# COURSE DETAIL

| INTRODUCTION TO BIOMECHANICS |
| --- |
| **Country**<br>Germany |
| **Host Institution**<br>Technical University Berlin |
| **Program(s)**<br>Technical University Summer |
| **UCEAP Course Level**<br>Upper Division |
| **UCEAP Subject Area(s)**<br>Mechanical Engineering Bioengineering |
| **UCEAP Course Number**<br>105 |
| **UCEAP Course Suffix** |
| **UCEAP Official Title**<br>INTRODUCTION TO BIOMECHANICS |
| **UCEAP Transcript Title**<br>BIOMECHANICS |
| **UCEAP Quarter Units**<br>4.00 |
| **UCEAP Semester Units**<br>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 Course Details**
https://www.tu.berlin/en/international/summer-school/summer-school/summer-schoo...

**Host Institution Campus**

**Host Institution Faculty**

**Host Institution Degree**

**Host Institution Department**

**Course Last Reviewed**
2024-2025

Print