



Module Descriptor

Title	Applied Sport Biomechanics		
Session	2024/25	Status	Published
Code	SPOR10042	SCQF Level	10
Credit Points	20	ECTS (European Credit Transfer Scheme)	10
School	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	On-Campus¹ <input type="checkbox"/>	Hybrid² <input checked="" type="checkbox"/>	Online³ <input type="checkbox"/>	Work -Based Learning⁴ <input type="checkbox"/>
Campuses for Module Delivery	<input type="checkbox"/> Ayr <input type="checkbox"/> Dumfries	<input checked="" type="checkbox"/> Lanarkshire <input type="checkbox"/> London <input type="checkbox"/> Paisley	<input type="checkbox"/> Online / Distance Learning <input type="checkbox"/> Other (specify)	
Terms for Module Delivery	Term 1 <input type="checkbox"/>	Term 2 <input checked="" type="checkbox"/>	Term 3 <input type="checkbox"/>	
Long-thin Delivery over more than one Term	Term 1 – Term 2 <input type="checkbox"/>	Term 2 – Term 3 <input type="checkbox"/>	Term 3 – Term 1 <input type="checkbox"/>	

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)	<p>SCQF 10</p> <p>Demonstrate a comprehensive knowledge of the biomechanical principles applied within a injury prevention and sport performance environment.</p> <p>Demonstrate critical understanding of biomechanical measurement techniques and computer modelling skills applied to human movement analyses using appropriate hardware and software.</p>
Practice: Applied Knowledge and Understanding	SCQF 10

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

	<p>Develop a significant range of laboratory skills designed to assess kinesiology through the application of biomechanical models and research techniques.</p> <p>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</p>
Generic Cognitive skills	<p>SCQF 10</p> <p>Critically recognise, define, conceptualise, analyse and interpret complex problems and issues.</p>
Communication, ICT and Numeracy Skills	<p>SCQF 10</p> <p>Communicate effectively biomechanical datasets through presentation formats that highlight both quantitative and qualitative aspects of biomechanics.</p> <p>Calculate theoretical and practical problems in biomechanics.</p> <p>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.</p>
Autonomy, Accountability and Working with Others	<p>SCQF 10</p> <p>Exercise autonomy and initiative in practical sessions but also work as part of a team.</p> <p>Prioritise, manage time and work to both externally set and self-imposed deadlines.</p>

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.	
Learning Activities	Student Learning Hours
During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	(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
Please select	
Please select	
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 regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

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

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: [UWS Equality, Diversity and Human Rights Code](#).

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.

(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	<input type="checkbox"/> Pass / Fail <input checked="" type="checkbox"/> Graded
Module Eligible for Compensation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 and Exercise
Moderator	Dr Antonio Dello Iacono
External Examiner	
Accreditation Details	
Module Appears in CPD catalogue	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Changes / Version Number	5

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60	

Component 2							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Presentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40	

Component 3							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Combined total for all components						100%	hours

Change Control

What	When	Who