Module Name	Electronic Design Automation
Module Number	EuI-ET-E-EntwA, EuI-IST-E-EntwA
Responsible Lecturer	Prof. Dr.-Ing. habil. Jens Lienig jens.lienig@tu-dresden.de
Qualification Objectives	After completing the module, students will have acquired knowledge of the algorithms used in modern design systems for computer-aided layout design. They will be able to develop their own design modules and adapt industrially used design tools to specific requirements.
Contents	The module covers: - The significance of design automation - Design styles, design processes, layout design, geometric fundamentals, and more - Floorplanning - Partitioning and placement algorithms - Routing algorithms - Methods for compaction and verification - Development trends in design automation
Teaching and Learning Forms	2 hours per week of lectures, 2 hours per week of exercises, 2 hours per week of seminars, and self-study.
Prerequisites for Participation	In the diploma program in Electrical Engineering, the competencies acquired in the modules Basics of Electrical Engineering and Software Engineering Basics are required. In the diploma program in Information Systems Engineering, the competencies acquired in the module Basics of Electrical Engineering are required.
Usability	The module is an elective module within the elective area "Competence Deepening" according to § 6 paragraph 3 of the study regulations and § 33 paragraph 4 of the examination regulations for the main study program in the specializations Device, Micro, and Medical Technology as well as Microelectronics in the diploma program in Electrical Engineering. Furthermore, it is an elective module within the elective area "Competence Deepening" according to § 6 paragraph 3 of the study regulations and § 33 paragraph 3 of the examination regulations for the main study program in the field of Microelectronics, Electronic Circuits, and Systems in the diploma program in Information Systems Engineering. The module creates the prerequisites for the modules that list it under "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 non-public oral examination as an individual examination lasting 30 minutes and a portfolio with a workload of 20 hours. Both examination components are required to pass.
Credit Points and Grades	7 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 oral examination is weighted three times, and the portfolio is weighted twice.
Frequency of the Module	The module is offered every winter semester.
Workload	The total workload is 210 hours.
Duration of the Module	The module lasts one semester.