

Module Name	Signal Processing
Module Number	Eul-IST-E-SigVA
Responsible Lecturer	Prof. Dr.-Ing. Peter Birkholz peter.birkholz@tu-dresden.de
Qualification Objectives	After completing the module, students master the fundamental principles and practical application of signal processing methods in the time and frequency domains. They are familiar with the differences and interrelations between the processing of continuous-time and discrete-time signals. They know the various forms of spectral analysis and are able to decide under which conditions each form should be applied. In particular, they master the analysis of non-stationary signals, the design of digital filters, and methods for determining temporal and spectral envelopes.
Contents	The module covers the analysis of discrete-time signals and systems in the time and frequency domains as well as the characterization of real systems.
Teaching and Learning Forms	2 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 "Systems Theory" are required.
Usability	The module is an elective module from the elective orientation area according to § 6 paragraph 3 of the study regulations and § 33 paragraph 3 of the examination regulations of the main study program in the diploma program Information Systems 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 written exam lasting 90 minutes.
Credit Points and Grades	5 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 150 hours.
Duration of the Module	The module lasts one semester.