Module name	**Microelectronic Technologies and Components**
Module number	EuI-ET-C-TeBE
Lecturer in charge	Dr.-Ing. Jörg Herricht joerg.herricht@tu-dresden.de
Objectives	After completing the module, students will be able to understand the basic functioning and electrical properties of the most important semiconductor components based on a simplified description of the physical potential relationships and transport mechanisms in semiconductors, to discuss the most important characteristic curves, to construct physical model descriptions - including equivalent circuit diagrams - of semiconductor components for their applications, to work with basic principles for the manufacture and miniaturization of components and circuits and to understand the modes of action of the individual technologies and their interaction to form simple process sequences.
Contents	The module covers the physical principles of electronic components and the physical and technical principles of their manufacture using microtechnologies.
Modes of teaching and learning	5 hours per week lectures, 1 hours per week exercises and self-study.
Prerequisites	The skills to be acquired in the module **Introduction to Analysis and Algebra, Basics of Electrical Engineering, Materials Science** and **Physics** are required.
Usability	The module is a compulsory module in the basic studies of the degree programme Electrical 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 210 minutes.
Credit points and grades	7 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 210 hours.
Duration	The module takes one semester.