

GEORGE MASON UNIVERSITY
School of Recreation, Health, and Tourism

EFHP 610-001- Advanced Exercise Physiology (3)
Fall 2013

DAY/TIME: T/Th 10:30 – 11:45 am 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 1:00 – 3:00pm,
or by appointment FAX NUMBER: 703-993-2025

PREREQUISITES:

Graduate standing or permission of the instructor

COURSE DESCRIPTION:

Lecture, demonstration, and seminar experiences in applying research findings to understanding physiological function and effects of exercise on people.

COURSE OBJECTIVES:

Upon completion of EFHP 610 students should be able to:

1. Describe the responses that occur during exercise in the body's various physiological systems
2. Describe the physiological changes that occur as a result of aging and explain how these changes affect performance.
3. Explain how gender differences affect performance
4. Prepare and present research findings on a topic related to a specific area of exercise physiology
5. Demonstrate the ability to critically review current research and connect findings to topics discussed in class.

COURSE OVERVIEW:

Topics that are covered include the physiology of the skeletal muscle, cardiorespiratory, and bioenergetic systems. Additional topics to be addressed include: body composition, gender differences, aerobic and anaerobic power, and aging. Material for the course will be drawn from the required textbook and assigned readings of published research. Class lectures will primarily be presented in PowerPoint with files posted on Blackboard in advance of class meetings.

NATURE OF COURSE DELIVERY

Face to face

REQUIRED READINGS:

Brooks, G.A, Fahey, T.D, & Baldwin, K.M. (2005). *Exercise physiology: human bioenergetics and its applications*, 4th ed., McGraw-Hill, New York, NY.
ISBN-13 9780072556421

EVALUATION:

Written Examinations (4) 65% (Objectives 1,2,3)

Topic Presentation- A student-selected exercise physiology topic which will be delivered in a 15 presentation. Visual support such as PowerPoint must be used. 20% (Objectives 4,5)

Article Discussions- Four student-selected peer-reviewed journal articles will be discussed. A one page abstract will accompany the discussion. 15% (Objectives 4,5)

Grading Scale

A = 94 – 100	B+ = 88 – 89	C = 70 – 79
A- = 90 – 93	B = 84 – 87	F = 0 – 69
	B- = 80 – 83	

Note:* Although a B- is a satisfactory grade for a course, students must maintain a 3.00 average in their degree program and present a 3.00 GPA on the courses listed on the graduation application.

TENTATIVE COURSE SCHEDULE

Week	Topic	Reading
Week # 1	Introduction, Energy and Phosphagen System	Chapters 2 and 3
Week # 2	Glycolysis, Glycogenolysis and Oxidation of Pyruvate and Lactate	Chapter 5 and 6
Week # 3	Lipid Metabolism	Chapter 7
Week # 4	Protein Metabolism Article Presentations Exam 1	Chapter 8
Week # 5	Ventilation, Cardiovascular Anatomy and Physiology	Chapters 11 and 14
Week # 6	Cardiovascular Anatomy and Physiology, Circulation and Its Control	Chapter 15
Week # 7	Circulation and Its Control, Cardiovascular Dynamics During Exercise	Chapter 16
Week # 8	Cardiovascular Dynamics During Exercise Article Presentations Exam 2	Chapter 16
Week # 9	Skeletal Muscle Structure and Contractile Properties	Chapter 17

Week # 10	Neurons, Motor Unit Recruitment, and Integrative Control of Movement; Principles of Skeletal Muscle Adaptations	Chapters 18 and 19
Week # 11	Muscle Strength, Power, and Flexibility Article Presentations Exam 3	Chapter 20
Week # 12	Obesity, Body Composition, and Exercise; Exercise in the Heat and Cold	Chapters 22 and 25
Week # 13	Growth and Development	Chapter 31
Week # 14	Aging and Exercise Article Discussions	Chapter 32
Week # 15	Exam 4	
Tuesday, 12/17, 10:30 – 1:15pm	Topic Presentations	

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.

