

Module specification

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Module Code	SES504
Module Title	Effective Movement in the Applied World
Level	5
Credit value	20
Faculty	FSLS
HECoS Code	100433
Cost Code	GASP
Pre-requisite module	N/A

Programmes in which module to be offered

Programme title	Core/Optional/Standalone
BSc (Hons) Sport and Exercise Science	Core

Breakdown of module hours

Learning and teaching hours	16 hrs
Placement tutor support hours	2 hrs
Supervised learning hours e.g. practical classes, workshops	12 hrs
Project supervision hours	0 hrs
Active learning and teaching hours total	30 hrs
Placement hours	10 hrs
Guided independent study hours	160 hrs
Module duration (Total hours)	200 hrs

Module aims

- Apply the biomechanical principles established in the module 'Mechanisms to Explain Human Movement' to sport-specific activities.
- Highlight the importance of developing a range of 'real-time' assessment techniques to assist performance.
- Expose students to various practical issues in conducting performance analysis.
- Further develop feedback mechanisms for presenting analysed data.
- Develop quantitative and qualitative approaches to applied work.

Module Learning Outcomes

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

1	Analyse a sporting technique through biomechanical principles.
2	Evaluate the impact of biomechanical principles on the performance of a sports technique using quantitative and qualitative methods.
3	Design a notational analysis system within an applied sport environment.
4	Utilise Notational analysis data to inform technical and / or tactical future performance.
5	Demonstrate an ability to appropriately present assignment work.

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.

Presentation - The students will produce an individual submission that describes the key technical elements of a sporting action through the eyes of a biomechanist. The analysis of these technical elements will be investigated through the implementation of technology to facilitate detailed and accurate information. The students will record the action using an appropriate medium and describe the action using quantitative or qualitative methods, evaluating the impact of the result of the analysis on the performance outcome of the action.

Group Project - Working in small groups to collect performance data, students will produce a collaborative report that outlines the design of a notation analysis system. The system will then be used to evaluate the tactical aspects of a sport. The student's ability to effectively use analysis software packages is fundamental to this submission and provides a platform for performance interpretation and future performance development.

Assessment number	Learning Outcomes to be met	Type of assessment	Duration/Word Count	Weighting (%)	Alternative assessment, if applicable
1	1 – 2	Presentation	20 minutes	40	N/A
2	3 – 5	Group Project	2000 words	60	N/A

Derogations

N/A

Learning and Teaching Strategies

This module will be taught through lectures, seminars, practical workshops, and blended learning, primarily emphasising applying theory to practice. While lectures and seminars will deliver the theoretical components of the module, students will also be required to learn how to effectively use workplace-leading computer software (Hudl Sportscode, Nacsport, Kinovea, and Qualysis); these will be taught through workshops and blended learning opportunities.

External links and reading materials will be highlighted as an additional aid to learning. These will enable the student to identify strengths and weaknesses in their knowledge and opportunities to access resources in their own time. Formative learning opportunities will be provided throughout the module.

Elements of this module are maths-based; additional support will be offered in class and through the academic skills department.

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

- Application of qualitative and quantitative approaches to technique analysis in various environments and population groups.
- Factors impacting health and effective movement.
- Movement patterns and Injury prevention.
- Deterministic modelling.
- Models in qualitative analysis of sports technique.
- The use of technology in the field of Biomechanics.
- Systematic observation of athletic performance in individual and team sports.
- Integration within the Coaching environment.
- Sport, position and individual athlete profiling.
- Collection and presentation of performance analysis data.
- Validity and reliability of performance analysis methodologies.
- Intervention strategies to maximise the impact of performance analysis.
- The use of computer software in notational analysis.

Indicative Bibliography

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

Essential Reads

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

Other indicative reading

Bartlett, R. (2014), *Introduction to Sports Biomechanics: Analysing Human Movement Patterns*. 2nd Ed. London: Routledge.

Grimshaw, P., Cole, M., Burden, A. and Fowler, N. (2019), *Instant Notes in Sport & Exercise Biomechanics*. 2nd Ed. London: Routledge.

Hughes, M. and Franks, I. (2015), *The Essentials of Performance Analysis*. London: Routledge.

McGarry, T., O'Donoghue, P., and Sampaio, J, (2013), *Routledge Handbook of Sports Performance Analysis*. London: Routledge.

O'Donoghue, P. (2014), *An Introduction to Performance Analysis of Sport*. 2nd ed. London: Routledge.

Payton, J. and Burden, A. (eds.) (2018), *Biomechanical Evaluation of Movement in Sport and Exercise*. Abingdon: Routledge.

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

Administrative Information

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Initial approval date	08/12/2021
With effect from date	01/09/2022
Date and details of revision	July 2025 – module updated with sports validation for Sept 2025
Version number	2