



## Module Definition Form (MDF)

<b>Module code: MOD008509</b>	<b>Version: 5 Date Amended: 03/Jul/2025</b>
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<b>1. Module Title</b>
Human Anatomy and Physiology

<b>2a. Module Leader</b>
William Humphries

<b>2b. School</b>
Faculty of Engineering, Agri-tech and the Environment at ARU Peterborough

<b>2c. Faculty</b>
ARU Peterborough

<b>3a. Level</b>
4

<b>3b. Module Type</b>
Standard (fine graded)

<b>4a. Credits</b>
30

<b>4b. Study Hours</b>
300

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

## LEARNING, TEACHING AND ASSESSMENT INFORMATION

### 6a. Module Description

Anatomy and physiology are the fundamental sciences of the structure and function of organisms. You will be given a thorough grounding in the functional anatomy and physiology of man to enable you to understand how the body works in both health and disease. You will develop a thorough understanding of human anatomy at the macroscopic and microscopic levels, with an introduction to histology. This module will provide you with a strong physiology knowledge base that underpins all of your studies in biomedical science, and pertains to specific modules such as The Physiology of Organ Systems and Principles of Pathology (level 5) and Human Pathology (level 6) modules. You will also be introduced to concepts that have a medical basis, with discussions on how physiological mechanisms maintain health. You will study a range of organ systems (including the cardiovascular, musculoskeletal, endocrine, respiratory, immune, urinary, reproductive and digestive systems). Throughout the module, we will be considering the concepts of homeostasis, set points and feedback mechanisms, as well as examining some examples of how changes in physiology underlie disease. You will develop a range of key physiological skills throughout this module. In the laboratory, you will study the different organ systems to reinforce the concepts discussed in lectures through anatomy- and physiology-based hands-on practicals. You will develop your practical skills, working in groups to dissect a range of organs, and utilise associated instrumentation. You will also develop your scientific writing skills through an ability to research and critically review literature on a relevant physiology subject matter, and communicate your findings as a written report.

### 6b. Outline Content

September start

Trimester 1:

- structure, function and control of the human body,
- component parts and major systems and their relationship to each other
  - nerve cells and impulses
  - the brain, nervous system, and the special senses
  - the heart and related cardiovascular physiology
  - respiratory anatomy and physiology
- haematology and introduction to transfusion science
- the lymphatic system with immunology
  - structure, function and mechanisms of action of the components of the immune system
  - innate and acquired immunity
- homeostasis
- functional histology

Trimester 2:

- the musculoskeletal system
- endocrine physiology
- the mammalian kidney and regulation of fluid and electrolyte balance
- the gastro-intestinal system
- the biology of reproduction and development.

January start

#### Trimester 2:

- the musculoskeletal system
- endocrine physiology
- the mammalian kidney and regulation of fluid and electrolyte balance
- the gastro-intestinal system
- the biology of reproduction and development

#### Trimester 1:

- structure, function and control of the human body,
- component parts and major systems and their relationship to each other
  - nerve cells and impulses
  - the brain, nervous system, and the special senses
  - the heart and related cardiovascular physiology
  - respiratory anatomy and physiology
- haematology and introduction to transfusion science
- the lymphatic system with immunology
  - structure, function and mechanisms of action of the components of the immune system
  - innate and acquired immunity
- homeostasis
- functional histology

In both trimesters, you will gain basic techniques and associated instrumentation used in laboratory diagnosis of disease as well as data collection, numeracy skills and interpretation of data.

#### **6c. Key Texts/Literature**

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

#### **6d. Specialist Learning Resources**

Appropriately equipped laboratory, technical support generated

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	Describe the concepts of homeostasis and the structural and functional relationships of a range of tissues and organs such as the nervous, musculoskeletal, renal, gastro-intestinal, cardiovascular, respiratory, lymphatic and immune systems.
2	Knowledge and Understanding	Outline the integration and control mechanisms mediated by the nervous system in conjunction with other local factors, and how disruption in regulation leads to disease.
3	Knowledge and Understanding	Explain the inter-relationships of human anatomy at a cellular and tissue level, in order to relate structure to function and explain the relationships between healthy and disease states in a range of organ systems
4	Intellectual, practical, affective and transferrable skills	Develop scientific writing skills, demonstrating the ability to find, use and critically evaluate sources of information and correctly reference these sources.
5	Intellectual, practical, affective and transferrable skills	Develop the ability to work collaboratively with others to carry out practical experiments, develop basic technical laboratory skills, undertake data collection, apply numeracy skills and evaluate the reliability of data using defined techniques.
6	Intellectual, practical, affective and transferrable skills	Undertake technical protocols vital in the study of human anatomy and physiology.

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	44	1-6	22 x 2hrs lectures/active learning
Other teacher managed learning	28	5-6	10 x 2 hr practicals + 2 x 1 hr introduction + 2 x 1hr revision + 4 x 1 hr test
Student managed learning	228	1-4	Background reading, online activities, preparation for lectures and practicals, and completion of assessments
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Practical	1-6	60 (%)	Fine Grade	30 (%)
<b>Practical Assessments in Class</b>					

Assessment components for Element 010				
Component No.	Assessment Title	Submission Method	Weighting (%)	Components needed for Mark Calculation?
010/1	Practical Assessment in Class		25 (%)	All
010/2	Practical Assessment in Class		25 (%)	
010/3	Practical Assessment in Class		25 (%)	
010/4	Practical Assessment in Class		25 (%)	

Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Coursework	1-6	40 (%)	Fine Grade	30 (%)
<b>Portfolio/patchwork text</b>					

<b>Assessment components for Element 011</b>				
Component No.	Assessment Title	Submission Method	Weighting (%)	Components needed for Mark Calculation?
011/1	TR11 portfolio	Canvas	50 (%)	All
011/2	TR12 portfolio	Canvas	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]**