Module Name	Medical Device Design
Module Number	EuI-BMT-E-KMG
Responsible Lecturer	Prof. Dr.-Ing. habil. Jens Lienig jens.lienig@tu-dresden.de
Qualification Objectives	Students acquire the skills and competencies required for the design and development of medical devices, taking into account universally valid design principles and guidelines. Through the practical application of the theoretical knowledge gained in the constructive development process, students also gain practical experience in the design process of medical devices.
Contents	The module covers all aspects of development methods for medical device technology, focusing on development methodology, design rules and principles derived from technology and nature, as well as constructive design guidelines for devices. Additional topics include practical aspects of the constructive development process, starting with the concrete transformation of a task into a requirements list, conceptualizing solution variants, the objective decision-making process, and culminating in the product documentation of individually assigned medical device tasks.
Teaching and Learning Forms	2 hours per week of lectures, 2 hours per week of practical lab courses, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Electronic Systems Design and Medical Device Development are required.
Usability	The module is an elective module within the elective area Biomedical-Technical Specialization according to § 6 Paragraph 3 of the Study Regulations (SO) and § 33 Paragraph 3 of the Examination Regulations (PO) of the main study phase in the diploma program Biomedical Engineering.
Prerequisites for the Award of Credit Points	Credit points are awarded when the module examination is passed. The module examination consists of a 90-minute written exam and a portfolio with a workload of 24 hours.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is determined by the weighted average of the grades of the examination components. The written exam is weighted twice, and the portfolio is weighted once.
Frequency of the Module	The module is offered every winter semester.
Workload	The total workload is 150 hours.
Duration of the Module	The module lasts one semester.