Bachelor's Programme

Faculty of
Mechanical Engineering

Medical Engineering

"Medical devices include a great variety of medical products and procedures serving for saving life, for treatment, for helping and for ameliorating the quality of life of human beings for example apparatus for diagnostics, for surgery, for intensive care, for implants, for sterilization as well as dressings, medical accessories, surgery material and laboratory systems. Medical Engineering is a highly innovative branch: about one third of the turnover of German medical technology manufacturers is made thanks to products which are not developed more than three years ago."

Source: VDI nachrichten, 12.11.2010

TECHNISCHE UNIVERSITÄT
CHEMNITZ

To know what is good. Study in Chemnitz.

What is Medical Engineering?

Medical engineers – engineers specialized on areas of technology and medicine – develop technical solutions for medical diagnostics, for the operating room and for therapy. In the light of rapid technological development on the one hand and growing demand for medical methods for diagnostics and treatment on the other medical engineering counts among the strategic areas of action in the future. It offers a trans-disciplinary field for scientific research and professional engagement at the interface of natural and engineering sciences with medicine. A distinctive characteristic of the bachelor's course at Chemnitz University of Technology is the combination of mechanical engineering and medicine. The interrelation between construction technology, mechanics and material science complemented by medical and biomechanical knowledge which is acquired at Chemnitz Hospital is actually unique in Germany.

Career perspectives

Medical engineering represents a dynamically growing and internationally important market which offers bright professional perspectives for graduates of the bachelor's course Medical Engineering. SMEs as well as globally-acting trusts have a raising demand for professionals with distinctive technological background and solid medical knowledge.

The following occupational fields are especially interesting for graduates:

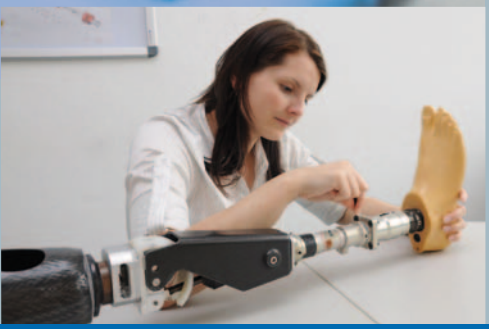
- Development of medical-technological products, apparatus, mechanical aids and equipment f.e. in enterprises and hospitals
- Distribution of medical-technological products and services
- Maintenance of (apparatus) technology and consulting in hospitals
- Counseling and evaluation of technological aspects in public institutions

From Bachelor to Master

After having acquired a deep insight into practice by an industrial internship and the Bachelor thesis graduates have got the opportunity to deepen their knowledge in a specific way. For this reason the establishment of a consecutive Master's course in Medical Engineering at Chemnitz University of Technology is in progress. It shall be dedicated especially to the economic aspects as well as to the actual R&D in the area of medical engineering.

"After my studies at Chemnitz University of Technology I had been scientific assistant in the area of medical engineering and today I am Senior Manager Software Research at the Straumann CADCAM Ltd. which develops computer-aided solutions in the whole field of dental implants and prosthetics. But the dental area is not the only one that offers a sustainable occupational field for graduates of the course Medical Engineering. In addition to a great range of application opportunities and very promising earning potential this field provides particularly the valuable task to make humans healthy again."

Albrecht Schnappauf, Senior Manager Software Research of the Straumann CADCAM Ltd.



Structure of the course

Basic and in-depth modules

Modules shall be chosen in the following areas:

- Natural Sciences
  1st-2nd term
- Mathematics
  1st-2nd term
- Medicine and Biomechanics
  1st-5th term
- Materials
  1st-6th term
- Mechanics and Mechanisms
  1st-4th term
- Construction
  1st-6th term
- Manufacturing Technology
  3rd-6th term
- Electrical Engineering and Computer Science
  3rd-6th term
- Medical Apparatus and Materials in Practice
  4th-6th term

Supplementary modules

(Trans-disciplinary subjects)

5th-7th term

Please choose at least three modules f.e.

- Health and Safety at work
- Healthcare System/Evidence based medicine
- Communication Skills

Module Internship

7th term

Module Bachelor Thesis

7th term

If possible basic industrial practice knowledge at the extent of six weeks (first mandatory internship) should have been acquired before the beginning of studies but has to be proved at the beginning of the 3rd term at latest.

▶ General Information

Requirements: usually general qualification for university entrance
Standard period of study: 7 terms
Degree: Bachelor of Science (B. Sc.)
Starting of the course: usually winter term

▶ Application

German students: The application can be submitted by using the following link: **www.tu-chemnitz.de/studienbewerbung.**

International students: Please use **www.uni-assist.com** for your application.

Further Information

Technische Universität Chemnitz
Registrar's office
Straße der Nationen 62, room 043
09111 Chemnitz

✆ + 49 (0) 371 531-33333
studentensekretariat@tu-chemnitz.de

www.tu-chemnitz.de/schueler

▶ Co-operation partner:

KLINIKUM CHEMNITZ gGmbH

▶ Specialised course guidance

You may find an overview over all specialised course advisors here

www.tu-chemnitz.de/studienberater

all study programs at a glance

▶ Student Advisory Service

Technische Universität Chemnitz
Student Advisory Service
Straße der Nationen 62, room 046
09107 Chemnitz

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Photos: Wolfgang Thieme, Klinikum Chemnitz, TU Chemnitz, private

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