

Liverpool John Moores University

Title: CARDIOVASCULAR AND ENVIRONMENTAL PHYSIOLOGY
Status: Definitive but changes made
Code: **6016SPOSCI** (117543)
Version Start Date: 01-08-2018

Owning School/Faculty: Sport and Exercise Sciences
Teaching School/Faculty: Sport and Exercise Sciences

Team	Leader
Nicola Hopkins	Y
David Oxborough	
Ellen Dawson	
Helen Jones	
Greg Whyte	
Keith George	
Ben Edwards	

Academic Level: FHEQ6 **Credit Value:** 24 **Total Delivered Hours:** 48

Total Learning Hours: 240 **Private Study:** 192

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	36
Practical	8
Tutorial	4

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	cardiovasc	Practical	50	
Exam	environmen	Exam	50	

Aims

To provide students with the critical thinking skills necessary to evaluate and understand the appropriate application of a range of cardiovascular measurement techniques and to equip students with the applied knowledge necessary to interpret data collected via these techniques. Secondly the module aims to promote critical awareness of the limitations to human performance and health under various physiological stressors, and how these limitations and health risks can be ameliorated with appropriate adaptation strategies and exercise interventions.

Learning Outcomes

After completing the module the student should be able to:

- 1 Evaluate the validity, reliability, utility and implications of a range of techniques and skills available in cardiovascular assessment
- 2 Evaluate basic ECG and cardiac and vascular ultrasound data and recognize abnormalities.
- 3 Critically analyse the limitations to performance and form coping strategies when athletes are confronted with the stressors of heat, cold altitude and jet-lag.
- 4 Critically analyse the health limitations associated with disruption to sleep, menstrual cycle, autonomic dysfunction and ethnicity, and assess the utility of exercise to negate the associated health risks.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Practical	1	2
Exam	3	4

Outline Syllabus

Cardiac electrophysiology and measurement using ECG

Assessment of cardiac structure and function

Assessment of vascular structure and function

Athletic heart or pathological heart

Exercise in the heat/cold/altitude: Performance, adaptation and interventions

Circadian adaptations and interventions: Trans-meridian travel

Sleep and exercise

Menstrual cycle and exercise

Spinal cord injury

Ethnicity, performance and health

Learning Activities

Students are expected to attend time-tabled lectures and practical sessions and are encouraged to utilise the available directed learning/private study time to get advice from module staff and/or conduct essential reading. Some of the teaching sessions

will contain practical based activities where students will be required to use their analytical, statistical and problem solving skills to enhance their own learning. Students should complete the required and recommended reading to widen their knowledge and understanding and their ability to apply material. Students will be required to evidence this in their class based test and final exam.

Notes

This module is designed to critically examine a range of cardiovascular measurement techniques and to understand their application in healthy athlete groups as well as in the diagnosis and management of cardiovascular disease. The module also aims to develop critical awareness of the limitations to health and performance under various modifiable and non-modifiable stressors, and will examine how these limitations can be ameliorated with appropriate adaptation strategies and exercise interventions. This will be evaluated by the completion of the relevant assessment tasks. This module will incorporate support strategies in an attempt to ensure student completion. This will include feed forward on assessment and personal tutorial support.