

GEORGE MASON UNIVERSITY  
School of Recreation, Health, and Tourism

KINE 410-001: Exercise Physiology II (3)  
Spring 2014

DAY/TIME: M/W 12:00 – 1:15 pm LOCATION: PW 247 Bull Run Hall  
PROFESSOR: Dr. Charles Robison EMAIL ADDRESS: crobiso4@gmu.edu  
OFFICE LOCATION: PW 205 Bull Run Hall PHONE NUMBER: 703-993-7115  
OFFICE HOURS: T/Th 10:30- 12:00 pm FAX NUMBER: 703-993-2025  
or by appointment

PREREQUISITES:

BIOL 124, BIOL 125, ATEP 300, KINE 310

COURSE CATALOG DESCRIPTION:

Provides study in the advanced theory of exercise physiology. Knowledge related to the physiologic, neuroendocrine, and biochemical changes of the human body associated with both a single bout of exercise and chronic exercise training will be addressed.

COURSE OBJECTIVES:

Upon completion of KINE 410 students should be able to:

1. Discuss the dynamics of the bioenergetic, cardiorespiratory, neuromuscular, and endocrine systems
2. Describe advanced physiologic responses to acute and chronic physical activity
3. Identify common nutritional ergogenic aids, the purported mechanism of action, and any risk and/or benefits

COURSE OVERVIEW:

Material for the course will be drawn from the required textbook and assigned readings of published research. Class lectures will be presented in PowerPoint with handouts posted on Blackboard in advance of class meetings.

NATURE OF COURSE DELIVERY:

This course will be delivered in a face-to-face type of environment. This class will consist of both lecture and laboratory instruction.

SPECIAL REQUIREMENTS:

This course requires a laboratory fee of \$25.00 payable to George Mason University. This fee is due at the beginning of the second-class meeting (January 27, 2014) and you need to pay online at: <http://rht.gmu.edu/course-fees> or you can bring a check to Lindsey Olson in 220 Bull Run Hall. You should make your check payable to George Mason University and in the Memo section write in "KINE 410 Lab Fee." A receipt will be issued to you upon payment.

REQUIRED READINGS:

McArdle, W.D., Katch, F.I., and Katch, V.L. (2010) *Exercise Physiology: Nutrition, Energy, and Human Performance*, 7<sup>th</sup> edition. Lippincott, Williams & Wilkins. ISBN: 978-0-7817-9781-8

EVALUATION:

A. Written Examinations (4)	45%
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<i>Exams will be T/F, multiple choice and short answer. (Objectives 1,2)</i>	
B. Lab Reports <i>Lab reports will be written in response to each lab activity. Specific questions will be given for students to address (Objectives 1,2)</i>	25%
C. Performance Enhancing Substance Paper <i>A 5-8 page paper will be written addressing a known or suspected performance enhancing substance (Objective 3)</i>	20%
D. Performance Enhancing Substance Presentation <i>A 10-15 minute presentation will be delivered addressing the performance enhancing substance discussed in the paper (Objective 3)</i>	10%

#### GRADING SCALE

A = 93.5 – 100	B+ = 87.5 – 89.4	C+ = 77.5 – 79.4	D = 59.5 – 69.4
A- = 89.5 – 93.4	B = 82.5 – 87.4	C = 72.5 – 77.4	F = 0 – 59.4
	B- = 79.5 – 82.4	C- = 69.5 – 72.4	

#### TENTATIVE COURSE SCHEDULE

Week	Topic	Reading/Assignment Due
1	Introduction, Energy	Chapter 5
2	ATP, Phosphagen System, Carbohydrate Metabolism	Chapters 6 & 7
3	Lactate Lab, Carbohydrate Metabolism	Chapters 6 & 7
4	Fat and Protein Metabolism	<i>Lactate Lab due</i> Chapters 6 & 7
5	<b>Exam 1</b> , The Cardiovascular System	Chapter 15
6	Functional Capacity of the Cardiovascular System, Cardiovascular Lab	Chapter 15 & 17
7	Cardiovascular Regulation and Integration	Chapter 16 <i>Cardiovascular Lab due</i>
8	Cardiovascular Regulation and Integration, <b>Exam 2</b>	Chapter 16
9	Skeletal Muscle and Nerve Structure, Muscle Contraction	Chapters 18 & 19
10	Muscle Fiber Types, Muscle Adaptations	Chapters 19 & 22
11	<b>Exam 3</b> , Fatigue	Chapter 25
12	Muscle Fatigue Lab, Muscle Soreness	
13	Recovery from Exercise	<i>Muscle Fatigue lab due</i> Chapter 7
14	Recovery from Exercise Lab	
15	<b>Exam 4</b>	<i>Recovery from Exercise Lab due</i>
Monday, 5/12, 10:30-1:15pm	Performance Enhancing Substance Presentations	<i>Performance Enhancing Substances paper due</i>

*Note: Faculty reserves the right to alter the schedule as necessary.*

### *Student Expectations*

- Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/honor-code/>].
- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See <http://ods.gmu.edu/>].
- Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>].
- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

### *Campus Resources*

- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See <http://writingcenter.gmu.edu/>].
- For additional information on the College of Education and Human Development, School of Recreation, Health, and Tourism, please visit our website [See <http://rht.gmu.edu>].

**PROFESSIONAL BEHAVIOR:** Students are expected to exhibit professional behaviors and dispositions at all times.

**CORE VALUES COMMITMENT:** The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles.

