

Module Name	Electronic Technologies
Module Number	Eul-ET-C-TechE
Responsible Lecturer	Prof. Dr.-Ing. Juliana Panchenko juliana.panchenko@tu-dresden.de
Qualification Objectives	After completing the module, students possess specialized knowledge, skills, and practical abilities in assembling packaged and unpackaged electronic components as well as in the production of wiring carriers. Furthermore, they can apply the theoretical principles of material-bonding connection techniques such as bonding, soldering, and adhesive bonding, as well as subtractive and additive structuring techniques for wiring carriers, including assembly techniques and mounting technologies for electronic assemblies. They are familiar with the technologies and equipment used for these processes.
Contents	The module focuses on key aspects of electronic packaging and interconnection technology, such as trends in packaging and interconnection technology, packaging and interconnection techniques for semiconductor components, mounting technologies for semiconductor components, thin-film wiring carrier technologies, thick-film wiring carrier technologies, printed circuit board technologies, surface techniques for electronic components, and optical interconnection techniques for printed circuit boards. Additionally, important topics in electronic assembly technologies are covered, including packaging and interconnection techniques for electronic assemblies, component and device packages, fine-pitch assembly techniques, theory of assembly accuracy, special technologies for assembly, system integration technologies, and fundamentals of reliability for electronic assemblies.
Teaching and Learning Forms	4 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 Electronics Technology Lab and Electronic Systems Design are required.
Usability	The module is a compulsory module of the main study program in the field of Electronic Systems, Micro and Medical Technology in the diploma program Electrical Engineering. It creates the prerequisites for the modules that list this module in the field "Prerequisites for Participation."
Prerequisites for the Award of Credit Points	Credit points are awarded when the module examination is passed. The module examination consists of a written exam lasting 180 minutes and a complex assignment with a workload of 12 hours. Both examination components are mandatory for passing.
Credit Points and Grades	6 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 complex assignment is weighted once.
Frequency of the Module	The module is offered every academic year, starting in the winter semester.
Workload	The total workload is 180 hours.
Duration of the Module	The module lasts two semesters.