

COURSE DETAIL

LIVING MATERIALS AND THEIR BIOMATERIAL REPLACEMENTS 4

Country

United Kingdom - Scotland

Host Institution

University of Edinburgh

Program(s)

University of Edinburgh

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mechanical Engineering

UCEAP Course Number

132

UCEAP Course Suffix**UCEAP Official Title**

LIVING MATERIALS AND THEIR BIOMATERIAL REPLACEMENTS 4

UCEAP Transcript Title

LIVING MATERIALS

UCEAP Quarter Units

4.00

UCEAP Semester Units

2.70

Course Description

The tissues that make up the human body display extraordinary characteristics; self-assembly, self-healing, adaptive, and sometimes actuatable. This course looks into the source of these characteristics and then considers what materials we, as engineers, can use to replace them. Students focus attention on the musculoskeletal and cardiovascular systems of the body and the biomaterials that have been developed for use as substitutes. They consider how the body reacts to the presence of man-made biomaterials and the impact of the need for biomaterial sterilization. Not all replacement materials are man-made; students think about tissue engineering as a way to grow new tissue. Finally, the course introduces the legal processes surrounding regulation of biomaterial use and considers the ethics of growing new body parts.

Language(s) of Instruction

English

Host Institution Course Number

MECE10016

Host Institution Course Title

LIVING MATERIALS AND THEIR BIOMATERIAL REPLACEMENTS 4

Host Institution Campus

Host Institution Faculty

School of Engineering

Host Institution Degree

Host Institution Department

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