

Liverpool John Moores University

Title: TECHNICAL TRAINING IN BIOMECHANICS
Status: Definitive
Code: **7112SPOSCI** (124280)
Version Start Date: 01-08-2021

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

Team	Leader
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Academic Level: FHEQ7 **Credit Value:** 20 **Total Delivered Hours:** 22
Total Learning Hours: 200 **Private Study:** 178

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Practical	11
Tutorial	11

Grading Basis: 50 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Technical Report 1	50	
Report	AS2	Technical Report 2	35	
Presentation	AS3	Oral defence of Technical Report 2	15	

Aims

The aim of this module is to provide technical training in laboratory techniques

appropriate to sport and clinical biomechanics. The module will provide the opportunity for students to develop laboratory skills so that they are able to collect and interpret biomechanical data to benchmark standards. The appropriate use of IT in data processing, analysis and communication is paramount and will therefore be a skill developed through this module.

Learning Outcomes

After completing the module the student should be able to:

- 1 Establish quality control indices for biomechanical measurement.
- 2 Conduct laboratory based protocols according to benchmark standards.
- 3 Demonstrate expertise in validity and reliability as applied to biomechanical techniques.

Learning Outcomes of Assessments

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

Assignment 1	1	2	3
Assignment 2	1	2	3
Assignment 2	1	2	3

Outline Syllabus

Key themes of this module are developing the skills required to explain measurable human movements and forces using biomechanical theories and equipment. Data collection and analysis focusing on forces, motion capture, biomechanical modelling and inverse dynamics will be central to the module theme.

Learning Activities

This module provides two hours of direct contact per week. All sessions are in the biomechanics labs working hands on with biomechanics equipment and/or data. In addition to taught classes, students are expected to undertake independent activities and further work/reading which will be set each week or in preparation for taught content. These activities will be used to develop independent skills related to content of that week's class.

Notes

This module provides an opportunity to focus onto the detailed use of biomechanical techniques. Aspects of the advanced methodology in force and motion analysis will be visited along with Visual 3D biomechanical modelling and analysis software.

This module is fundamental to the collection of high quality experimental data in biomechanics, which feeds directly into the independent research project for the MSc thesis.