Module Descriptor

Title	Sports Conditioning and Biomechanics		
Session	2025/26	**Status**	Published
Code	SPOR09057	**SCQF Level**	9
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Mykolas Kavaliauskas		

Summary of Module

This module is designed to advance existing understanding and develop practical skills of the fundamentals of sports conditioning and biomechanics. Students will learn the biomechanical principles underpinning human motion and contextualise them within sports performance scenarios. Building upon basic theory (e.g., neuromuscular physiology, kinetics, kinematics) and key concepts/terminology (e.g., planes of movement, kinetic links, stretch-shortening cycle) in biomechanics, students will develop technical proficiency (e.g., field and lab-based data collection methods, data processing, analysis and interpretation) to effectively analyse movement tasks, as well as practical skills to design evidence-based intervention strategies (e.g., resistance training, core stability, plyometrics, speed, agility and quickness) to optimise performance and prevent injuries. Finally, students will critically review applied coaching theories and use them to operate successfully within sport contexts.

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	Demonstrate a critical understanding of neuromuscular physiology and key biomechanics concepts underpinning sports conditioning.
L2	Deconstruct, evaluate and explain sporting tasks from a biomechanical perspective.
L3	Design and deliver a sports conditioning intervention with consideration of evidence-based coaching recommendations.
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 9** Demonstrating integrated knowledge of biomechanics principles in sport conditioning practice. Demonstrating critical understanding of procedures to comprehensively evaluate sporting tasks. Demonstrating translational knowledge of best evidence for the development of athletic performance.
Practice: Applied Knowledge and Understanding	**SCQF 9** Using a significant range of skills to evaluate sporting task in field and laboratory settings.

[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

	Designing intervention strategies to optimise sport athletic performance and to mitigate the impact of injuries.
Generic Cognitive skills	**SCQF 9** Critically identify, define, conceptualise and analyse complex problems and issues. Demonstrating autonomous judgements based on multiple-sources information. Demonstrating originality in intervention strategies design and delivery.
Communication, ICT and Numeracy Skills	**SCQF 9** Presenting or conveying, formally and informally on key topics biomechanics and sports conditioning. Using a range of applications to process information (Motion analysis equipment, performance analysis software, Microsoft Office package), and to support and enhance effective communication and information convey. Interpreting, using and evaluating a wide range of numerical and graphical data to set and achieve goals/targets.
Autonomy, Accountability and Working with Others	**SCQF 9** Dealing with ethical and professional issues in accordance with current professional and/or ethical codes or practices. Taking responsibility on your work and assignments, but also participate proactively as a team-player.

Prerequisites	**Module Code**	**Module Title**
	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 learning and teaching approach will consist of a range of blended and face to face delivery formats, including online materials, recorded lectures, workshops and practical classes. This will utilise a mixture of the university's virtual learning environments and specialised lab and sport facilities. Core topics and key theoretical components will be introduced to the students primarily through lectures and online materials, before they apply and consolidate that translational knowledge through self-directed learning, group work, class discussion and problem solving in practical settings.	
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)
Laboratory / Practical Demonstration / Workshop	21
Practice-based Learning	6

Asynchronous Class Activity	15
Independent Study	158
n/a	
n/a	
TOTAL	200

Indicative Resources

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

Haff, G. and Travis Triplett, N. (2016). Essentials of Strength Training and Conditioning. 4th edn. Leeds: Human Kinetics.

Cardinale, M., Newton, R., and Nosaka, K. (2010). Strength and Conditioning: Biological Principles and Practical Applications. Chichester: Wiley-Blackwell.

Jeffreys, I. (2021). Strength and Conditioning for Sport Performance. 2nd edn. London: Routledge.

Carr, G. (2010). Sport Mechanics for Coaches 3rd edn. Human Kinetics: Leeds.

Grimshaw, P. (2007). Sport and Exercise Biomechanics. Taylor & Francis: Oxford.

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

(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:

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	Iain Cleland
External Examiner	E Bradley
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Class test (written)
Assessment 2
Case study
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**
Class test (written)	☒	☐	☐	☐	☐	50	0.85

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Case study	☐	☒	☒	☐	☐	50	0

Component 3

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0.85 hours

Change Control

What	When	Who