

Liverpool John Moores University

Title: PHYSIOLOGICAL RESPONSES TO EXERCISE TRAINING
Status: Definitive
Code: **5105SPOSCI** (123205)
Version Start Date: 01-08-2021

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

Team	Leader
Juliette Strauss	Y
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Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 48

Total Learning Hours: 200 **Private Study:** 152

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Practical	6
Seminar	2
Tutorial	4
Workshop	14

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Laboratory Report	50	
Essay	AS2	Essay	50	

Aims

To develop knowledge and understanding of the cardiovascular and metabolic

responses of acute and chronic exercise and discuss these in relation to human health and performance.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the cardiovascular and metabolic responses to endurance, high intensity and resistance exercise training
- 2 Explain the cardiovascular and metabolic responses to exercise training in different environmental conditions and disease states

Learning Outcomes of Assessments

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

Laboratory report	1
Essay	2

Outline Syllabus

Cardiovascular and metabolic training adaptations to endurance exercise
Cardiovascular and metabolic training adaptations to resistance exercise
Cardiovascular and metabolic training adaptations to high intensity intermittent exercise
Temperature and cardiometabolic responses to exercise in the cold and heat
Cardiovascular and metabolic consequences to ageing and physical inactivity
Impact of exercise training on cardiovascular and metabolic risk factors and disease

Learning Activities

Students are expected to attend time-tabled lectures 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 the production of their coursework and the module examination.

Notes

The content will include both theoretical knowledge and practical skills related to a number of physiological systems. This will be evaluated by the completion of the relevant assessment tasks. This module will incorporate support strategies in an attempt to ensure student progression. This will include feed forward and feedback

on assessment and personal tutorial support. This will be augmented with interactive resources that facilitate self-directed exploration of the human physiology in responses to exercise training.

The Association for Nutrition (AfN) competencies covered in this module include:

CC1a The human/animal body and its functions, especially digestion, absorption, excretion, respiration, fluid and electrolyte balance, cardiovascular, neuro-endocrine, musculoskeletal and haematological systems, immunity and thermoregulation, energy balance and physical activity.

CC1b Mechanisms for the integration of metabolism, at molecular, cellular and whole body levels for either human or animal systems.

CC1i Nutrition in health and disease, consequences of an unbalanced diet for either human or animal systems.

CC1j Nature of common conditions that require dietary manipulation or can affect physical activity, such as obesity, diabetes, hypertension, cardiovascular disease, cancer etc. for either human or animal systems.

CC1k How nutritional needs change with age, gender, physical activity, lifestyle etc. for either human or animal systems.

CC1n Ability to obtain, record, collate, analyse, interpret and report nutrition-related data using appropriate qualitative and quantitative research and statistical methods in the field and/or laboratory and/or intervention studies, working individually or in a group, as is most appropriate for the discipline under study.

CC1o Prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually.

CC4a Principles and methods of measurement and estimation of energy balance; energy expenditure physical activity and fitness; body mass; body composition; how body mass and energy balance are controlled for either human or animal systems.