

Syllabus

**PED 4900 – Exercise in Extreme Conditions**

Fall 2013

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**Course Description:**

This course provides an overview of the acute and chronic adaptations of the human body during exercise under extreme conditions or circumstances.

**Objectives:**

1. Understand the additional stresses from environmental factors (heat, cold, hyperbaric, and hypobaric) which occur during exercise.
2. Understand the acute and chronic physiological changes which occur during exercise in extreme conditions
3. Understand the limitations of the human body to perform in extreme conditions and the health risk which may be involved.

**Course Content:**

1. Thermoregulation; Exercise in the heat
2. Exercise at moderate to extreme altitude

**Text:** None. Supplemental reading material will be provided. Access to any current exercise physiology text is recommended.

**Grading**

A  $\leq$  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

## **Evaluation:**

### **Teaching Tool.**

**30 points**

*Option 1.* Pick one of the topics listed below from either exercise in the heat or exercise at altitude and produce a model that teaches the affect which heat or altitude has on the body during exercise.

#### Exercise in the Heat

1. How is heat gained by the body?
2. How is heat removed from the body?
3. How does the hypothalamus help regulated body temperature?
4. How does exercising in the heat affect the cardiovascular system (heart or blood)?
5. How does a particular heat illness occur and how is it treated?
6. What are the physiological changes that occur with acclimatization to the heat?

#### Exercise at Altitude

1. What affect does exposure to high altitude have on breathing?
2. What affect does altitude have on the cardiovascular system?
3. How does exposure to high affect acute exercise performance?
4. What are the causes of and treatments for altitude sickness?
5. What are the physiological changes that occur with acclimatization to moderate to high altitudes?

Models can be constructed or built (think pipe cleans, styrofoam balls, Popsicle sticks, etc.), presented on a poster board, a Power Point presentation, etc. Use your imagination. Some of the other articles posted on D2L may give you some ideas. Points will be award based on accuracy of information (10 points), creativity (10 points) and effectiveness as a teaching tool (10 points)

Models may be submitted through D2L, delivered to my office (Lantz 2202) or dropped off at the main Kinesiology Department Office in Lantz Arena.

*Option 2.* Write a five-page paper on one of the topics in APA format with 5 academic, scholarly references. Papers should be submitted through the Assignment section of D2L.

### **Exam (D2L)**

**80 points**

Reading the required reading articles posted on D2L and take Exam 1 on D2L which covers the facts and recommendations covered in those articles. You have 90 minutes to answer 40 questions. It is an open note, open book exam but you are expected to DO YOUR OWN WORK. Do not work with others. Also, do not skip questions. You will not be able to return to them so use your time wisely.

The exam will be available September 24<sup>th</sup>-October 21<sup>th</sup> (These dates may change so check D2L for updates).

**Notices:**

If you have a documented disability and wish to receive academic accommodations, please contact the Coordinator of the Office of Disability Services (581-6583) as soon as possible.

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](tel:217-581-6696), or go to 9<sup>th</sup> Street Hall, Room 1302.