Module Descriptor

Title	Applied Sport Biomechanics		
Session	2026/27	**Status**	Published
Code	SPOR10042	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	U Chris Ugbolue		

Summary of Module

The Applied Sport Biomechanics module is an optional module within the Sport and Exercise Science programme 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	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☐ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☒	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
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	
L4	
L5	

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 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 10** Develop a significant range of laboratory skills designed to assess kinesiology through the application of biomechanical models and research techniques.

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	Design experimental protocols within the context of applied sport biomechanics using relevant biomechanical hardware and software.The ability to identify and describe pest species damage and the steps that should be taken to minimize against such damage.
Generic Cognitive skills	**SCQF 10** Critically recognise, define, conceptualise, analyse and interpret complex problems and issues.
Communication, ICT and Numeracy Skills	**SCQF 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 Working with Others	**SCQF 10** 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.

Prerequisites	**Module Code** SPOR09057	**Module Title** Sports Conditioning and Biomechanics
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. The teaching and learning approach will combine laboratory, practical demonstrations, workshop and face to face delivery approaches. Face to face sessions will comprise lectures, applied practical sessions in the laboratory and tutorials, supplemented with theoretical content available via online education materials. 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** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	8
Tutorial / Synchronous Support Activity	10
Laboratory / Practical Demonstration / Workshop	18

Independent Study	164
n/a	
n/a	
TOTAL	200

Indicative Resources
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 and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are attending and participating in all timetabled programme activities including on-campus and online teaching sessions, asynchronous online learning activities, placement, work-based elements, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** 100% Attendance at all module events and consistent weekly engagement with online materials.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. In line with current legislation (Equality Act, 2010) and the UWS Equality, Diversity, and Human Rights Code, our modules are accessible and inclusive, with reasonable adjustment for different needs where appropriate. Module materials comply with University guidance on inclusive learning and teaching, and specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations. Where modules require practical learning or assessment, alternative formats and/or roles will be provided for students with physical disabilities which impact participation.
(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 Exercise Health**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Sport, Exercise & Health
Moderator	Antonio Dello Iacono
External Examiner	E Bradley
Accreditation Details	
Module Appears in CPD catalogue	☒ **Yes** ☐ **No**
Changes / Version Number	6

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Written report of practical work (60%).
Assessment 2
Presentation (40%).
Assessment 3
(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 Module Handbook.)

Component 1

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Report of practical/ field/ clinical work	☒	☐	☐	☐	☐	60	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☐	☒	☐	☐	☐	40	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	When	Who