

**Summary Information**

<b>Module Code</b>	5505SPOPID
<b>Formal Module Title</b>	Physiological Responses to Exercise Training
<b>Owning School</b>	Sport and Exercise Sciences
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 5
<b>Grading Schema</b>	40

**Module Contacts****Module Leader**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
Dominic Doran	Yes	N/A

**Module Team Member**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
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**Partner Module Team**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
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**Teaching Responsibility**

<b>LJMU Schools involved in Delivery</b>
LJMU Partner Taught

## Partner Teaching Institution

Institution Name
Portobello Institute

## Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	6
Seminar	2
Tutorial	4
Workshop	14

## Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-PAR	PAR	September	12 Weeks

## Aims and Outcomes

<b>Aims</b>	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.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Explain the cardiovascular and metabolic responses to endurance, high intensity and resistance exercise training
MLO2	Explain the cardiovascular and metabolic responses to exercise training in different environmental conditions and disease states

## Module Content

### 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

## Module Overview

### Additional Information

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.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Laboratory report	50	0	MLO1
Essay	Literature Review	50	0	MLO2