SPSC-510 Fitness Assessment and Exercise Prescription
University of Nicosia, Cyprus

Course Code	**Course Title**	**ECTS Credits**
SPSC-510	Fitness Assessment and Exercise Prescription	10
Department	**Semester**	**Prerequisites**
Life & Health Sciences	Fall or Spring	None
Type of Course	**Field**	**Language of Instruction**
Elective	Sports Science	Greek
Level of Course	**Year of Study**	**Lecturer(s)**
2nd Cycle	1st or 2nd	Dr Christoforos Giannaki Dr George Aphamis
Mode of Delivery	**Work Placement**	**Co-requisites**
Face-to-face	N/A	None

Objectives of the Course:

The current course aims to provide the knowledge and the opportunities to the students to develop competency in a wide research and practical techniques for the study of exercise physiology and physical performance testing and to prepare the students to undertake post-graduate laboratory and field-based research and methodology in these areas. Each topic will have an introductory part-lecture followed by a practical application in the exercise physiology lab of the university of Nicosia. The course has a major focus on the acute cardiorespiratory and hemodynamic response to exercise in the normal environment. The measures of maximal oxygen consumption and anaerobic threshold as determinants of cardiorespiratory performance in endurance events are discussed as well as the metabolic response of exercise. In relation to these measures, the concept of acid-base balance will be examined. The course also covers aspects related to the assessment of various components of fitness and performance such as strength, body composition, agility and flexibility using both field and laboratory-based tests and methodology.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Understand and practice a number of current and relevant exercise physiology laboratory techniques used in the assessment of human physical performance and fitness status.
2. Obtain sound physiological data during laboratory testing from human subjects.
3. Produce detailed laboratory reports.
4. Critically assess and evaluate data from studies on exercise physiology and exercise metabolism.
5. Critically interpret data from studies on exercise physiology and metabolism.
6. Research and assess theories, facts and concepts of the area of exercise physiology and physical performance.

Course Contents:

1. Pre-testing screening of health history and fitness background through questionnaires.
2. Anthropometric measurements (body composition, weight, height etc.).
3. Blood pressure and heart rate recording.
4. Acute and chronic cardiovascular and respiratory adaptations to exercise.
5. Cardiorespiratory and perceptual responses during incremental exercise test.
6. VO2max and maximum heart rate testing using bicycle ergometer and power treadmill.
7. Data collection/analysis during exercise testing (HR, gas collection, BP, etc.).
8. Maximum power output testing.
9. Lactate threshold estimation using invasive and non-invasive methodology.
10. Assessment of energy expenditure during rest and during exercise.
11. Assessment of physical performance and fitness status via field tests.
12. Design and perform a basic group exercise physiology research project.

Learning Activities and Teaching Methods

Lectures, Discussions, Presentations from students, practical-lab applications

Assessment Methods

Final examination (written), Final Examination (practical), Project, Presentation

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
J.Wilmore, D.Costill. Επιμέλεια: Αναστασόπουλος Κουτσιλιέρης, Μαριδάκη, Μολυβδάς, Νικολέτος, Τοκμακίδης	Φυσιολογία της άσκησης και του αθλητισμού-Τόμος Ι και ΙΙ	Ιατρικές εκδόσεις Π.Χ. Πασχαλίδης	2006	960-399-416-2-(τόμος Ι) 9789603994176 -(τόμος ΙΙ)

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Edward M. Winter; Andrew M. Jones; R.C. Richard Davison; Paul D. Bromley; Tom H. Mercer	Sport and Exercise Physiology Testing Guidelines: Volume I - Sport Testing The British Association of Sport and Exercise Sciences Guide	Routledge: Taylor & Francis	2007	978-0-415-36141-5
Christopher Carling, Thomas Reilly, A. Mark Williams	Performance Assessment for Field Sports	Routledge: Taylor and Francis	2008	978-0-415-42685-5
Powers, Scott and Edward Howley	Exercise Physiology: Theory & Application to Fitness & Performance: Exercise Physiology	McGraw-Hill	2007	0073028630