

GEORGE MASON UNIVERSITY  
School of Recreation, Health, and Tourism  
Division of Health and Human Performance

KINES 310-002: Exercise Physiology I (3)  
Spring 2013

DAY/TIME:	MW 9:00 – 10:15 a.m.	LOCATION:	PW – 130 Bull Run Hall
PROFESSOR:	Dr. Joel Martin	EMAIL ADDRESS:	jmarti38@gmu.edu
OFFICE LOCATION:	210 Bull Run Hall	PHONE NUMBER:	703-993-7607
OFFICE HOURS:	W12:00 – 2:00 pm	FAX NUMBER:	703-993-2025
	Or by appointment		

### **PREREQUISITES**

BIOL 124, BIOL 125, ATEP 300 (formerly KINE 300).

### **COREQUISITES**

KINE 200

### **COURSE DESCRIPTION**

Introduces students to the physiologic, neuroendocrine, and biochemical changes of the human body that are associated with exercise and work.

### **COURSE OBJECTIVES**

Upon successful completion of this course students will:

1. Have a theoretical knowledge regarding the physiological responses and capacity for exercise by the human body.
2. Be able to differentiate the physiological metabolic processes that govern human movement and apply each of these processes to physical performance.
3. Be able to compare and contrast the physiological principles of the support systems of the body and appraise how each system is affected by and adapts to exercise.
4. Demonstrate the ability to make recommendations regarding exercise programs based on basic exercise physiology knowledge.
5. Attain knowledge of current issues in exercise physiology research and be able to critically evaluate published literature.

### **COURSE OVERVIEW**

This course provides a theoretical basis for understanding the body's physiological responses to exercise. Specifically, the course investigates how the support systems of the body (respiratory, cardiovascular, muscular, etc.) function, in cooperation with human energy production to insure that energy is provided for exercise. Emphasis will be placed upon the practical application of exercise physiology principles to coaching, teaching, and other physical training practices.

### **Attendance and Participation**

Attendance is **required** for this class. Arriving to class late or leaving early will be count as an absence. Students are expected to show up prepared to class and participate during class activities. Students who know they will need to miss a class for a legitimate reason should contact the instructor before the class. Students who unexpectedly miss a class for an excused reason should contact the instructor within 24 hours of missing the class. Make-up tests, quizzes, assignments, or other grades will be granted for excused absences only. Excused absences include: serious illness, official university excused absences and extenuating circumstances. It is the student's responsibility to contact the instructor in order to obtain the make-up work.

## Academic Load

In addition to attending the lectures there will be regular homework assignments and projects that may require anywhere from 2-10 hours of work per week. Additionally, regular readings will be assigned to students. Students are expected to complete all outside work on time. Extensions will not be granted on assignments unless an extenuating circumstance arises. Students may be asked to provide official documentation in certain instances. The purpose of the assignments is to aid students in learning the material. ***Students who attend lectures, complete all assignments on time, and attend office hours when necessary will be better prepared for the exams than students who do not do so.***

## Assignments

All assignments must be typed unless specifically told not to. A loss of points may occur for improper grammar and spelling. It is recommended students save all assignments on their personal computers and/or a back-up device.

## Class Delivery

The course is primarily a lecture course. However, other approaches may be used to facilitate learning. These include: class discussions, videos, demonstrations and in-class activities.

## Technology Use During Class

As per GMU policy, all sound emitting technology is required to be turned off during the class meeting time. No sound emitting technology (e.g., cell phones, smart phones, iPads, Tablets, pagers, etc.) is allowed at any time during the class period. Students who are observed using any form of technology inappropriately (e.g., sending text messages from cell phones, visiting social networking sites from laptops, etc) will be dismissed from class for the day, counted as an absence, and not permitted to make up missed assignments.

## Correspondence

The preferred method of communication outside of class is email. Emails should originate from a George Mason email account and be in a professional format (i.e. emails should not look like a text message!). The following is an example:

Dr. Martin,

I have a question regarding....

