University of the West of Scotland

Module Descriptor

Session: 2023/2024

Title of Module: Applied Sport Biomechanics (SPOR10042)			
Code: TBC	**SCQF Level: 10** (Scottish Credit and Qualifications Framework)	**Credit Points: 20**	**ECTS: 10** (European Credit Transfer Scheme)
School:	School of Health and Life Sciences		
Module Co-ordinator:	Dr U Chris Ugbolue		

Summary of Module

The Applied Sport Biomechanics module is an optional module within the Sport and Exercise Science and Sport Coaching programmes that advances the knowledge and practical skills gained from the previous year. This module equips students with theoretical and practical biomechanical principles that underlie contemporary issues and current practices in biomechanics. Students will explore biomechanical measurement techniques (such as electromyography, kinematics, kinetics, and portable / wearable devices) applied to human movement analyses within an injury prevention (e.g., gait analysis and landing mechanism) and performance (e.g., running, golf, etc.) context.

This module will assist the student in the development of key **'I am UWS Graduate Attributes**' to allow those that complete this module to be:

Universal:
- Critical Thinker
- Emotionally Intelligent
- Collaborative

Work Ready:
- Problem -solver
- Motivated
- Potential Leader

Successful:
- Innovative
- Resilient
- Transformational

Module Delivery Method		
Face-To-Face	**Blended**	**Fully Online**
☐	☒	☐

Face-To-Face
Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.

Fully Online
Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.

Blended
A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations

Campus(es) for Module Delivery

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☐	☐	☐	☒	☐	☐	Add name

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1	☐	Term 2	☒	Term 3	☐

Learning Outcomes: (maximum of 5 statements)
These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.
At the end of this module the student will be able to:

L1	Critically assess biomechanical principles applied to sport biomechanics and performance by evaluating the literature.
L2	Apply biomechanical measurement techniques using computer biomechanical models and cutting-edge software to investigate and analyse human movement.
L3	Click or tap here to enter text.
L4	Click or tap here to enter text.

L5	Click or tap here to enter text.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level **10** Demonstrate a comprehensive knowledge of the biomechanical principles applied within a injury prevention and sport performance environment. Demonstrate critical understanding of biomechanical measurement techniques and computer modelling skills applied to human movement analyses using appropriate hardware and software.
Practice: Applied Knowledge and Understanding	SCQF Level **10** Develop a significant range of laboratory skills designed to assess kinesiology through the application of biomechanical models and research techniques. Design experimental protocols within the context of applied sport biomechanics using relevant biomechanical hardware and software.
Generic Cognitive skills	SCQF Level **10** Critically recognise, define, conceptualise, analyse and interpret complex problems and issues.
Communication, ICT and Numeracy Skills	SCQF Level **10** Communicate effectively biomechanical datasets through presentation formats that highlight both quantitative and qualitative aspects of biomechanics. Calculate theoretical and practical problems in biomechanics. Develop a wide range of ICT skills in biomechanics to enhance graphical and numerical techniques associated with data collection, data processing, data analyses and data interpretation.
Autonomy, Accountability and	SCQF Level **10**

Working with others	Exercise autonomy and initiative in practical sessions but also work as part of a team. Prioritise, manage time and work to both externally set and self-imposed deadlines.	
Pre-requisites:	Before undertaking this module, the student should have undertaken the following:	
	Module Code: SPOR09057	**Module Title:** Sports Conditioning and Biomechanics
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

Learning and Teaching
The teaching and learning approach will combine blended and face to face delivery approaches. Core theoretical content will be predominantly delivered through a series of online materials, including recorded lectures. Face to face sessions will comprise applied practical sessions in the laboratory and tutorials. Much of the learning will be achieved through formative practical challenges, directed independent study tasks such as free- writing, creative problem solving, 5-minute papers, classroom debates, small group / individual presentations, peer critiquing of scientific method and writing. Guest lecturers from biomechanical specialists will also be sought.

Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Laboratory/Practical Demonstration/Workshop	12
Tutorial/Synchronous Support Activity	9
Asynchronous Class Activity	30
Independent Study	149
Choose an item.	
Choose an item.	

Choose an item.	
Choose an item.	
Choose an item.	
	Hours Total 200

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Recommended texts:

Blazevich, A.J. (2017*). Sports Biomechanics: The Basics: Optimising Human Performance* Paperback

Kerr, A., & Rowe, P. (Eds.). (2019). *An Introduction to Human Movement and Biomechanics E-Book*. Elsevier Health Sciences.

Selected Journals
International Journal of Performance Analysis in Sport
Journal of Biomechanics
Journal of Applied Biomechanics
Sports Biomechanics
Journal of Sports Sciences
Sports Medicine
British Journal of Sports Medicine
Medicine and Science in Sport and Exercise
Human Movement Science
Research Quarterly for Exercise and Sport
Journal of Sport Rehabilitation
Motor Control
Physiotherapy
Clinical rehabilitation

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance Requirements

In line with the Academic Engagement and Attendance Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on Moodle, and complete assessments and submit these on time. Please refer to the

Academic Engagement and Attendance Procedure at the following link: Academic engagement and attendance procedure. For the purposes of this module, academic engagement equates to the following: Attendance of teaching sessions (practical and tutorials), completion of asynchronous activities, and submission of assessments to meet the learning outcomes of the module.

Equality and Diversity
This module is appropriate for any student. The learning activities include oral, written, and practical work and, where required, appropriate student support will be put in place. Please refer to the UWS Equality and Diversity Policy at the following link: UWS Equality and Diversity Policy
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Sport and Exercise
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Sport and Exercise
Moderator	TBC
External Examiner	TBC
Accreditation Details	N/A
Changes/Version Number	4

Assessment: (also refer to Assessment Outcomes Grids below)
The assessment will require students to complete a written report of practical work and an individual presentation which could be a poster or an oral presentation.
Assessment 1. Written report of practical work
Assessment 2. Presentation

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.
(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1					
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**		**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Report of practical/ field/ clinical work	X			60	0
Component 2					
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**		**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Presentation		X		40	0
			Combined Total For All Components	100%	0 hours