

Liverpool John Moores University

Title: SPORTS BIOMECHANICS
Status: Definitive
Code: **6102SPOSCI** (123210)
Version Start Date: 01-08-2021

Owning School/Faculty: Sport and Exercise Sciences
Teaching School/Faculty: Sport and Exercise Sciences

Team	Leader
Mark Robinson	Y
Richard Foster	
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Academic Level: FHEQ6
Credit Value: 20
Total Delivered Hours: 50
Total Learning Hours: 200
Private Study: 150

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Practical	15
Workshop	11

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Lab rpt	Consultancy report	50	
Exam	Exam	Sports biomechanics exam	50	2

Aims

The aim of this module is for students to gain the knowledge and skills necessary to evaluate sports biomechanics in performance and injury contexts

Learning Outcomes

After completing the module the student should be able to:

- 1 Conduct an experimental analysis in sports biomechanics and interpret the findings
- 2 Critically evaluate sports biomechanics concepts and literature
- 3 Critique measurement tools used in biomechanical analysis

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Consultancy report	1	
Sports biomechanics exam	2	3

Outline Syllabus

Sports Performance Biomechanics

Sports Injury Biomechanics

Biomechanical Modelling

Lab sessions using different biomechanical techniques.

Data collection and analysis workshops

Learning Activities

Lectures.

Laboratory practicals to collect data on sports skills.

Workshops on the use motion capture software to quantify motion characteristics.

Data processing with a step-by-step guide.

Online tasks to explore further data analysis and processing examples and expand problem solving skills.

Notes

You will focus on the quantification of sports skills from both a performance and injury prevention perspective. You will be introduced to key data collection methods and analysis software used in sports biomechanics research and applications to specific sports and injury scenarios. You will collect kinematic data in the laboratory and understand how the data is processed towards final assessment of the performance or risk factors for injury. Sports injury aspects are further expanded by using musculo-skeletal modelling software.