



Module Definition Form (MDF)

Module code: MOD011101	Version: 1 Date Amended: 02/Jun/2025
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1. Module Title
Applied Physiology

2a. Module Leader
Andi Seago

2b. School
Faculty of Health, Education and Social Care at ARU Peterborough

2c. Faculty
ARU Peterborough

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	None		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

During this module you will study the essentials of how exercise effects the physiological responses and be introduced to exercise testing and the principles of movement within the sphere of health and fitness. There will be a strong emphasis on the conceptual link between theory and practice within specific settings alongside the opportunity to secure the foundations of good laboratory practice with the process of learning essential analytical techniques.

The module provides a natural progression from the pre-requisite first year module 'human anatomy and physiology' and an opportunity is provided for you to study the mechanisms by which the body responds to physical activity and exercise. This module will involve the exploration of content through lectures, seminars and laboratory based sessions to provide an opportunity to apply the physiological and metabolic principles that have been taught. In addition to being provided with academic subject specific knowledge, this module will also help you develop a range of valuable employability skills such as practical data collection, data handling and the presentation and analysis of data.

Your learning will be supported by a large number of practicals. The purpose of the practical sessions is to support the theory as taught in the lectures and to give you with the basic laboratory skills to assess exercise and health. During the practicals, you will often collect data, which you will have to analyse, interpret and present in a report.

This will support the theory but also gives you a feeling for the work of an exercise physiologist. The practicals are also an opportunity to experience what it feels like to be a participant/patient/client, which is useful experience to prepare you to work with patients/clients in the future.

This module will build your confidence in both field and lab-based testing and encourage the continuation of study within exercise science. Communication skills, practical protocol management and team skills will be developed in each session – all of which are essential abilities within exercise and health science.

6b. Outline Content

- Methods of exercise assessment on key physiological areas: energy supply, skeletal muscle and cardiovascular system.
- Practical exercise testing: Anaerobic and aerobic testing in a lab and/or field based setting, principles of body composition assessment
- Physiology of aerobic and anaerobic exercise
- Fundamentals of energy demands and exercise metabolism
- Responses to aerobic and anaerobic exercise
- The importance of macro-nutrition for exercise
- Practical laboratory skills in exercise assessment
- Practical exercise data collection, evaluation and interpretation

6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

6d. Specialist Learning Resources

None

7. Learning Outcomes (threshold standards)		
No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Demonstrate knowledge of energy pathways and the energy continuum at rest and under exercising conditions.
2	Knowledge and Understanding	Show an ability to describe energy metabolism and expenditure during rest and exercising conditions.
3	Intellectual, practical, affective and transferrable skills	Undertake a physiological performance task with participants to determine the physiological responses to exercise.
4	Intellectual, practical, affective and transferrable skills	Demonstrate the fundamentals of exercise physiology data collection and analysis.
5	Knowledge and Understanding	Interpret and present physiological testing data in an appropriate scientific format.
6	Intellectual, practical, affective and transferrable skills	Manage lab protocols safely, appropriately and effectively whilst co-operating and working as a team in a laboratory setting in order to collect useable data.

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	36	1,2,5	Lecture based sessions 3hrs for 12 weeks
Other teacher managed learning	36	1-6	Lab practical sessions 3hrs for 12 weeks
Student managed learning	228	1-6	Asynchronous canvas activities, guided reading
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1,2,5	30 (%)	Fine Grade	30 (%)
A series of 5 15min in class multiple choice quizzes – average score of best 4 taken 1500 word equivalent					

Assessment components for Element 010			
Component No.	Assessment Title	Submission Method	Components needed for Mark Calculation?
010/1	In class test 1		Best 4 out of 5. All components used in calculation are equally weighted
010/2	In class test 2		
010/3	In class test 3		
010/4	In class test 4		
010/5	In class test 5		

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Practical	1-6	70 (%)	Fine Grade	30 (%)
Practical assessment of an exercise task with a presentation of the collected data. (2000 word equivalent).					

Assessment components for Element 011				
Component No.	Assessment Title	Submission Method	Weighting (%)	Components needed for Mark Calculation?
011/1	Lab based practical		50 (%)	All
011/2	Presentation of data		50 (%)	

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above**
- (b) pass any pass/fail elements**

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]