

**GEORGE MASON UNIVERSITY**  
**School of Recreation, Health, and Tourism**

KINE 410: Advanced Work Physiology (3)  
Fall 2011

DAY/TIME:	M/W 12:00 – 1:15 pm	LOCATION:	PW 246 Bull Run Hall
PROFESSOR:	Dr. Charles Robison	EMAIL ADDRESS:	crobiso4@gmu.edu
OFFICE LOCATION:	PW 210 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:**

BIOL 124, 125, *or* BIOL 103, 228; *and* KINE 310 (Physiology of Exercise)

**COURSE DESCRIPTION:**

This course provides study in advanced theory of exercise physiology. Its purpose is to advance knowledge gained in previous courses related to the physiologic, neuroendocrine, and biochemical changes of the human body which are associated with either a single bout of exercise or chronic work.

**COURSE OBJECTIVES:**

Upon completion of KINE 410 students should be able to:

1. Obtain theoretical knowledge relative to the human's physiologic responses to and capacity for performing work
2. Apply the principles of mammalian physiology to help themselves and others achieve optimum work performance
3. Provide intelligent and factual answers related to the effects of work on the human body and effectively communicate the implications of those effects.

**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.

- Assignments must be turned in at the beginning of class on the specified date due or **no credit will be given**.
- Attendance - Students are expected to attend all classes. A grade of zero will be assigned to any missed presentation without prior permission from the instructor.

- Classroom Demeanor - Students are expected to attend all class sections, actively participate in class discussions, complete in-class exercises, and fulfill all assignments. Anyone exhibiting inappropriate behavior may be asked to leave (e.g. sleeping in class, texting). University policy states that all sound emitting devices shall be turned off during class unless otherwise authorized by the professor.
- Academic Honesty - All students are held to the standards of the George Mason University Honor Code. Students are expected to honestly represent their work. The possible situations when a student could violate these expectations range from incorrectly citing or failing to cite references/footnotes within papers and projects to cheating on an examination or assignment. Academic integrity is the responsibility a student assumes for honestly representing all academic work. This includes but is not limited to quizzes, examinations, projects, and all other forms of oral and written endeavors.
- Accommodation Planning - Students with disabilities who seek accommodations in a course must be registered with the Office of Disability Services (ODS) and inform the instructor, in writing, at the beginning of the semester [See <http://ods.gmu.edu> ]

#### REQUIRED READINGS:

Astrand, P.O., Rodahl, K., Dahl, H., and Stromme, S. (2003) *Textbook of work physiology, 4<sup>th</sup> edition*. Human Kinetics. ISBN: 0736001409

#### EVALUATION:

A. Written Examinations (4)	40%
B. Lab Reports	25%
C. Performance Enhancing Substance Paper	20%
D. Performance Enhancing Substance Presentation	10%
C. Class Participation	5%

#### FINAL EXAM:

10:30 – 1:15pm, Monday, 12/19

#### 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

<b>Date</b>	<b>Topic</b>	<b>Readings/Assignments Due</b>
8/29	Course Introduction	
8/31	Bioenergetics- Energy	
9/5	<i>No Class- Labor Day</i>	
9/7	Bioenergetics- Photosynthesis, ATP and the Phosphagen System	
9/12	Bioenergetics- Wingate Lab	
9/14	Bioenergetics- Carbohydrate Metabolism	<b>Wingate lab report due</b>
9/19	Bioenergetics- Fat Metabolism	
9/21	Bioenergetics- Protein Metabolism	
9/26	<b>Exam 1</b>	
9/28	Neuromuscular Physiology 1	
10/3	Neuromuscular Physiology 2	
10/5	Anaerobic Work 1	
10/10	<i>Class will meet Tuesday, 10/11 due to Columbus Day recess</i> Anaerobic Work 2	
10/12	Anaerobic Work 3	
10/17	Anaerobic Work 4	
10/19	<b>Exam 2</b>	
10/24	Cardiovascular Physiology 1	
10/26	Cardiovascular Physiology 2	
10/31	Aerobic Work 1	
11/2	Aerobic Work 2	
11/7	Aerobic Work 3	
11/9	Aerobic Work 4	
11/14	<b>Exam 3</b>	
11/16	Fatigue 1	
11/21	Fatigue 2	
11/23	<i>No Class- Thanksgiving</i>	
11/28	Recovery	
11/30	Performance Enhancing Substance Presentations	<b>All Papers Due</b>
12/5	Performance Enhancing Substance Presentations	
12/7	Performance Enhancing Substance Presentations	
12/19	<b>Final Exam, 10:30 – 1:15pm, Monday, December 19<sup>th</sup></b>	

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

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- ❖ All students are held to the standards of the George Mason University Honor Code [See <http://www.gmu.edu/catalog/apolicies/#Anchor12>]
- ❖ University policy states that all sound emitting devices shall be turned off during class unless otherwise authorized by the professor
- ❖ Students with disabilities who seek accommodations in a course must be registered with the Office of Disability Services (ODS) and inform the instructor, in writing, at the beginning of the semester [See [ods.gmu.edu](http://ods.gmu.edu)]
- ❖ For additional School of Recreation, Health, and Tourism information, please visit the website at <http://rht.gmu.edu>