

Module name	Fundamentals of Biomedical Engineering
Module number	Eul-BMT-C-GBMT
Lecturer in charge	Prof. Dr.-Ing. habil. Hagen Malberg lehre.ibmt@tu-dresden.de
Objectives	After completing the module, students have a basic knowledge of anatomy and physiology and are familiar with the medical technology systems that are most frequently used in patient care. They know the functional principles and the requirements for such systems.
Contents	The contents of the module are the basics of anatomy, physiology and pathology for engineers, in particular the central and peripheral nervous system, cardiopulmonary system and regulation, urinary system, digestive system, sensory organs, musculoskeletal system and the basics of biomedical technology, in particular diagnostic and therapeutic systems of the cardiovascular systems, respiratory technology, intensive care technology, medical imaging procedures, surgical techniques, sleep medicine technology and monitoring systems, biomechanics and orthopaedic technology and the latest developments.
Modes of teaching and learning	4 hours per week lectures, 1 hour per week seminars and self-study.
Prerequisites	Knowledge of mathematics, physics, chemistry and biology at basic A-level is required.
Usability	The module is a compulsory module in the basic studies of the degree programme Biomedical Engineering. It creates the prerequisites for the modules that list that module in the "Prerequisites" field.
Requirements for the award of credit points	The credit points are awarded when the module assessment is passed. The module assessment consists of a written exam of 120 minutes.
Credit points and grades	5 credit points can be obtained by the module. The module grade is the grade of the examination.
Frequency	The module is offered every winter semester.
Workload	The total effort is 150 hours.
Duration	The module takes one semester.