

Module Name	Measurement Technology
Module Number	Eul-ET-C-MT, Eul-MT-C-MT
Responsible Lecturer	Prof. Dr.-Ing. habil. Jürgen Czarske juergen.czarske@tu-dresden.de
Qualification Objectives	After completing the module, students are able to apply analog and digital measurement methods for capturing, for example, positions, velocities, forces, and temperatures. They are familiar with calculation methods for determining measurement uncertainty, taking noise processes into account.
Contents	The module covers the fundamentals and principles of analog and digital measurement methods for capturing non-electrical quantities, as well as the practical application of analog and digital measurement methods or neural networks for image processing.
Teaching and Learning Forms	2 hours per week of lectures, 1 hour per week of exercises, 1 hour per week of practical lab courses, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Physics and Systems Theory are required.
Usability	The module is a compulsory module of the main study program in the diploma programs Electrical Engineering and Mechatronics. 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 120 minutes and a portfolio with a workload of 20 hours. The written exam is mandatory for passing.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is determined by the weighted average of the grades of the examination components. The written exam is weighted fourfold, and the portfolio is weighted singly.
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.