

# Prifysgol Wreccsam Wrexham University

## Module specification

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Module Code	SIR412
Module Title	Anatomy, physiology and human movement
Level	4
Credit value	20
Faculty	SLS
HECoS Code	100475
Cost Code	GACM

## Programmes in which module to be offered

BSc (Hons) Sports Injury Rehabilitation	Core
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## Pre-requisites

n/a

## Breakdown of module hours

Learning and teaching hours	13 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	47 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
<b>Total active learning and teaching hours</b>	<b>60 hrs</b>
Placement / work based learning	0 hrs
Guided independent study	140 hrs
<b>Module duration (total hours)</b>	<b>200 hrs</b>

<b>For office use only</b>	
Initial approval date	25/6/24
With effect from date	01/06/24
Date and details of revision	
Version number	1



## Module aims

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1. Introduce the student to anatomy, physiology and human movement, developing knowledge and understanding of the systems within the human body.
2. Investigate how the body responds to exercise and explore the methods used to monitor the development of the bodily systems within a sporting context.
3. Introduce students to carrying out experiments in the physiology laboratory and how the data collected can be statistically analysed.
4. Develop knowledge of research within the applied physiological field.
5. Develop knowledge of the neuromusculoskeletal system including in-depth anatomy and analysis of human movement.

## Module Learning Outcomes - at the end of this module, students will be able to:

1	Describe how the various systems of the body work at rest and in relation to exercise.
2	Explain the functions of the neuromusculoskeletal system.
3	Review literature pertinent to a topic that will be studied as part of laboratory based practical work.
4	Analyse collected physiological data.

## Assessment

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Indicative Assessment Tasks:

Assessment 1: Laboratory Report – 2000 words - Students will produce a laboratory report that will review the literature and statistically analyse the collected physiological data.

Assessment 2: In-class test – 2 hour - Students will undertake a multiple-choice examination, assessing their knowledge of neuromusculoskeletal system and how the body functions in response to exercise.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	3, 4	Written Assignment	50
2	1, 2	In-class test	50



## **Derogations**

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Students must pass both elements at 40% or above.

## **Learning and Teaching Strategies**

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The module will be delivered using blended learning techniques and the universities Active Learning Framework (ALF). This will include lectures, seminars, peer-led discussions, tutorials, asynchronous tasks and online based quizzes/tasks. Regular feedback will be provided to support the student journey.

Workshops specific to the anatomical regions of study will be offered to ensure that students have had opportunity to practically palpate anatomical structures and demonstrate actions of musculature. Formative feedback will be provided throughout the module to support students development.

The increased hours within this module reflect the importance of the knowledge base being gained by students at this level which underpins all future modules.

## **Indicative Syllabus Outline**

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Health screening

Neurological system

Musculoskeletal system

Cardiovascular system

Energy systems

Respiratory system

Endocrine system

Immune system

Aerobic and anaerobic testing methods

Analysis of testing

Analysis of human movement and biomechanics

Exercise Physiology



## Indicative Bibliography:

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### Essential Reads

McArdle, W. D. Katch, F. I. and Katch, V. L. (2022), *Exercise Physiology: Energy, Nutrition & Human Performance*. 9th ed. Philadelphia: Williams and Wilkins.

Palastanga, N. and Soames, R. (2018), *Anatomy and Human Movement: Structure and Function*. 7th ed. Amsterdam: Elsevier

### Other indicative reading

Field, A. (2024), *Discovering Statistics Using IBM SPSS Statistics*. 6<sup>th</sup> ed. London. SAGE Publications Ltd.

Kenney, L. W., Wilmore, J. H., and Costill, D. L. (2021), *Physiology of Sport and Exercise*. 8<sup>th</sup> ed. Champaign, IL. Human Kinetics.

Martini, F.N., Nath, J.L., and Bartholomew, E.F. (2023), *Fundamentals of Anatomy and Physiology*. 12<sup>th</sup> ed. Upper Saddle River, NJ: Pearson.

Powers, S.K., Howley, E.T., and Quindry, J. (2023), *Exercise Physiology: Theory and Application to Fitness and Performance*. 12<sup>th</sup> ed. New York: McGraw-Hill.

Tortora, G.J. and Derrickson, B. (2020), *Principles of Anatomy and Physiology*. 16<sup>th</sup> ed. Singapore: Wiley

## Employability – The University Skills Framework

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Each module and degree programme are designed to support learners as they develop their graduate skills aligned to the University Skills Framework.

Using the philosophies of the Active Learning Framework (ALF) our 10 skills are embedded within programmes complementing core academic subject knowledge and understanding. Through continuous self-assessment students own their individual skills journey and enhance their employability and career prospects.

This Module forms part of a degree programme that has been mapped against the University Skills Framework

Learners can use this document to identify where and how they are building skills and how they can develop examples of their success.

