EXERSCI 302
Exercise Physiology for Special Populations
(15 points)
(Semester 2, Newmarket Campus)

Prerequisite: EXERSCI 301 or SPORTSCI 301

Recommended elective especially if you are planning on postgraduate study for the Postgraduate Diploma in Science in Clinical Exercise Physiology

Who should take this course?

This course expands, and extends upon the understanding of human physiology that each student is expected to have attained from the completion of Exercise Physiology courses EXERSCI or SPORTSCI 201 and EXERSCI or SPORTSCI 301. This course includes lectures and laboratory classes. The course applies basic exercise physiology to special circumstances when a medical/environmental limitation, or highly adapted physiological excess, alter physiological responses to exercise and adaptations to training.

The course covers: Physiological responses to exercise and training in persons with specific disease states (Clinical Exercise Physiology). Specific functional needs of, and adaptations to exercise in different elite sporting codes (High-Performance Exercise Physiology). Physiological responses to exercise in extreme environments (Environmental Exercise Physiology).

Learning Outcomes

At the completion of this course a student would be expected to:

- Understand the theoretical and practical aspects of the physiological responses and adaptations to physical activity in physically, and/or medically-challenged populations, and in individuals involved in athletic and sporting activities.
- Understand the theoretical and practical aspects of human physiological function in extreme barometric pressure, temperature and humidity.
- Understand, and be able to apply, physical exercise and functional assessment laboratory procedures. Understand and follow patient and tester safety precautions and procedures, including participant screening and informed consent. Understand the risks and benefits of exercise testing. Appreciate the limitations and error associated with different exercise testing methods, equipment, and data.
- Understand the principles and methodologies behind the modern assessment, diagnosis, and testing of special populations.
- Prepare written reports that identify the objectives of laboratory experimentation, present and interpret the results of the tests performed, and critically evaluate and interpret the procedures and outcomes based on theoretical principles and related scientific literature.
Learning and Teaching

Students are expected to attend two 1-hour lectures each week. Lectures are organised into four themes: 1. Athletic Populations. 2. Extreme Environments. 3. Medical Populations. Students are expected to attend 10 3-hour laboratory classes. ‘Drop In’ tutorial sessions are also available for additional support on a weekly basis.

Teaching Staff

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Assessment*

Examinations:

- Mid Semester Examination, 40 points (20%)
- Final Examination, 80 points (40%)

Coursework:

- Testing elite performers, Lab Report, 40 points (20%)
- Performing in hot environments, Lab Test, 20 points (10%)
- Readiness to exercise, Lab Report, 20 points (10%)

* subject to change

Recommended Textbooks

Useful textbooks for this course are outlined below. All books are available in the University books shop and library.