Prifysgol Wrecsam
Wrexham University

Module specification

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Module Code	SPC406
Module Title	The Physiology of Human Movement
Level	4
Credit value	20
Faculty	SLS
HECoS Code	100095
Cost Code	GASP
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
FdSc Sports Coaching and Fitness	Core

Breakdown of module hours

Learning and teaching hours	24 hrs
Placement tutor support hours	0 hrs
Supervised learning hours e.g. practical classes, workshops	12 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	**36 hrs**
Placement hours	0 hrs
Guided independent study hours	164 hrs
Module duration (Total hours)	**200 hrs**

Module aims

This module is designed to provide knowledge, awareness and practical opportunities to develop the skills required within the areas of technique analysis with awareness of how human physiology plays its part in achieving this. The skills developed within this module will allow students to better understand how individual sporting performance can be improved through the understanding and manipulation of physical elements (Technique Analysis).

The module will:

- Introduce concepts that promote and support further understanding at level 5.
- Introduce the student to applied anatomy & physiology and enhance their knowledge

- and understanding of the complex systems within the human body.
- Investigate how the body responds to sport and physical activity and explores the
- methods used to monitor the development of the bodily systems within a sporting
- context.
- Introduce and develop knowledge, understanding and analysis of sporting performance through technique analysis.
- Use a variety of tools and techniques to study gross and fine movements and technical / tactical patterns in sport.

Module Learning Outcomes

At the end of this module, students will be able to:

1	Demonstrate an understanding of how the various systems of the body work, at rest and in relation to physical movement.
2	Demonstrate a comprehension of simple technique analysis principles involved in sport, exercise and recreational environments.
3	Demonstrate an ability to use bespoke equipment / technology for effective technique analysis.

Assessment

Indicative Assessment Tasks:
This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Examination. The students will be required to sit an online class based multiple choice test, assessing their knowledge of physiological systems. The test will be 1hr in length.

Portfolio (2000 words) The students will produce a portfolio that will demonstrate the ability to record a sporting action using an appropriate technology. They will use the recorded action to effectively identify and describe the technical elements within the movement that are important for correct execution, with reference to aspects of human physiology.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1	Examination	1 hour	30	N/A
2	2 - 3	Portfolio	2000 words	70	N/A

Derogations

N/A

Learning and Teaching Strategies

The module will be delivered using blended learning techniques and the university's Active Learning Framework (ALF). This will include in-person sessions, online video conferencing (synchronous content), and student-directed online resources (asynchronous content). The use of workshops and practical exercises will allow students to understand the content and use of the processes being taught.

Formative assessment will be incorporated within this module to support the student's learning journey, providing a framework and direction for the summative assessments.

Welsh Elements

The programmes will be delivered through the medium of English. Students are entitled to submit assessments in the medium of Welsh. If students wish to converse in Welsh, they will be assigned a Welsh speaking personal tutor. Students will be sign posted to relevant opportunities via the VLE and MS Teams page.

Indicative Syllabus Outline

- Homeostasis- health screening and blood pressure
- Muscular skeletal system- body composition
- Cardiovascular system- HR and RPE, RMR and VO2max
- Energy systems
- Introduction to motor skill development.
- Understanding to skill acquisition.
- The use of qualitative biomechanical processes to determine technical advantages.
- Understanding the role of Physics within human movement.
- The use of IT, Qualisys software and recording media to analyse technique analysis in sport and recreational activities.

Indicative Bibliography

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads:

Knudson, D. V. (2012), *Qualitative Diagnosis of Human Movement: Improving Performance in Sport and Exercise*. 3rd ed. Champaign, IL: Human Kinetics.

Other indicative reading:

Blazevich, J. (2017), *Sports Biomechanics, the Basics: Optimising Human Performance*. 3rd ed. London: Bloomsbury.

Watkins, J. (2014), *Fundamental Biomechanics of Sport and Exercise*. London: Routledge.

McArdle, W. Katch, F. I. Katch, V. L. (2023). *Exercise Physiology: Nutrition, Energy and Human Performance*. 9th ed. Philadelphia. Wolters Kluwer Health/ Lippincott Williams & Wilkins.

Tortora, G.J. and Derrickson, B. (2017), *Principles of Anatomy and Physiology*. 15th ed. Singapore: Wiley.

Administrative Information

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