Medical Physics and Biomedical Engineering

Materials for Orthopaedic Medical Devices (MPHY0023)

Description

The purpose of this module is to describe the issues presented by medical devices from biological, medical, engineering and materials perspectives, as well as discuss available solutions and current research, with emphasis on orthopaedic devices.

Available to students from MEng Biomedical Engineering and MSc Physics and Engineering in Medicine: Biomedical and Medical Imaging.

Aims & Objectives

1. To understand the characteristics of different materials used in medical devices.
2. To understand the differences between tissues, cells and synthetic materials.
3. To be able to describe the differences between chemical and biological behaviours of different materials used in medical devices.
4. To be able to describe the properties of bone and biomaterials.
5. To be familiar with the medical devices used in treatments of various diseases.
6. To be able to explain in detail biocompatibility and tissue engineering.
7. To understand in detail the issues associated with orthopaedic implants and the research on this topic.
8. To be familiar with prosthetic devices.
9. To be familiar with medical device regulations associated with orthopaedic medical devices.

Key information

Year: 2020/21
Credit value: 15 (150 study hours)
Delivery: PGT L7, Campus-based
Reading List: View on UCL website
Tutor: Dr Sergio Bertazzo
Term: Term 1
Timetable: View on UCL website

Assessment

- Written examination (main exam period): 80.0%
- Coursework: 20.0%

Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of March 2020. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
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