Medical engineering is concerned with a wide variety of products and procedures that can heal, help and even save lives. Medical devices are used for diagnostics, in surgery and intensive care, or as implants. The medical engineering industry is highly innovative: about one third of the German medical device manufacturers is generated by devices that are less than three years old.
What characterizes the Bachelor degree program Medical Engineering?

Medical engineers – engineers specialized both on technological and medical aspects – develop technical solutions for medical diagnostics, for the operating room and for therapy. In the light of rapid technological developments on the one hand, and growing demands for medical methods for diagnostics and treatment on the other, medical engineering is a key strategic area with great potential for future developments. It represents an interdisciplinary field for scientific research and professional engagement at the interface of natural and engineering sciences with medicine. One distinctive characteristic of the Bachelor's Programme at Technische Universität Chemnitz is the alliance of mechanical engineering and medicine. The signature combination of engineering design, mechanics and materials science, complemented by medical and biomechanical knowledge that is acquired at Chemnitz Hospital, is currently unique in Germany.

“After studying at Technische Universität Chemnitz, I worked as scientific assistant in the field of medical engineering, and today I am Senior Manager for Software Research at the Straumann CADCAM GmbH which develops computer-aided solutions for dental implants and prosthetics. Medical Engineering graduates have many promising opportunities to apply their knowledge in meaningful ways, earning good money and helping people.”

Albrecht Schnappauf, Senior Manager Software Research, Straumann CADCAM GmbH
Degree Structure

Basic Modules (1st-5th semester)
- Natural Sciences
- Mathematics
- Medicine and Biomechanics
- Materials
- Mechanics and Mechanisms
- Engineering Design
- Manufacturing Technology
- Electrical Engineering and Computer Science
- Medical Devices and Materials in Practice

Supplementary Modules (5th-7th semester)
At least three modules shall be selected:
- English for Course Work and Professional Communication
- Intellectual Property Law
- Health and Safety at work
- Quality and Environmental Management
- Quality Techniques
- Presentation Skills
- Communication Skills
- Healthcare System/Evidence based medicine

Module Internship (7th semester)

Module Bachelor Thesis (7th semester)

The first mandatory internship (industrial practice) is supposed to be acquired before the beginning of the course. Corresponding documentation needs to be provided at the beginning of the 3rd semester at the latest.

Career Opportunities

Medical engineering represents a dynamically growing market of international importance, with many professional opportunities for graduates of the bachelor’s course Medical Engineering. SMEs as well as global players have an increasing demand for professionals with an engineering background and solid medical knowledge. The following areas of occupation may be particularly interesting for graduates:
- Development of medical products, devices, mechanical aids and equipment
- Sales and distribution of medical products and services
- Maintenance of medical devices and consulting in hospitals
- Consulting and evaluation of engineering aspects in public institutions

Graduates, after having acquired insights into practice in the course of an industrial internship and by writing their Bachelor thesis, can further deepen their knowledge. The consecutive Master’s programme in Medical Engineering offers the opportunity for further education, with a special focus on current research and development.
General information
Admission requirements: usually general qualification for university entrance, German language proficiency at level B2 according to the CEFR
Standard period of study: 7 Semesters
Degree: Bachelor of Science (B.Sc.)
Start of the degree program: usually winter semester
Language of tuition: German

For information concerning all aspects of studies please access:
www.tu-chemnitz.de/studentenservice/index.php.en

Online application for German students:
www.tu-chemnitz.de/studienbewerbung

Online application for international students:
www.uni-assist.de

Further information:
Technische Universität Chemnitz
Student Service Point
Straße der Nationen 62, room 043
09111 Chemnitz
+49 371 531-33333
studentensekretariat@tu-chemnitz.de

Academic Course Guidance
For an overview of all academic counsellors including contact details please access:
www.tu-chemnitz.de/studienberater

Central Course Guidance Service
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