

Overview

Programme Code	35439
Programme Title	Sport and Clinical Biomechanics
Awarding Institution	Liverpool John Moores University
Programme Type	Masters
Programme Leader	Mark Lake
Link Tutor(s)	

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Master of Science - MS	See Learning Outcomes Below
Alternative Exit	Postgraduate Diploma - PD	Engage with advanced levels of theories and practice in relation to the field of Sport and Clinical Biomechanics Identify and apply appropriate research methodologies Take an informed position in relation to the field of Sport and Clinical Biomechanics Demonstrate personal skills in critical analysis, reflection and contextual awareness in a wide range of modules associated with the field of study.

Alternate Award Names	
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External Benchmarks

Subject Benchmark Statement	
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Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Part-Time, Face to Face	September	LJMU Taught	2 Years
Full-Time, Face to Face	September	LJMU Taught	1 Years

Aims and Outcomes

Educational Aims of the Programme

Prepare students with the means to enhance their own experience of Sport and Clinical Biomechanics Prepare students for employment in the field of Sport and Clinical Biomechanics Prepare students for more general employment through the development of transferable skills Prepare students with the means to enhance their own experience of Sport and Clinical Biomechanics Prepare students to undertake post graduate research in the field of Sport and Clinical Biomechanics Prepare students for employment in the field of Sport and Clinical Biomechanics Prepare students for more general employment through the development of transferable skills Enable students to demonstrate an integrated and critical appreciation of conceptual and methodological issues Prepare students to undertake post graduate research in the field of Sport and Clinical Biomechanics Enable students to demonstrate expertise in appropriate research methods Enable students to demonstrate an integrated and critical appreciation of conceptual and methodological issues Enable students to demonstrate mastery of appropriate conceptual material Enable students to demonstrate expertise in appropriate research methods Enable students to demonstrate mastery of appropriate conceptual material

Learning Outcomes

Code	Description
PLO1	Critically evaluate a number of research paradigms
PLO2	Demonstrate advance knowledge and understanding, and develop new skills to a high level.
PLO3	Act autonomously in planning and implementing tasks at a professional level.
PLO4	Demonstrate self-direction and originality in tackling and solving problems and in critical reasoning.
PLO5	Collect, collate and analyse data using appropriate approaches.
PLO6	Use a variety of advanced biomechanical tools, including specialist software, laboratory equipment and biomechanical instruments.
PLO7	Carry out an extensive piece of independent research, applying skills of choosing and applying appropriate advanced research methodologies and the treatment of resulting data with appropriate analytical methods.
PLO8	Apply skills of literature search, critical review and selection of relevant sources, and systematic synthesis and treatment of key material.
PLO9	Demonstrate advanced oral and written communication skills.
PLO10	Communicate clearly to specialist and nonspecialist audiences
PLO11	Demonstrate an ability to make decisions in complex and unpredictable situations.

Code	Description
PLO12	Appropriately apply a range of statistical procedures
PLO13	Demonstrate independent self-management of learning, utilising time-management skills and effective planning strategies.
PLO14	Collaborate and co-operate when working with others
PLO15	Exercise initiative and personal responsibility.
PLO16	Demonstrate the independent learning ability required for continuing professional development.
PLO17	Employ research techniques applicable to Sport and Clinical Biomechanics
PLO18	Critically evaluate concepts associated with the domains of gait analysis, force, motion and analytical methods
PLO19	Effectively engage in the processes associated with post graduate research
PLO20	Critically analyse complex issues both systematically and creatively.
PLO21	Critically appraise and integrate information from a variety of sources.
PLO22	Analyse, interpret and synthesise biomechanical data.
PLO23	Plan, design, execute and report on a programme of original, empirical research.

