

Module Name	Biomaterials for Therapeutic and Diagnostic Purposes
Module Number	Eul-BMT-E-BMTD
Responsible Lecturer	Prof. Dr. rer. nat. Michael Gelinsky michael.gelinsky@tu-dresden.de
Qualification Objectives	Students are able to understand and define the fundamental requirements for biomaterials depending on their intended use. Through the practical application of the theoretical knowledge acquired in biomaterial development, students gain a fundamental understanding of the principles and methods of medical research.
Contents	The module covers the requirements for biomaterials for various therapeutic or diagnostic applications in medicine, as well as the presentation of different material classes with their specific properties using practical examples. Additional topics include the development processes and characterization methods of biomaterials in clinical research, as well as the process steps leading to translation and applications in clinical practice. Furthermore, the module includes the process chain of medical research through practical tasks, starting from the theoretical problem definition, through the preparation of materials, to the biological and functional characterization of biomaterials.
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 module Biochemical Analytical Measurement Technology are required.
Usability	The module is an elective module within the elective area of medical-economic specialization according to § 6 paragraph 3 SO and § 33 paragraph 3 PO of the main study program 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 non-public oral examination as an individual examination lasting 30 minutes and an ungraded portfolio with a workload of 40 hours.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is determined in accordance with § 15 paragraph 1 sentences 5 and 6 PO from the unweighted average of the examination performances.
Frequency of the Module	The module is offered every summer semester.
Workload	The total workload is 150 hours.
Duration of the Module	The module lasts one semester.