Regards,  
Student Name

## REQUIRED READINGS

McArdle, W.D., Katch, F.I., Katch, V.L. (2011) *Essentials of Exercise Physiology (4th edition)*. McGraw-Hill Publishing.

## EVALUATION

This course will be graded on a point system, with a total of 900 possible points.

Assignment	Points
Mid-Term Exam #1	100
Mid-Term Exam #2	100
Mid-Term Exam #3	100
Mid-Term Exam #4	100
Final Exam	200
HW	200
Activity Labs	75
Attendance and Participation	25
<b>Total</b>	<b>900</b>

## Grading Scale

A = 94 – 100	B+ = 88 – 89	C+ = 78 – 79	D = 60 – 69
A- = 90 – 93	B = 84 – 87	C = 74 – 77	F = 0 – 59
	B- = 80 – 83	C- = 70 – 73	

## TENTATIVE COURSE SCHEDULE

DATE			TOPIC	READINGS/ASSIGNMENT DUE
W	January	23	<i>Lecture Day</i> – Syllabus; Introduction to Exercise Physiology, Chapter 2 Macronutrients and Micronutrients	<b>Read Chapters 2, 3 &amp; 4</b>
M	January	28	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #1; Read Chapters 2-4; Work on HW #1; Study (No Class – Office Hours)	
W	January	30	<i>Lecture Day</i> – Chapter 3 Food Energy & Optimum Nutrition for Exercise; Chapter 4 Nutritional Aids to Performance; Discuss HW #1	<b>HW Assignment #1 Due</b>
M	February	4	<i>Non-Lecture Day</i> – Optional Review for Mid-Term Exam #1	
W	February	6	<b>Mid-Term Exam #1</b>	
M	February	11	<i>Non-Lecture Day</i> – <b>Activity Lab #1</b> – Heart Rate Monitoring During Workout; Go over Mid-Term Exam #1 commonly missed questions	<b>Read Chapters 5 &amp; 6</b>
W	February	13	<i>Lecture Day</i> – Chapter 5 Fundamentals of Human Energy Transfer; Chapter 6 Human Energy Transfer During Exercise; Discuss HW #2	<b>HW Assignment #2 Due</b>
M	February	18	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #2; Read Chapters 5-8; Work on HW #3; Study (No Class – Office Hours)	<b>Read Chapters 7 &amp; 8</b>
W	February	20	<i>Lecture Day</i> – Chapter 7 Measuring and Evaluating Human Energy – Generating Capacities During Exercise; Chapter 8 Energy Expenditure During Rest and Physical Activity	<b>HW Assignment #3 Due ; Activity Lab #1 Due</b>
M	February	25	<i>Non-Lecture Day</i> – Optional Review for Mid-Term Exam #2; Discuss HW #3 and Activity Lab #1	
W	February	27	<b>Mid-Term Exam #2</b>	<b>HW Assignment #4 Due</b>

