

Module Name	Transmission Line Theory
Module Number	Eul-ET-E-LeiTh
Responsible Lecturer	Prof. Dr. rer. nat. habil. Hans Georg Krauthäuser hans_georg.krauthaeuser@tu-dresden.de
Qualification Objectives	After completing the module, students are familiar with the field-theoretical basis of transmission line theory. They master the description of waves on transmission lines in the time and frequency domains. They understand the influencing factors of mismatches and are able to calculate, evaluate, and practically implement measures to address them.
Contents	The module covers the classical theory of single and multiple electrical transmission lines.
Teaching and Learning Forms	2 hours per week of lectures, 1 hour per week of seminars, 1 hour per week of practical lab courses, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Introduction to Analysis and Algebra, Multidimensional Differential and Integral Calculus, Function Theory, Partial Differential Equations and Probability Theory, Basics of Electrical Engineering, Electric and Magnetic Fields, and Dynamic Networks are required.
Usability	The module is an elective module from the elective area "Competence Deepening" according to § 6 paragraph 3 of the Study Regulations (SO) and § 33 paragraph 4 of the Examination Regulations (PO) of the main study program in the field of Electrical Power Engineering 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 non-public oral examination as an individual examination lasting 30 minutes and a portfolio with a workload of 12 hours.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is determined by the unweighted average of the grades of the examination components.
Frequency of the Module	The module is offered every winter semester.
Workload	The total workload is 150 hours.
Duration of the Module	The module lasts one semester.