

Syllabus

PED 4900 – Exercise in Extreme Conditions

Fall 2012

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Office Hours: 10-11:00 Mon and Wed, 9-10:00 Tue and Thu., or by appointment

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. Physiology review (lungs, heart and muscles)
2. Thermoregulation
 - a. Exercise in the heat
 - b. Exercise in the cold*
3. Exercise at moderate to extreme altitude
 - a. Exercise in hyperbaric conditions
 - b. Exercise in hypobaric conditions*
4. Ultra-endurance exercise*

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

Evaluation:

Participation 25 points

Question sheet 100 points

Review paper ([APA format](#)) 100 points (due November 12th)

One 6-8 review paper on one of the following;

- Recommendations and rationale for exercising in hot, humid weather.
- Recommendations and rationale for exercising at altitude.

The paper should have 4-6 references. No internet sites; books, journals, etc. only. APA format.

Summary Paper 50 points (due November 12th)

One 2-3 page article summary *on the topic not covered by your review article.*

- Hot, humid weather: Binckley, H.M. et al. (2002) NATA Position Stand: Exertional Heat Illnesses. *Journal of Athletic Training*, 37(3), 329-343. (Do this one if your review article is on exercising at altitude.)
- Altitude: Bartsch, P. & Saltin, B. (2008) General Introduction to Altitude Adaptations and Mountain Sickness. *Scandinavian Journal of Medicine and Science in Sport*, 18(suppl 1),1-10. (Do this one if your review article is on exercising in hot, humid weather.)

Grading

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

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) 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 9th Street Hall, Room 1302.