DATE			TOPIC	READINGS/ASSIGNMENT DUE
M	March	4	<i>Non-Lecture Day - Activity Lab #2</i> – Computing Energy Expenditure Using Equations; Go over Mid-term Exam #2 commonly missed questions	<b>Read Chapters 9 &amp; 10</b>
W	March	6	<i>Lecture Day</i> – Chapter 10 Cardiovascular System and Exercise; Discuss HW #5	<b>HW Assignment #5 Due</b>
M	March	11	<b>Spring Break – No Class</b>	
W	March	13	<b>Spring Break – No Class</b>	
M	March	18	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #3; Study Chapter 10; Work on HW #6 and Activity Lab #2 (No Class – Office Hours)	
W	March	20	<i>Lecture Day</i> – Chapter 9 The Pulmonary System and Exercise	<b>HW Assignment #6 Due ; Activity Lab #2 Due</b>
M	March	25	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #3; Study Chapter 9; Work on HW #7 (No Class – Office Hours)	<b>Read Chapter 11</b>
W	March	27	<i>Lecture Day</i> – Chapter 11 The Neuromuscular System and Exercise	<b>HW Assignment #7 Due</b>
M	April	1	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #3; Study Chapter 11; Work on HW #8 (No Class – Office Hours)	<b>Read Chapter 12</b>
W	April	3	<i>Lecture Day</i> – Chapter 12 Hormones, Exercise and Training; Discuss HW #8	<b>HW Assignment #8 Due</b>
M	April	8	<i>Non-Lecture Day</i> - Optional Review for Mid-Term Exam #3;	<b>Read Chapter 13</b>
W	April	10	<b>Mid-Term Exam #3</b>	
M	April	15	<i>Non-Lecture Day – Activity Lab #3</i> – Body Composition Assessment; Go over Mid-Term Exam #3 commonly missed questions	<b>Read Chapters 13, 14, &amp; 15</b>
W	April	17	<i>Lecture Day</i> – Chapter 13, 14, & 15	<b>HW Assignment #9 Due</b>
M	April	22	<i>Non-Lecture Day</i> – Read/Listen/Watch Supplement Materials on Blackboard for Mid-Term Exam #4; Study Chapters 13, 14 & 15; Work on HW #10 (No Class – Office Hours)	<b>Read Chapter 16 &amp; 17</b>

DATE			TOPIC	READINGS/ASSIGNMENT DUE
W	April	24	Lecture Day - Chapter 16 & 17	HW Assignment #10 Due ; Activity Lab #3 Due
M	April	29	Non-Lecture Day - Optional Review for Mid-Term Exam #4;	
W	May	1	<b>Mid-Term Exam #4</b>	
M	May	6	Non-Lecture Day – Optional Review for final; Go over Mid-Term Exam #4 commonly missed questions; Questions about HW, Activity Labs, etc.	<b>Study for Final</b>
M	May	13	<b>Final Exam (130 Bull Run Hall; 7:30 – 10:15 am)</b>	

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

### **Mid-Term Exams and Final Exam**

There will be **4** mid-term exams and a final exam (5 total exams). The final exam will be cumulative. The format for all exams will be multiple choice, true/false, and fill in the blank questions.

### **Homework Assignments**

Regular homework will be assigned and due 1 week after it is assigned. There will be **10** total HW assignments. The homework will be due at the start of class in which it is due. No late homework assignments will be accepted. A hard copy of the homework must be handed in and homework handed in via email will not be accepted, unless there are extenuating circumstances. Points will be taken off for homework that is not stapled with a single staple in the upper left corner.

### **Activity Labs**

There will be **3** activity-based labs. These are intended to give students hands-on, practical experience with concepts that are covered in class. The data will be collected in class. For each lab students will be required to answer several short questions based on the data. A formal short lab report will be due approximately one week after performing the lab. Labs must be typed. A lab handout, with more detailed instructions, will be handed out on the day the lab is performed.

### **Attendance and Participation**

Regularly attending class is mandatory and will count towards the final grade in the class. Participation during the activity labs is mandatory. Participation does not necessarily mean performing the physical activity – lab groups will need members to perform the physical activity, instruct the person performing the activity, take measurements, and record data.

### **Final Grades:**

Once your FINAL GRADE at the end of the semester is posted on mymasonportal/blackboard, you will have 24 hours to inquire about it. After that period, your grade will be posted as final.

## ACADEMIC INTEGRITY

Students are expected to follow the George Mason University Honor Code. All assignments are subject to evaluation under plagiarism detection software. In the event that students hand in written assignments that are identical to another students assignment both students will be given a zero for the assignment.

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### *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/1301gen.html>].
- 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.
- Students are expected to exhibit professional behaviors and dispositions at all times.

### *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>].

**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.

