

MODULE EXAMPLES

Module during the basic studies (Semesters 1 – 4)	
Natural Sciences	e. g. Higher mathematics, Physics, Informatics, Chemistry and Biochemistry
Technical Sciences + Engineering	e. g. Engineering mechanics, Medical systems design, Electrical engineering, Optical design, System dynamics and automation control
Medical Sciences	e. g. Cellular and human biology, Physiology and pathophysiology of organs
Medical Technologies	e. g. Biosensor technology, Materials for bio-medical implants and Biomedical techniques
Module during the specialisation phase (Semesters 5 – 6)	
Medical Engineering	e. g. Biomechanics, Software- and automation engineering, Industrial design and construction of medical devices, Signal processing and Optics in medical technology
Biomedical Technologies	e. g. Vital implants, Avital implants, Minimal invasive techniques in diagnostic and therapy, Optoelectronics – noninvasive techniques, Radiation probes and Nanoanalytics in Biomedicine

Studies begin at the basic level. The objective is to introduce students to scientific subjects like engineering and medicine and to familiarise them with the fundamentals of natural sciences. All students proceed through the same curriculum during the first two years. After the standardised basic level, the specialisation phase in the third year offers a broad, individually focused programme with a maximum degree of freedom. In particular, students may choose from a broad range of established courses (competency subjects and specialisation courses) and additional courses (complementary subjects) to define their fields of specialisation. The academic courses are structured in a Y model to facilitate flexible study design. The Y model allows the student to choose a specialisation in “Medical Engineering” (University of Stuttgart) or “Biomedical Technologies” (University of Tübingen) or a combination of the two. The bachelor’s thesis is written in the last semester of the bachelor programme and comprises at least 360 hours with a maximum duration of five months.

GEFÖRDERT VOM



MEDICAL TECHNOLOGIES @ TÜBINGEN

The inter-university bachelor’s degree programme in Medical Technologies was developed by the University of Tübingen and the University of Stuttgart. It is a research-oriented programme with a flexible study design and diversified basic study period. The programme is unique in Germany, integrating the specific expertise of two universities: technical sciences and engineering at the University of Stuttgart and natural and medical sciences at the University of Tübingen.

The University of Tübingen

Innovative. Interdisciplinary. International. Since 1477. These have been the University of Tübingen’s guiding principles in both research and teaching ever since it was founded. The University is one of Germany’s oldest and most respected, and offers excellent conditions for a course of study with an individual focus. Tübingen not only provides an optimal environment for learning and teaching, it also offers a wide range of other activities via the University Sport Center, the Language Learning Center, the interdisciplinary Studium Generale forum and a modern University Library. The University’s motto speaks for itself: attempto – I dare!

The town of Tübingen

Tübingen doesn’t have a University, Tübingen is a University: young, creative, open, innovative. The beautiful, historic old town and its picturesque location on the Neckar River enhance the high quality of life and provide excellent opportunities for outdoor activities.

The City of Stuttgart

The capital of the region Baden-Württemberg fascinates with its mix of history and modern age. Stuttgart is home to the renowned state opera, its famous ballet and theatre as well as to top-class music ensembles, amazing art exhibitions, festivals and modern museums.

Further attractions are e. g. the large number of student pubs, the traditional wine festival „Stuttgarter Weindorf“ and the famous as well as very popular „Volksfest“.

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EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



MEDIZINTECHNIK MEDICAL TECHNOLOGIES

Bachelor of Science

FACULTY OF MEDICINE



PROFILE OF THE COURSE

The inter-university bachelor's degree programme is unique in Germany, integrating the specific expertise of two universities: technical sciences and engineering at the University of Stuttgart and natural and medical sciences at the University of Tübingen.

The programme in Medical Technologies was developed by the University of Tübingen and the University of Stuttgart. The bachelor's degree programme features research orientation, flexibility in study choices and great subject diversity. It forms the basis for a sound scientific education. To ensure that the students feel at home at both universities and to satisfy a variety of interests, courses at both universities were fixed in the curriculum from the outset.

