

Information sheet course of study

Medical Engineering

General Information

In the summer semester of 2010, Amberg-Weiden University of Applied Sciences will launch a newly designed Bachelor programme, Medical Engineering. The programme may be pursued beginning in summer semester.

The medical engineering coursework teaches the essential domains and competencies for the development, testing, manufacture and application of medical components, devices and systems. Students acquire required medical expertise in direct connection with practically orientated knowledge in science and engineering fields. Special attention is given to topics such as quality management and certification processes in the development and production of medical products and devices.

The bachelor programme transmits the required abilities to work in both national and internationally active firms in the medical engineering industry. To these fields include positions in, for example:

- Development, testing and application of medical systems, e.g. instruments/devices for laparoscopic surgery, x-ray and magnetic resonance imaging procedures, diagnostics, medical record systems and medical imaging processes.
- Product management, consulting, sales.
- Maintenance of diagnostic and therapy systems.
- Quality management within the framework of existing legislation and regulation
- Integration of medical and technical points of view in the conception, application and choice of medical devices.

The Programme

The programme is seven semesters in length with a modular curriculum of six theoretical semesters and one practical semester. Successful completion of this programme culminates with the granting of the academic title of **Bachelor of Engineering (B. Eng.)**

Die components of the programme can be divided into five module groups:

- Sciences
 - Mathematics
 - Applied Statistics and Test Planning
 - Radiation Physics
 - Biophysics
 - Optic and Laser Technology
- Precision Engineering
 - Technical Mechanics
 - Vibration Mechanics
 - Development and Design
 - Computer Aided Engineering
 - Handling and Packaging Technologies
 - Biomechanics and Ergonomics
- Electrical Engineering
 - Electronical Engineering and Electronics
 - Software Engineering
 - Computer Architecture und Networks
 - Signal Processing
 - Database Systems and Medical Workflow
- Medical Engineering
 - Functional Anatomy
 - Physiology
 - Radiology and Nuclear Medicine
 - Medical Material Science
 - Diagnostic Systems
 - Therapeutic Systems
 - Medical Product Development
 - Medical Imaging
 - Medical Manufacturing Processes
 - Quality Management
 - Medical Certification Processes
- Integrative Disciplines
 - Service and Maintenance Management
 - Trends in Healthcare
 - Hospital Management
 - Cost and Activity Accounting
 - Medical English

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