Medical Physics and Biomedical Engineering

Computer-Assisted Surgery and Therapy (MPHY0026)

**Description**

Computer-assisted surgery (CAS) is a growing field in which computer software and hardware technologies are deployed to increase the safety, accuracy, and effectiveness of surgical and other interventional procedures. This module aims to introduce key concepts in CAS from a theoretical and practical perspective. Students completing the module are expected to demonstrate an understanding of the mathematical/computational basis, practical application, and clinical context of topics including image segmentation, image registration, visualisation of anatomical structures, instrument tracking, system calibration and usability.

The course will be assessed 50% by coursework and 50% by an examination lasting 2 hours.

It is a pre-requisite that students have taken a programming module such as MPHY0021, “Research Software Engineering with Python”, or MPHY0030 “Programming Foundations for Medical Image Analysis”, and in addition, taken a course in linear algebra.

A video description can be found at the UCL Media Central.

**Key information**

- **Year**: 2020/21
- **Credit value**: 15 (150 study hours)
- **Delivery**: PGT L7, Campus-based
- **Reading List**: View on UCL website
- **Tutor**: Dr Matt Clarkson
- **Term**: Term 2
- **Timetable**: View on UCL website

**Assessment**

- **Coursework**: 100.0%

**Find out more**

For more information about the department, programmes, relevant open days and to browse other modules, visit [ucl.ac.uk](http://ucl.ac.uk)
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