

**KINS 4630/6630 Syllabus**  
**Exercise Physiology**  
**Spring 2008**

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**Phone:** 706-542-4426

**Office Hours:** As posted or by appointment

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**Laboratory Assistants:**

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**Office Hours:** As posted or by appointment

**Credit-**4 semester hours

**Meetings-** Three 50-minute lectures and one 3-hr laboratory each week, Room 203 Ramsey  
Lecture: Monday, Wednesday, Friday 12:20pm – 1:10pm

**Course Description**

This class will cover physiological responses/adaptations to exercise. Topics in this course include neuromuscular, metabolic, cardiovascular, hormonal, and respiratory systems as they pertain to acute and chronic exercise. The major goal of the class is to develop a basic understanding of exercise physiology that will: 1) allow the student to utilize exercise physiology in their daily lives and future profession, 2) prepare the student to take additional courses in exercise science.

**Prerequisites**

Open to majors in the department of exercise physiology or by permission of instructor

**Co-requisite**

Course must be taken with KINS4630L

**Required Reading**

All laboratory materials and related references. Please see list of laboratory experiences.

**Textbooks**

SK Powers and ET Howley. Exercise Physiology: Theory and Application to Fitness and Performance. Boston: McGraw-Hill.

**Course Requirements**

Exam 1	25%
Final Exam	30% (Comprehensive)
Quizzes	40% (10% x 4)
Article review	5%
Instructor evaluation	Bonus points

A student who wishes to have an exam re-graded must discuss concerns with the instructor within one after the exam has been returned.

**Laboratory:** There will be thirteen laboratory experiences during the semester. Laboratory experiences include exposure to ergonomic, metabolic, circulatory, and respiratory measurement techniques. **There is no opportunity to make-up laboratory experiences. Missed laboratory will result in a score of zero. Laboratory reports are due one week following the lab experience.**

**Grading Scale:** Grades will be established based on the percentage of the total possible points earned in the class.

93.0-100%	A	Excellent
83-89.9%	B	Above average
73-79.9%	C	Average
63-69.9%	D	Passing
Less than 60% F	Failure	

+/-'s awarded with averages of 7-9 (i.e. 87-89=B+) and 0-3 (80-83=B-):

**NOTES:**

- Exams cover lecture, readings and laboratory material. There will be no make-up for missed exams.
- If you have any special needs in taking exams, please notify the professor in advance.
- Final course grade point average (GPA) will be computed as:

$$\text{GPA} = 0.25(\text{EX1}) + 0.30(\text{FNL}) + 0.40(\text{QZ}) + 0.05(\text{REV})$$

Where, EX1, EX2, QZ, REV are the numerical equivalents of grades on the three exams, four quizzes and article review.

**WebCT**

Class information including lecture slides will be posted on WebCT. Laboratory information will also be posted on WebCT.

**Honors and Masters Credit**

Honors credit and Master's degree credit will require additional study. A term paper on a topic of interest will be due before the final exam. Readings/reviews will be assigned on a weekly basis.

**Overview of Course Objectives**

1. Enhance basic and applied knowledge on fundamental topics in exercise physiology.
2. Provide experience in laboratory techniques used in clinical and applied research settings for assessing metabolic and cardiorespiratory responses to exercise.
3. Develop problem solving and critical thinking skills via the interpretation of data collected in the laboratory. Develop graphical display of data collected in lab.
4. Read, analyze and critique peer-reviewed research.
5. Prepare students for careers in exercise physiology and other health/fitness-related fields.

**University Honor Code and Academic Honesty Policy**

All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for informing themselves about those standards before performing any academic work. More detailed information about academic honesty can be found at:

<http://www.uga.edu/ovpi/honesty/acadhon.htm>.

**The Disability Resource Center**

The Disability Resource Center coordinates and provides a variety of academic and support services to students. The mission of the center is to promote equal educational opportunities and a welcoming academic, physical, and social environment for students with disabilities at The University of Georgia. <http://www.dissvcs.uga.edu/>

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**General Overview of Course Content**

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Introduction and history	Ch. 1
The internal environment	Ch. 2
Homeostasis	
Control systems	
Bioenergetics	Ch. 3
Fuels for exercise	
Carbohydrates (glycolysis, glycogenolysis)	
Krebs cycle, electron transport chain	
Exercise metabolism	Ch. 4
Fuel utilization during exercise	
Factors governing fuel utilization	
Nutrition for performance	
Hormonal response to exercise	Ch. 5
Hormone regulation and action	
Hormonal control of substrate use during exercise	
Regulation of fluid balance	
Measurement of work, power and energy expenditure	Ch. 6
Measurement of work and power	
Measurement of energy expenditure	
Direct and indirect calorimetry	
The nervous system	Ch. 7
Neuron structure function	
Exercise and brain health	
Skeletal muscle	Ch. 8
Muscle function	
Muscle fiber types	
Training	
Circulatory adaptations to exercise	Ch. 9
Circulatory response to exercise	
Adaptations of circulatory system in response to overload	
Respiration during exercise	Ch. 10
Ventilatory response to exercise	
Regulation of ventilation	
Temperature regulation	Ch. 12, 24
Heat and cold acclimatization	
Training to maximize performance	Ch. 13
Training principles	Ch. 20
Strength and endurance training	Ch. 21
Nutrition and performance	
Nutrients and fluid	Ch.18, 23
Ergogenic aids	Ch. 25
Environmental physiology	Ch. 24
Altitude physiology	
Altitude training	

*This is a general course overview only-revisions may be necessary*