

Eastern Illinois University
Department of Kinesiology and Sports Studies

KSS 4340 – Exercise Physiology - 3 credit hours
Syllabus for Fall 2016

Instructor: Jake Emmett, Ph.D.

Office: 2202 Lantz Building

Office Hours: 10-11:00 Mon & Wed 9-10:00, Tue & Thu by appointment

Catalog Course Description: The course is designed to provide the prospective physical educator and paramedical personnel with an understanding of the physiological factors which affect human performance. (Prerequisites include BIO 2001, KSS 1500 and KSS 2440.)

Learning Objectives:

1. Develop a knowledge of the structure and function of the neuromuscular system
2. Demonstrate an understanding of how the neuromuscular systems responds during acute exercise
3. Demonstrate an understanding of how the neuromuscular systems adapts to chronic exercise
4. Develop a knowledge of the structure and function of the cardiopulmonary system
5. Demonstrate an understanding of how the CP systems responds during acute exercise
6. Demonstrate an understanding of how the CP systems adapts to chronic exercise
7. Develop a knowledge of the basic concepts of bioenergetics.
8. Demonstrate an understanding of how bioenergetics is altered by acute exercise
9. Demonstrate an understanding of how the bioenergetics adapt to chronic exercise
10. Evaluate the influence of various dietary factors on acute exercise performance.
11. Develop an understanding of the various means for assessing body composition.
12. Understand the impact of chronic exercise on body composition.

Course Material:

Textbook - Kenney, Willmore and Costell, (2015) *Physiology of Sport and Exercise*, 6th ed. Human Kinetics

Course Outline and Schedule (subject to change):

1. Neuromuscular Function (Chapters 3 and 1)
 - a. Week 1 - Neural function
 - b. Week 2 - Muscle structure and contraction
 - c. Week 3 - Responses to the neuromuscular system during acute exercise
 - d. Week 3 - Adaptations to the neuromuscular system from chronic exercise training.
 - e. Week 3 - Muscle atrophy
 - f. Week 4 - Flexibility

2. Exercise Metabolism – Chapters 2 and 5.
 - a. Week 5 - ATP and Phosphocreatine
 - b. Week 5 - Glycolysis
 - c. Week 6 - Aerobic metabolism
 - d. Week 7 - Exercise Metabolism During Acute Exercise
 - e. Week 8 - Measurement of Exercise Metabolism
 - f. Week 8 - Metabolic adaptations from chronic exercise training
3. Cardiopulmonary Function – Chapters 6-8.
 - a. Week 9 - Cardiovascular function
 - b. Week 10 - Cardiovascular response during acute exercise.
 - c. Week 11 - Adaptations to the cardiovascular system from chronic exercise training
 - d. Week 12 - The pulmonary system and exercise
4. Body Composition and Exercise Nutrition (Chapter 15)
 - a. Week 13 - Body composition
 - b. Week 14 - Carbohydrate, protein and exercise
 - c. Week 15 - Water, vitamins, minerals and exercise

Assignments:

- Quizzes (2-5 points each). Quizzes will be unannounced, given in class, and cannot be made up without an official excuse.
- Research Proposal (25 points). Power point file with the following slides: Title, Introduction, Literature Review, Methods, and Expectations.
- Assignments (0-5 points). Assignments will be given through D2L and will cover topics and material to be studied on your own in preparation for class discussion. Check D2L for due dates.
- Exams (Three exams, 50 points each and one final exam, 100 points). Exams will given online and will be a random selection of short answer, multiple choice, matching, fill-in-the-blank, and true-false questions. Exams are open note, open book but they are time limited and you will not be able to skip questions. Therefore, the better you know the material before hand, the less time you will spend per question, and the better you will do on the exam. The final exam will be partially comprehensive and given during the schedule final exam time.

Grading Policy:

- A 90-100%
- B 80-89%
- C 70-79%
- D 60-69%
- F < 60%

Course Policies:

- This is a discussion based class. Students are expected to view the assigned online lectures ahead of class time and come to class prepared to participate in class discussion.
- Guidelines for success; view online lectures, attend class, take good notes, study your notes regularly, and ask

questions. Like physical conditioning where you improve your fitness level with regular workouts, you cannot expect fully understand the concepts in exercise physiology by studying a few days before the exams. Do the work ahead of time by studying 1-2 hours for every hour spent in class.

- Do not expect or ask for extra credit.
- Desire 2 Learn is incorporated in this class in the following ways; access to reading assignments,, online assessments and assignments, grade book, announcements, etc. If you have any questions regarding the us of D2L, please contact the ITS Help Desk at 581-4357 or itshelp@eiu.edu
- **Academic integrity** - Students are expected to maintain principles of academic integrity and conduct as defined in EIU's Code of Conduct (<http://www.eiu.edu/judicial/studentconductcode.php>). Violations will be reported to the Office of Student Standards.
- **Students with disabilities** - If you are a student with a documented disability in need of accommodations to fully participate in this class, please contact the Office of Student Disability Services (OSDS). All accommodations must be approved through OSDS. Please stop by Ninth Street Hall, Room 2006, or call 217-581-6583 to make an appointment.
- **The Student Success Center** - Students who are having difficulty achieving their academic goals are encouraged to contact the Student Success Center (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 9th Street Hall, Room 1302.