Table of Contents

Master's degree ........................................................................................................................................... 2

Master of Science Biomedical Engineering • Technische Universität Ilmenau • Ilmenau ........... 2
Master of Science Biomedical Engineering
Technische Universität Ilmenau • Ilmenau

Overview

<table>
<thead>
<tr>
<th>Degree</th>
<th>Master of Science in Biomedical Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course location</td>
<td>Ilmenau</td>
</tr>
<tr>
<td>Teaching language</td>
<td>♦ English</td>
</tr>
<tr>
<td>Languages</td>
<td>Courses are held in German and English. Participants can choose to write their Master's theses in German or English.</td>
</tr>
<tr>
<td>Programme duration</td>
<td>2 semesters</td>
</tr>
<tr>
<td>Beginning</td>
<td>Winter semester</td>
</tr>
<tr>
<td>Tuition fees per semester in EUR</td>
<td>None</td>
</tr>
<tr>
<td>Combined Master's degree / PhD programme</td>
<td>No</td>
</tr>
<tr>
<td>Joint degree / double degree programme</td>
<td>Yes</td>
</tr>
</tbody>
</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 programme of Biomedical Engineering.

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

♦ ophthalmological technology
♦ measurements and stimulation technologies
♦ data analysis
♦ medical imaging and radiological equipment
♦ medical information systems

Course Details

Course organisation

Students start their Master’s education with a first semester at their home university. In the short version of the exchange, either the second or the third semester is studied abroad. In the long
version, two semesters are studied abroad. The latter version also includes the Master’s thesis abroad. The topic for the thesis is jointly determined with the supervisors at Universiti Teknologi Malaysia (UTM) and TU Ilmenau (TUIL). The Master’s thesis is jointly supervised and assessed by one supervisor from each university. For the German students, the by-laws can be found in the course regulations (“Studienordnung”). For students attached to UTM, the guidelines can be found at www.utm.my. The participants are chosen by a joint commission consisting of members from both universities. The decision is based on the students’ state of preparation.

The credits are transferred according to the EU-ASEAN Credit Transfer System (EACTS). The transfer tables are part of the German bylaws: “Master-Prüfungsordnung für den Studiengang Biomedizinische Technik (MPO-BB)”. The graduates receive a Master of Engineering degree at UTM and a Master of Science degree (Biomedical Engineering) at TUIL.

First semester:

- Biosignal Processing
- Image Processing in Medicine
- Measurement and Diagnostic Technology
- Imaging Systems
- Hospital Information Systems, Telemedicine, e-Health
- Tutorial BME
- Laboratory BME

Second semester:

Students choose one of the following specialisations:

- Ophthalmology
- Radiology
- Biomechanics
- Cognitive Robotics
- Bioelectromagnetism
- Electro-Medical Devices

Third semester:

- Master’s thesis

A Diploma supplement will be issued

<table>
<thead>
<tr>
<th>International elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated study abroad unit(s)</td>
</tr>
</tbody>
</table>

| Integrated study abroad unit(s) |
| Participants of the double degree programme spend the second and third semesters (11 months) or only the third semester (seven months) at the Universiti Teknologi Malaysia. |

| Course-specific, integrated German language courses |
| No |

| Course-specific, integrated English language courses |
| No |

Costs / Funding

<p>| Tuition fees per semester in EUR |
| None |</p>
<table>
<thead>
<tr>
<th>Semester contribution</th>
<th>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</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>Description of the above-mentioned funding opportunities within the university</td>
<td>Students can apply for funding at the TU Ilmenau International School.</td>
</tr>
</tbody>
</table>

### Requirements / Registration

#### Academic Admission Requirements


A Bachelor’s degree (or equivalent) with at least seven semesters (210 CP) is required.


#### Language requirements

Applicants for the double degree programme do not require proof of their German language skills. Instead, they must provide proof of their English skills: at least 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](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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https://www.linkedin.com/school/tu-ilmenau/

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