Module Name	Optical Communications
Module Number	EuI-ET-E-OptNT
Responsible Lecturer	Prof. Dr.-Ing. Dirk Plettemeier dirk.plettemeier@tu-dresden.de
Qualification Objectives	After completing the module, students master the physical fundamentals of optical waveguides of various types, such as film waveguides, single-mode and multi-mode optical fibers, as well as the transmission properties in linear and nonlinear operation. They are familiar with optical connection and measurement technology, passive optical components such as couplers, isolators, and interferometers, as well as optical transmission systems from a system-theoretical perspective. The focus is on current and future synchronous and asynchronous optical networks operating in time and wavelength division multiplexing. Students are acquainted with various system approaches, such as optical packet transmission, dynamic optical networks, and the necessary network technologies, including modulation techniques, signal regeneration, and compensation of transmission impairments.
Contents	The module covers the design and development of optical transmission systems.
Teaching and Learning Forms	4 hours per week of lectures, 2 hours per week of exercises, and self-study.
Prerequisites for Participation	The competencies to be acquired in the module RF Engineering are required.
Usability	The module is an elective module from 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 Information 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 non-public oral examination as an individual examination lasting 45 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 winter semester.
Workload	The total workload is 210 hours.
Duration of the Module	The module lasts one semester.