COURSE DETAIL

TISSUE ENGINEERING
Country Ireland
Host Institution Trinity College Dublin
Program(s) Trinity College Dublin
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Bioengineering
UCEAP Course Number 160
UCEAP Course Suffix
UCEAP Official Title TISSUE ENGINEERING
UCEAP Transcript Title TISSUE ENGINEERING
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

This course gives an overview of contemporary approaches to tissue and cell engineering, including stem cells, cellular signaling, biomaterial scaffolds, use of bioreactors in tissue engineering, and controlled release strategies. Students explore ethical considerations related to clinical application of tissue and cell engineering technology. Topics include stem cells, embryogenesis, cellular signaling, extracellular matrix as a scaffold, degradable biomaterials for tissue engineering, cell-material interactions, scaffold design and fabrication, controlled drug release in tissue engineering, bioreactors in tissue engineering, production of mesenchymal stem cells, industrial tissue engineering manufacturing, cartilage tissue engineering, bone tissue engineering, cardiovascular tissue engineering, corneal tissue engineering and replacement, tissue engineering of the intervertebral disc (IVD).

Language(s) of Instruction
English

Host Institution Course Number
ME5BIO3

Host Institution Course Title
TISSUE ENGINEERING

Host Institution Course Details
https://www.tcd.ie/media/tcd/engineering/pdfs/current-students/ME5BIO3---Tissue...

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering

Course Last Reviewed
2024-2025

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