	
8/20	Skeletal muscle & exercise	Ch 1 (focus pp 35-45)
8/25	Neurological control: Peripheral Nervous Sys.	Ch 3 (focus pp 89-97)
8/27	Fuel for exercising muscle	Ch 2, pp 48-59
9/1	Regulation of metabolism during exercise	Ch 2, pp 68-77
9/3	Review of the cardio-respiratory system	Ch 5 & 6 (review)
9/8 – 9/10	Cardio-respiratory responses to exercise	Ch 7 (all)
9/15	Principles of exercise training	Ch8 (all)
9/17	Exam 1	
9/22	Training for Sport	Ch 13 (all)
9/24 – 9/29	Adaptations to resistance training	Ch 9 (all)
10/1 – 10/6	Adaptations to aerobic/anaerobic training	Ch 10 (all)
10/8	Fatigue & its causes	Ch 4, pp113-118
10/13	Exercise in hot & cold environments	Ch 11 (all)
10/15 – 10/20	Body composition & nutrition for sport	Ch 14 (all)
10/22	Children & adolescents in sport & exercise	Ch 16 (all)
10/27	Exam 2	
10/29 – 11/3	Aging in sport & exercise	Ch 17 (all)
11/5 – 11/10	Sex differences in sport & exercise	Ch 18 (all)
11/12	Prescription of exercise for health & fitness	Ch 19 (all)
11/17	Exam 3	
11/19	Obesity & physical activity	Ch 21, pp 493-510
11/24 – 11/26	Thanksgiving Break	
12/1	Diabetes & physical activity	Ch 21, pp 511-515
12/3	Cardiovascular disease & physical activity	Ch 20 (all)
12/11	Final Exam (12 – 3pm)	