MODULE DESCRIPTOR

Module Title	**Biomechanics 2**
Course Title	BSc (Hons) Sport and Exercise Science (836)
School	☒ ASC ☐ ACI ☐ BEA ☐ BUS ☐ ENG ☐ HSC ☐ LSS
Division	Human Sciences
Parent Course (if applicable)	
Level	5
Module Code *(showing level)*	ASC_5_435
JACS Code (completed by the QA)	
Credit Value	20 credit points
Student Study Hours	Total learning hours: 200. Contact hours: 51 Student managed learning hours: 149
Pre-requisite Learning	Biomechanics 1
Co-requisites	None
Excluded combinations	None
Module co-ordinator	Name: Dr Darren James Email: jamesd6@lsbu.ac.uk
Short Description (max. 100 words)	This module has been designed so students can apply their pre-requisite knowledge of Biomechanics to the practical element of analysing human movement. It will primarily focus on the mechanical principles underpinning sports performance and common movement patterns, whilst developing students' awareness of the available equipment, techniques, and methodological considerations in which to conduct a biomechanical analysis. At the end of this module, students will have demonstrated a solid understanding of the role of Biomechanics in human movement and will have developed relevant practical skills. The knowledge and skills developed will be assessed through a series of problem-based activities comprising 100% coursework.
Aims	The aims of this module are: 1. To develop students' awareness of the mechanical principles underpinning sports performance and common movement patterns. 2. To familiarise students with the types of equipment, techniques and methodologies in which to analyse human movement. 3. To develop students' practical skills with the collection and analysis of human movement data. 4. To further students' understanding of the human musculoskeletal system via technology-based enquiry.

Learning Outcomes (4 to 6 outcomes)	By the end of this module, students will be able to: 1. Demonstrate an appropriate understanding of the mechanical principles underpinning sports performance or common movement patterns; 2. Identify methodological techniques and procedures in which to analyse human movement; 3. Demonstrate a practical proficiency in the use of equipment used for measuring human movement; 4. Demonstrate an ability to analyse and interpret experimental data; 5. Demonstrate an ability to evaluate the scientific literature.
Employability	The module is designed to provide the students with a strong background in the analysis and explanation of human movement via vocationally-relevant problem-based learning tasks. These skills strongly underpin the competencies required in the fields of Sport and Exercise Science and Sports Coaching. The learning outcomes map against elements of Skills Active assessment of L2 (gym) and L3 (personal trainer) awards.
Teaching and learning pattern	Contact hours includes the following: (please click on the checkboxes as appropriate) √ Lectures ☒ Group Work: ☐ Seminars ☐ Tutorial: ☒ Laboratory ☐ Workshops ☒ Practical ☐ VLE Activities
Indicative content	Kinematics & Kinetics Mechanical Principles Muscle Mechanics 2D Motion Capture Force Plate Analysis Electromyography Dynamometry
Assessment method (Please give details – of components, weightings, sequence of components, final component)	Formative assessment: There will be formative assessments throughout the module relating to theoretical and practical comprehension. Assessment-specific feedback in preparation for summative assessment. Summative assessment: Coursework (100%) via: Two written reports (1,000-word for each) relating to mechanical principles underpinning sports performance. Each will contribute to 40% of the overall summative grade. Then, an end of module practical demonstration (20%) relating to an experimental technique for measuring human performance. All learning outcomes will be addressed by these assessments.
Mode of resit assessment (if applicable)	Formative assessment: Assessment-specific guidance in preparation for the resit assessment. Summative assessment: As above.

Indicative Sources ***(Reading lists)***	Core Reading: 1. Biomechanics of Skeletal Muscles (ISBN-13: 9780736080200); 2. Neuromechanics of Human Movement (ISBN-13: 9781450458801); 3. Biomechanical Basis of Human Movement (ISBN-13: 9781451194043); 4. Biomechanical Evaluation of Movement in Sport and Exercise: the British Association of Sport and Exercise Sciences guidelines (ISBN-13: 9780203935750); 5. Introduction to Sports Biomechanics: Analysing human movement patterns (ISBN-13: 9780415632430).
Other Learning Resources	VLE