Programme Structure

Programme Structure Description

Alternative exit awards are available to students who have attained 60 credits (Post graduate Certificate), and for those who have gained 120 credits (Post graduate Diploma). The programme is offered within a full-time (1 year) or part-time (2 year) framework and consists of core modules on a semester basis. The research element of the programme is generic (7109SPOSCI). In semester 1, conceptual material is housed in the Current Issues module (7111SPOSCI) while experimental skills are developed in the Technical Training module (7112SPOSCI). In semester 2, advanced measurement techniques in sport and clinical areas of biomechanics are covered and then utilised in applied contexts (7114SPOSCI, 7115SPOSCI and 7116SPOSCI). Part-time students will complete their research project in the second year, and are able to negotiate the completion of the six taught modules (three are housed in each semester) over the two years with the programme leader based on their individual circumstances. Normally part-time students would complete Research Methods, Technical Training, Clinical Movement Analysis and Biomechanical Assessment in Sport in Year 1. Then they would complete Current Issues, Muscle-Tendon Mechanics and the Research Project in Year 2. Muscle-tendon mechanics can be swapped with another module in Year 1 if it is closely aligned to the research proposal topic area.

Programme Structure - 180 credit points	
Level 7 - 180 credit points	
Level 7 Core - 180 credit points	CORE
[MODULE] 7108SPOSCI Research Methods Approved 2022.01 - 20 credit points	
[MODULE] 7109SPOSCI Research Project Approved 2022.01 - 60 credit points	
[MODULE] 7111SPOSCI Current Issues in Biomechanics Approved 2022.01 - 20 credit points	
[MODULE] 7112SPOSCI Technical Training in Biomechanics Approved 2022.01 - 20 credit points	
[MODULE] 7114SPOSCI Muscle-Tendon Mechanics Approved 2022.01 - 20 credit points	
[MODULE] 7115SPOSCI Biomechanical Assessment in Sport and Exercise Approved 2022.01 - 20 credit points	
[MODULE] 7116SPOSCI Clinical Movement Analysis Approved 2022.01 - 20 credit points	
Level 7 Optional - No credit points	OPTIONAL

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

Teaching, Learning and Assessment

All staff who teach on the programme have a wealth of experience working with industry and clinical applied practice. In addition, the School of Sport and Exercise Sciences reputation as a world-leading research centre, and the large number of students who have completed this MSc programme and gone on to work in academia and industry, ensures we attract high-level professionals to come and talk to our students about the reality of working in the field (for example speakers are often ex-students working with sports equipment manufacturers or the English Institute for Sport or in clinical environments). These links also help us to ensure that the programme is as current and relevant as possible, because we work closely with key industry partners and identify the skills and knowledge that they look for in graduates. We are also committed to providing an inspirational and intellectually stimulating experience that creates high level independent critical thinkers prepared for employment and/or further study. Teaching is via a combination of lectures, interactive seminars, one-to-one tutorials, laboratory-based practical work, online workshops and independent laboratory work. Guided independent study using our Libraries and the web accounts for 60% of each module. Web-based content is also available through our virtual learning environment Canvas (including wikis for software training). We use a combination of assessment methods. These include: written assignments (essays), exams (unseen), reports of practical work, and oral presentations. Tutors will provide feedback on assessments within three weeks, allowing students to quickly identify their successes and the areas where they may need to put in more work moving forward or for future assessments. This is provided via Canvas, face-to-face and/or as written comments for coursework and one-to-one for exams. Students are also welcome to arrange further meetings with staff to discuss their feedback. Tutorial experiences encourage the development of interpersonal communication skills. The learning experience culminates in a research project proposal followed by the submission of a written research product and associated oral viva defence of the work.

Opportunities for work related learning

There are also internship opportunities at local hospitals and commercially funded projects in the laboratories for students to enhance their applied work experience. Staff also have strong links with industry for work experience opportunities after graduation.

Entry Requirements

Type	Description
Other international requirements	Overseas students whose first language is not English will require an IELTS score of 6.5 or above.
Alternative qualifications considered	Normally a minimum of an upper second class B.Sc. (Hons) degree in a sport or relevant discipline which has a substantial biomechanics component at level 6. Admission is made in line with the current equal opportunities regulations adopted by the University