

# Information Sheet Course of Study

## Medical Engineering

### General Information

The University of Applied Sciences Amberg-Weiden, launched a new Bachelor programme, Medical Engineering, in the summer semester of 2010. This course of study begins only in the winter semester.

Medical Engineering conveys the necessary expertise and methods competence for developing, testing, producing and applying medical components, devices, and systems. Students will acquire the essential medical know-how in direct connection to practice-oriented knowledge in science and engineering. Special attention is given to topics such as quality management and licensing procedures in the development and production of medical products. The Bachelor programme conveys the skills to work in the both nationally and internationally active medical engineering industry.

Areas of operations are for example:

- Development, testing and application of medical systems, e.g. instruments/devices for endoscopic surgery, X-ray and magnetic resonance imaging (MRI) procedures, diagnostic, medical record systems and methods, medical image processing.
- Product management, consulting, marketing.
- Maintenance of diagnostic and therapy systems.
- Quality management considering the legal regulations.
- Integration of medical and technical aspects of conception, application and assortment of medical devices.

### The Programme

The programme is seven semesters in duration. It is designed on a modular basis and includes six theoretical and one practical semester.

The programme medical engineering ends with the awarding of the **Bachelor of Engineering (B. Eng.)**.

The modules can be divided into five module groups:

- Sciences
  - Mathematics
  - Applied Statistics and Test Planning
  - Radiation Physics
  - Biophysics
  - Optical and Laser Technology
- Precision Engineering
  - Engineering Mechanics
  - Vibration Mechanics
  - Biomechanics and Ergonomics
  - Development and Design
  - Computer Aided Engineering
  - Handling and Packaging Technologies
- Electrical Engineering
  - Electrical Engineering and Electronics
  - Software Engineering
  - Computer Graphic
  - Signal Processing
  - Database Systems and Medical Workflow
- Medical Engineering
  - Anatomy and Physiology
  - Radiology and Nuclear Medicine
  - Medical and Material Engineering
  - Diagnostic Systems
  - Therapeutic Systems
  - Medical Product Development
  - Medical Imaging
  - Medical Manufacturing Processes
  - Quality Management
  - Medical Licensing Procedures
- Cross-subject Skills
  - Service and Maintenance Management
  - Trends in Health Care
  - Hospital Management
  - Cost and Activity Accounting

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