Biomechanical Principles

Module Information

2022.01, Approved

Summary Information

Module Code	5103SPOSCI
Formal Module Title	Biomechanical Principles
Owning School	Sport and Exercise Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Sport and Exercise Sciences

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	4
Workshop	17

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	The aim of this module is to develop the understanding of biomechanical principles and key measurement techniques for use in sport and exercise contexts.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Analyse, interpret and report biomechanical data related to sports skills
MLO2	2	Evaluate biomechanical principles in a sports and exercise context in terms of forces, motion and muscle actions

Module Content

Outline Syllabus	Force analysis, including practical laboratory work and data analysis Motion analysis, including practical laboratory work and data analysis 3D Kinematics, including practical laboratory work and data analysis Combining motion and forcesMuscle activity and contraction, including practical laboratory work and data analysis Acceleration and inertial sensors
Module Overview	This module continues to build your biomechanical knowledge by addressing fundamental principles on forces, motion and muscle action. You will learn the theoretical concepts behind key biomechanical analysis techniques before applying this knowledge in practical laboratory sessions and coursework. The theoretical insights and practical experiences will be complemented with online worksheets and data analysis tasks. You will also be introduced to more advanced biomechanical methodologies and research areas in biomechanics.
Additional Information	This module continues to build biomechanical knowledge by addressing fundamental principles on forces, motion and muscle action. You will learn the theoretical concepts behind key biomechanical analysis techniques before applying this knowledge in practical laboratory sessions and coursework. The theoretical insights and practical experiences will be complemented with online worksheets and data analysis tasks. You will also be introduced to more advanced biomechanical methodologies and research areas in biomechanics.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Reflection	Biomechanics Lab Report	50	0	MLO1
Centralised Exam	Biomechanics Short Answer Exam	50	2	MLO2

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Thomas O'Brien	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings