FHL3004 Environmental Physiology II, Human Experiments Using Centrifuge and Pressure Chambers 7.5 credits

Omgivningsfysiologi II, humanexperimentell verksamhet i centrifug- och tryckkammaranläggningar

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FHL3004 valid from Spring 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Graduate student at medical or technological university who has completed the course "Environmental Physiology I, basic theoretical course".

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The comprehensive aim of the course is to provide the participants with practical knowledge regarding how to perform experiments on humans in environmental physiology with special emphasis on the use of human centrifuges and pressure chambers.

The student shall, after having completed the course, have knowledge and understanding of:

- Ethical considerations in connection with human experimentation in extreme environments.
- Medical requirements/health check-ups necessary for individuals who shall participate as experimental subjects/assistants in experiments in extreme environments in: centrifuges, hyperbaric pressure chambers, altitude chambers, climate chambers, wave pool
- Technical performance and function of above mentioned experimental facilities.
- Possible accident situations and evacuation- and/or emergency measures during accidents in the different experimental facilities.
- Biophysical measuring techniques and practical problems with data collection during experiments in centrifuges, pressure chambers, and immersion facilities.

The students shall show skills and proficiency in:

- Writing a mock application to research ethics committee regarding experiments in either human centrifuge or pressure chamber.
- To run an experiment in centrifuge, hyperbaric pressure chamber, and altitude chamber in accordance with valid check lists and current routines
- To handle mock accidents in human centrifuge, hyperbaric chamber, and altitude chamber
- To handle the special measuring situations that occurs with human experiments in centrifuges, hyperbaric chambers, and altitude chambers, and during immersions

Course contents

Examination

- PRO1 - Project, 1.5 credits, grading scale: P, F
- SEM1 - Seminars, 2.0 credits, grading scale: P, F
- XUPP - Degree project, 4.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.