**Liverpool** John Moores University

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| Title: | PERFORMANCE BIOMECHANICS |
| Status: | Definitive |
| Code: | **7015SPOSCI** (114312) |
| Version Start Date: | 01-08-2011 |
| Owning School/Faculty: | Sports Sciences |
| Teaching School/Faculty: | Sports Sciences |

| Team | Leader |
|---|---|
| Adrian Lees | Y |

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| **Academic Level:** | FHEQ7 | **Credit Value:** | 20.00 | **Total Delivered Hours:** | 24.00 |
| **Total Learning Hours:** | 200 | **Private Study:** | 176 | | |

**Delivery Options**
Course typically offered: Semester 2

| Component | Contact Hours |
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| Lecture | 12.000 |
| Seminar | 12.000 |

**Grading Basis:** 40 %

**Assessment Details**

| Category | Short Description | Description | Weighting (%) | Exam Duration |
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| Report | AS1 | Laboratory report (1500 words) | 50.0 | |
| Presentation | AS2 | Oral presentation and defence | 30.0 | |
| Test | AS3 | Evaluation exercise | 20.0 | |

**Aims**

*To develop and extend the students' understanding of the biomechanical factors affecting high level sporting achievement in selected areas; to be able to analyse elite sports performance biomechanically and to develop a knowledge of current literature in the area.*

**Learning Outcomes**

After completing the module the student should be able to:

1 Critically appraise the biomechanical factors affecting performance in a selected sport.
2 Orally present and defend a report on a selected sports biomechanics topic.
3 Evaluate and assess other students' work.

## Learning Outcomes of Assessments

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

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| Lab report | 1 |
| Oral presentation and defence | 2 |
| Evaluation exercise | 3 |

## Outline Syllabus

*Students will study the technique, kinematic and kinetic characteristics, and models of performance of sports from the following list*

*Athletics - throws*
*Athletics - jumps*
*Athletics – runs*
*Cycling*
*Golf*
*Gymnastics*
*Racket Sports*
*Soccer*
*Swimming*
*Weightlifting*

## Learning Activities

Students are required to attend lectures and practicals to develop their ability to critically appraise the biomechanical factors affecting sports performance. The completion of guided reading will also faciliate the completion of the written and oral assessment task. Students will also be involved in peer assessment.

## References

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| **Course Material** | Book |
| **Author** | Bartlett, R. |
| **Publishing Year** | 1999 |

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| **Title** | Sports Biomechanics - reducing injuries and improving technique. |
| **Subtitle** | |
| **Edition** | |
| **Publisher** | London, E & F N Spon. |
| **ISBN** | |

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|---|---|
| **Course Material** | Book |
| **Author** | Zatsiorsky, V. |
| **Publishing Year** | 2000 |
| **Title** | Biomechanics in sport: |
| **Subtitle** | Performance enhancement and injury prevention. |
| **Edition** | |
| **Publisher** | Oxford, Blackwell Science. Chapters 25-28. |
| **ISBN** | 0-632-05392-5. |

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**Notes**

This module provides an opportunity to study the application of biomechanics to a selection of sports activities, for example, cycling, swimming, golf, football, gymnastics and athletics.