Biomedical Engineering (MSc)

Course Language(s)
Courses are taught in English.

Students who do not have a Bachelor's degree in Biomedical Engineering will have to take additional courses. These courses are taught in German.
Participants can choose to write their Master's thesis in English or German.

Programme Start
Winter semester - September
Summer semester - March

Programme Duration
3 semesters (1.5 years)

Application Deadline
December 01 - January 15 for the following summer semester
April 01 - July 15 for the following winter semester

Programme Modules

1 - Applied Mathematics: including the courses "Numerical Mathematics" and "Data Acquisition and Processing"
2 - Applied Medical Technologies: including the courses "Micromachines and Robotics", "Therapy Technologies", "Medical Data Systems" and "Module Seminar"
3 - Medical Data and Signal Processing: including the courses "Advanced Biosignal Processing", "Medical Image Processing" and "Module Seminar"
4 - Management of Medical Technologies: including the courses: "New Medical Technologies (Market Perspectives)" and "Seminar Health Technology Assessment"
5 - Biomedical Project: including the "Scientific Project" and the "Research Seminar"
6 - Master's thesis

Soft skills training is included in the "Module Seminar" courses.

Programme Organisation
Modules 1, 4, 5 and 6 are offered both in the summer and winter semesters. Module 2 is offered in the winter semester. Module 3 is offered in the summer semester.

Form of Assessment
Written examinations, seminar papers, term papers, oral examinations, presentations, talks

Course objectives
The objective of the Master's programme in Biomedical Engineering is to prepare graduates for research and/or development-orientated jobs in national and international companies, hospitals and universities. Graduates are able to conduct independent scientific research and have the skills to continue with advanced research in order to acquire a Ph.D. qualification.

Courses include advanced mathematics and data acquisition, advanced therapy and diagnostic technologies, medical image and data processing, health technology assessment and market perspectives as well as scientific team work.

Advanced soft skills courses prepare the graduates for future management positions.

ECTS Credits
90

Language Requirements
TOEFL at least 550 (paper-based), 220 (computer-based), 83 (internet-based); IELTS at least band 6 or equivalent

German:
Students with a Bachelor's degree in Biomedical Engineering: All modules in the Master's programme are taught in English. It is recommended that students have German A2, so that they can become more easily integrated into living

in Germany.
Students who don't have a Bachelor's degree in Biomedical Engineering: Additional modules in biomedical engineering have to be taken in order to have sufficient knowledge to complete the Master's programme. These modules are taught in German. Applicants must have German B2 or TestDaF 3.

Academic requirements
Bachelor's degree (or equivalent) in the same or similar field, with the academic grade equivalent to the German grade 2,5

Professional / other requirements
Graduate Record Examination (GRE) (for applicants from non EU-countries)