

Module Name	Planning of Electrical Power Supply Systems
Module Number	Eul-ET-E-PeEvs, Eul-RES-E-PeEvs
Responsible Lecturer	Prof. Dr.-Ing. habil. Martin Wolter martin.wolter@tu-dresden.de
Qualification Objectives	After completing the module, students are capable of applying both manual and machine-based methods of network calculation or programming them independently. They are familiar with the advantages and disadvantages of these methods and can critically evaluate the obtained calculation results. Furthermore, they are able to conduct long-term planning for electrical distribution networks. Students are familiar with solution approaches for the integration of renewable and decentralized energy sources as well as the properties of essential network operating equipment and network structures from a planning perspective. They are proficient in calculating and comprehensively evaluating stationary and transient electrical, mechanical, and thermal loads and stresses in electrical power supply systems. Additionally, they are acquainted with all important procedures and methods for dimensioning operating equipment with respect to voltage and current loads and other criteria, as well as with fundamental standards for project planning.
Contents	The module covers methods for calculating the loads on individual components in electrical power systems and the principles of planning electrical installations and distribution networks.
Teaching and Learning Forms	4 hours per week of lectures, 3 hours per week of exercises, and self-study.
Prerequisites for Participation	The competencies to be acquired in the module "Fundamentals of Electrical Power Supply Systems" are required.
Usability	The module is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 SO and § 33 paragraph 4 PO of the main study program in the field of Electrical Power Engineering in the diploma program Electrical Engineering. Furthermore, it is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 SO and § 33 paragraph 3 PO in the diploma program Renewable Energy Systems. 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 210 minutes.
Credit Points and Grades	7 credit points can be earned through the module. The module grade corresponds to the grade of the examination performance.
Frequency of the Module	The module is offered every summer semester.
Workload	The total workload is 210 hours.
Duration of the Module	The module lasts one semester.