That’s Medical Engineering!

Increasing progress requires innovative development and improved procedures especially in the field of medical engineering. More than ever, enterprises in the field of medical technology are in need of specialists with an engineering as well as a medical background. A specific interdisciplinary education based on solid technical and scientific studies along with basic medical knowledge about physiological processes in the human body creates the qualification for further development of medical devices and materials.

Fields of Activity

- Further/new development of imaging techniques
- Development of highly complex devices for diagnostics and therapy
- Development and application of novel materials for implants and prosthesis
- Development of surgical robots and assisting systems

In addition to working in research, various job opportunities present themselves to graduates of healthcare engineering in locations like medical technology companies or hospitals. A specialisation on topics like development, quality control, sales, and counselling or technical service and training for the handling of medical technical devices are further important assignment areas.

Subject Area and Study Programme in Erlangen

By winning the BMBF leading-edge cluster in January 2010, the Medical Valley European EMN (Metropolitan Region Nuremberg) demonstrated once again to be the ideal location for globally acting corporate groups and medium-sized companies in the field of medical engineering. Collaborations with non-university research facilities like the Max-Planck-Institute or the Fraunhofer Society as well as globally leading industrial enterprises like Siemens Healthineers provide opportunities to students to gain valuable experience alongside their studies in an applied and industrial environment by hands-on training or workshops. Exchange programmes with internationally leading universities in the field of medical engineering in and outside Europe complement the offered study programme in Erlangen.
BACHELOR STUDIES: 6 semesters
1. Basic and orientation period teaching engineering fundamentals
   - Semesters 1-2: General and subject related (technical) qualification for university entrance
   - Semesters 3-5: Subject-specific basics and profile formation, university practical courses, industry internships
   - Semester 6: Bachelor thesis, degree: Bachelor of Science

MASTER STUDIES: 4 semesters
1. Preparing aptitude through the Aptitude Testing Procedure (EFV), deadline: July 15th.
2. Subject-specific basics and profile formation, university practical courses, industry internships
3. Bachelor thesis, degree: Master of Science

Bachelor Studies – Curriculum
- The two branches of study ‘Imaging Techniques’ and ‘Medical Devices and Prosthetics’ are the ideal preparation for the master programme

Branch of study Imaging Techniques (electrical engineering, information technology/computer science)

Bachelor’s thesis
- Master thesis

Branch of study Medical Devices and Prosthetics (mechanical engineering/materials science/chemical bioengineering)

Bachelor’s thesis
- Master thesis

All classes are taught in German!