

Eastern Illinois University – Department of Kinesiology and Sports Studies

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Syllabus

**KSS 4340 – Exercise Physiology**

Spring 2010

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**Course Description:**

This course is designed to provide an in depth study of key physiological systems as they respond to acute and chronic bouts of exercise.

**Objectives:**

1. Describe how the neuromuscular system functions to produce muscular force and the factors that influence acute muscular force production.
2. Understand the adaptations from chronic exercise training in regard to muscular hypertrophy, strength, endurance, and power.
3. Describe how anaerobic and aerobic energy production occurs and the factors that limit force production during acute and chronic exercise.
4. Understand how chronic anaerobic and aerobic training impacts energy production.
5. Explain how the major nutrients can affect acute and chronic exercise performance and the dietary practices that can improve exercise performance.
6. Understand the techniques available for measurement of body composition.
7. Explain how exercise contributes to changes in body composition (i.e. weight loss and weight gain).
8. Describe how the cardiopulmonary system functions in supplying oxygen to muscle cells during acute and chronic exercise
9. Understand the limits of oxygen supply and how chronic exercise training and improve oxygen supply.

**Course Content:**

1. Neuromuscular
  - A. Neuromuscular Control
  - B. Neuromuscular Responses to Exercise
  - C. Neuromuscular Adaptations
2. Exercise & Metabolism
  - D. Bioenergetics
  - E. Exercise Metabolism

- F. Metabolic Adaptations
- 3. Nutrition and Body Composition
  - G. Exercise Nutrition
  - H. Optimal Body Weight for Performance
- 4. Cardiopulmonary Function
  - I. Cardiovascular Control
  - J. Cardiovascular Responses to Exercise
  - K. Cardiopulmonary Adaptations

**Text:** *Exercise Physiology* by Powers and Hawley, 5<sup>th</sup> Ed.

**Evaluation:**

A ≤ 90% of total points

B 80-89% of total points

C 70-79% of total points

D 60-69% of total points

F < 60% of total points

Quizzes (5-10 points). Quizzes will be un-announced and given in class. Quizzes can not be made up without an official excuse.

Exams (50 points) and Final Exam (100 pts). Exams will be given on WebCT. Exam will have 25 short answer questions except for the final. One exam will be given following each section for a total of three exams. The final exam will be comprehensive (first half) and cover the fourth and final section (second half). It will be given on **Monday, May 3<sup>rd</sup>**. No make-up exams will be given without an official university excuse provided. The final exam will not be given early.

**Course Philosophy:**

1. This is a junior/senior level college course and student will be held to appropriate expectations. This includes writing and thinking skills.
2. **This is not a memorization course.** This is a critical thinking and application course which requires the ability to explain “why” and “how”.
3. Doing well in this class requires daily review of material and asking questions. Don't wait until the night before the exam to begin studying.
4. Students are expected to attend class and be prepared to participate.
5. **Presentations are provided on the web site but they should not take the place of note taking.**
6. No extra credit.

Students who are having difficulty achieving their academic goals are encouraged to contact the Student Success Center ([www.eiu.edu/~success](http://www.eiu.edu/~success)) for assistance with time management, test taking, note taking, avoiding procrastination, setting goals, and other skills to support academic achievement. The Student Success Center provides individualized consultations. To make an appointment, call 217-581-6696, or go to 9<sup>th</sup> Street Hall, Room 1302.