

Module Name	Antennas and Wave Propagation
Module Number	Eul-ET-E-AnWeA
Responsible Lecturer	Prof. Dr.-Ing. Dirk Plettemeier dirk.plettemeier@tu-dresden.de
Qualification Objectives	After completing the module, students are familiar with the calculation of linear and aperture radiators and know the fundamental methods for calculating wave fields. The application of Green's functions and theorems, as well as the Huygens principle of equivalent sources, are part of the students' toolkit. They are capable of specifying equivalent circuits for the input impedance of antennas, developing matching networks, and estimating the radiation of phased antenna arrays. Students are able to design reflector antennas and have understood the design of compact high-gain antennas, such as Cassegrain and Gregory systems. They can characterize antennas based on their parameters and possess basic knowledge of antenna measurement techniques.
Contents	The module covers the fundamentals of antenna theory and wave propagation.
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 High and Ultra-High Frequency Technology 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 summer semester.
Workload	The total workload is 210 hours.
Duration of the Module	The module lasts one semester.