One central goal of the bachelor's programme is that the students acquire a deep understanding of engineering as well as scientific and medical fundamentals. Furthermore the students will gain a comprehensive overview of the key technologies, requirements and structures of modern medicine as well as subject-specific abilities such as developing and engineering medical devices, using biomedical techniques for diagnostics and therapy, or working with complex modern medical devices.

The students gain special knowledge in current research areas in the thriving field of medical technology which will enable them to find jobs in device development or clinical engineering or pursue a subsequent scientifically oriented master's degree.

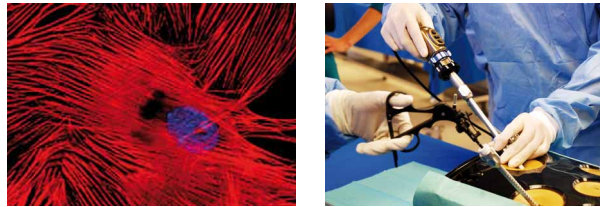
The programme also provides:

- four new professorships in Medical Technologies
- excellent study conditions
- a strong network of companies and research institutes in Medical Technologies and Biotechnology, as well as the Inter-University Center for Medical Technologies Stuttgart-Tübingen (IZST)

Keywords

Medical Technologies, Biomedical Technologies, Inter-university bachelor's degree programme

PERSPECTIVES



Degrees and career opportunities

The bachelor's programme lasts three academic years (six semesters) and encompasses a total of 180 ECTS credit points considering the European Credit Transfer System. After completion, our students are awarded a Bachelor of Science (B.Sc.) degree.

Successful graduates of Medical Technologies may choose to continue their academic education in one of our two master's programmes and subsequently pursue a doctorate. The University of Tübingen offers the master's degree programme "Biomedical Technologies", while University of Stuttgart graduates may attend the master's degree programme "Medical Engineering". In addition, a variety of inter-university courses will be available to both groups.

Possible professional activities include:

- Design and development of medical devices for clinical application
- Design, development and production of endoprosthesis, bioartificial organs and vital/avital implants
- Planning, construction and production of medical devices and instruments
- Operation and maintenance of laboratory, diagnostic and therapeutic equipment
- Development and production of biological surfaces for implant materials
- Tissue engineering for regenerative medicine

Start of studies/course: each winter semester

Standard period of study: 6 semesters

Total amount: 180 ECTS-Credit Point

Study year abroad: is possible

Course language: German

Master programme: English, international partner universities, starts in October 2013

OUR TARGET GROUP

We are looking for students with a pronounced affinity for natural sciences and engineering and a deep interest in biomedical questions.

First year students must be proficient in the written and spoken German language and must be able to express rationales clearly and understandably.

INFORMATION FOR APPLICANTS

We offer:

- an inter-professional and inter-university study programme with 100 university places per annum
- a research-oriented, diversified basic study period in year one and two
- a flexible study design for the specialisation phase in year three

Application procedure:

German and EU applicants will need a 'Allgemeine Hochschulzugangsberechtigung (HZB)' which conforms to a general qualification for university entrance. Foreign certificates must be recognised by the competent public authority as comparable. Students whose first language is not German must provide a certificate of proficiency in the German language (testDaF level 4 or 5).

All other foreign applicants should contact directly:

University of Tübingen · Dezernat III – International Affairs
Department 2 – Counselling and Admission of International Students · Wilhelmstrasse 11 · 72074 Tübingen

The course can only be commenced at the beginning of the winter term in autumn (winter semester).

Please find all the documents and information required for an application to the next winter semester on the website of the University of Tübingen.

The application period starts in June.

Application deadline: 15th July

Please send your applications in written form to:

University of Tübingen

Student Administration

Wilhelmstrasse 11 · 72074 Tübingen

Further information: www.uni-tuebingen.de