COURSE DETAIL

INTRODUCTION TO BIOMECHANICS

Country Germany

Host Institution Technical University Berlin

Program(s) Technical University Summer

UCEAP Course Level Upper Division

UCEAP Subject Area(s) Mechanical Engineering Bioengineering

UCEAP Course Number 105

UCEAP Course Suffix

UCEAP Official Title INTRODUCTION TO BIOMECHANICS

UCEAP Transcript Title BIOMECHANICS

UCEAP Quarter Units 4.00

UCEAP Semester Units 2.70

Course Description

Biomechanics, as a growing field of engineering, has many applications in the health and sport sectors. This broad field of study includes the design of artificial implants, the development of human tissues in the lab, the measurement of human movement and the detection and treatment of pathological conditions, the understanding of the performance of our muscles and how to employ it in sport, the diagnosis of injuries, the imaging of biological tissues and the detection of their pathological state, etc. In this course, the fundamental principles of biomechanics and their application to real life situations will be covered including: basic understanding of the application of mechanical principles in biology, understanding of anatomical and biomechanical terminology, application of biomechanical principles to human movement, basic understanding of the mechanical properties of biological tissues and the techniques used to determine them, and more recent advanced topics such as mechanics of cells, tissue imaging and tissue engineering. Participants should have successfully completed courses in engineering mechanics and materials science and possess knowledge on programming software.

Language(s) of Instruction

English

Host Institution Course Number

Host Institution Course Title INTRODUCTION TO BIOMECHANICS

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

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