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Bachelor's degree

Bachelor of Science Biomedical Engineering
Technische Universität Ilmenau • Ilmenau

Overview

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<thead>
<tr>
<th>Degree</th>
<th>Bachelor of Science in Biomedical Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course location</td>
<td>Ilmenau</td>
</tr>
<tr>
<td>Teaching language</td>
<td>• German</td>
</tr>
<tr>
<td></td>
<td>• English</td>
</tr>
<tr>
<td>Languages</td>
<td>Courses at TU Ilmenau are held in German, courses in China are conducted in English. The Bachelor’s thesis has to be written in English.</td>
</tr>
<tr>
<td>Programme duration</td>
<td>7 semesters</td>
</tr>
<tr>
<td>Beginning</td>
<td>Summer semester</td>
</tr>
<tr>
<td>Tuition fees per semester</td>
<td>None</td>
</tr>
<tr>
<td>in EUR</td>
<td></td>
</tr>
<tr>
<td>Joint degree / double</td>
<td>Yes</td>
</tr>
<tr>
<td>degree programme</td>
<td></td>
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</table>

Description/content

Biomedical engineering is technology for life. It directly affects human health. Together with medical partners, it develops new methods for the detection and treatment of diseases and implements them in medical technology.

The TU Ilmenau has a long and successful tradition in the field of biomedical engineering. Already in the year of 1953, the Institute of Electromedical and Radiological Engineering was established at the former “Hochschule für Elektrotechnik” (HfE), which was the first university institute in Europe that introduced an on-campus biomedical engineering programme.

Key aspects of the Bachelor’s programme include the following:

- substantiated engineering fundamentals
- outstanding methodical competence
- distinct understanding of current medical questions
- hands-on skills in medical engineering
- a research-centred course of study

Course Details

Course organisation

Students start their Bachelor’s education with the five semesters at their home university. The sixth and seventh semesters are studied abroad. This also includes the Bachelor’s thesis. The topic for the thesis is jointly determined with the supervisors at Tongji Zhejiang University (TZH) and the TU Ilmenau (TUIL). It is jointly supervised and assessed by one supervisor from each university. For the German students, the by-laws can be found the course regulations (“Studienordnung”). The
participants are chosen by a joint commission consisting of members from both universities. The decision is based on the marks and the students’ state of preparation. The credits are transferred according to a modified Bavarian form, which is part of the German by-laws (“Bachelor-Prüfungsordnung für den Studiengang Biomedizinische Technik (BPO-BB”). The graduates receive a Bachelor of Engineering degree at TZH and a Bachelor of Science degree (Biomedical Engineering) at TUIL.

The Bachelor of Science covers the following modules:

- Mathematics
- Physics
- Informatics for BME
- Electrical Engineering
- Basics of Electronics
- Fundamentals of Analogue Circuit Design
- Signals and Systems
- Electrical Measurement Engineering
- Electromagnetic Fields
- Automatic Control and Systems Engineering
- Mechanical Engineering
- Anatomy, Physiology, and Clinical Procedures
- Neurobionics
- Introduction to BME
- Medical Physics
- Biomedical Measurement and Treatment Technology
- Fundamentals of Biosignal Processing and Biostatistics
- Fundamentals in Economics and Management
- Elective module BME
- Laboratory and advanced seminar BME

<table>
<thead>
<tr>
<th>A Diploma supplement will be issued</th>
<th>Yes</th>
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<tbody>
<tr>
<td><strong>International elements</strong></td>
<td></td>
</tr>
<tr>
<td>Integrated study abroad unit(s)</td>
<td></td>
</tr>
<tr>
<td><strong>Integrated study abroad unit(s)</strong></td>
<td>Participants of the double degree programme spend the sixth and seventh semesters at the Tongji Zhejiang University (TZH).</td>
</tr>
<tr>
<td>Course-specific, integrated German language courses</td>
<td>No</td>
</tr>
<tr>
<td>Course-specific, integrated English language courses</td>
<td>No</td>
</tr>
</tbody>
</table>

**Costs / Funding**

<table>
<thead>
<tr>
<th>Tuition fees per semester in EUR</th>
<th>None</th>
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</thead>
<tbody>
<tr>
<td>Semester contribution</td>
<td>Currently 144.88 EUR for the first semester and 129.88 EUR per semester for all of the following semesters, including a public transportation ticket</td>
</tr>
<tr>
<td>Costs of living</td>
<td>Approx. 860 EUR per month (including apartment)</td>
</tr>
<tr>
<td>Funding opportunities within the university</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Description of the above-mentioned funding opportunities within the university

Requirements / Registration

Academic Admission Requirements

There are no specific admission requirements; there are only the general enrolment prerequisites: http://www.tu-ilmenau.de/fileadmin/public/universitaet/media/Satzungen/5_Immatrikulationsordnung/IMO.pdf.

Language requirements

Applicants must provide proof of their German skills: DSH II or TestDaF 3x4 and 1x3. These skills can be acquired at TUIL before the start of the programme. Proof of English skills must also be provided: at least a TOEFL 550 (paper-based), 213 (computer-based), 78 (Internet-based) or IELTS 6.0 band certificate.

Submit application to

Online application: http://www.tu-ilmenau.de/apply

Services

Possibility of finding part-time employment

Temporary jobs are available in local enterprises such as shopping malls and supermarkets.

Accommodation

TU Ilmenau is a campus university. Most of its academic buildings and all of its dormitories are located on the Ehrenberg campus. The dormitories have been renovated in the past few years in order to accommodate students in single and double bedrooms. The Student Guild guarantees all first semester students a room in the dormitories, provided they apply on time. The dormitory rent in Ilmenau is approx. 162-295 EUR per bed per month, depending on the type of apartment and how well it is furnished. Of course, you may also independently look for a privately rented apartment in Ilmenau and the surrounding area. We cannot offer estimates on the cost of private accommodation because prices vary due to the wide range of conditions.

Specific specialist or non-specialist support for international students and doctoral candidates

- Welcome event
- Buddy programme
Contact

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Institute of Biomedical Engineering and Informatics

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https://www.facebook.com/TU.Ilmenau

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