Module Name	Photonic Measurement Systems Technology
Module Number	EuI-ET-E-PhoMT, EuI-IST-E-PhoMT, EuI-MT-E-PhoMT
Responsible Lecturer	Prof. Dr.-Ing. habil. Jürgen Czarske juergen.czarske@tu-dresden.de
Qualification Objectives	After completing the module, students are able to realize photonic measurement systems and use them to measure physical quantities.
Contents	The module covers: - Adaptive laser measurement systems for fluid technology, i.e., for capturing microscale flows in biomedical and energy technology. - Independent handling of a research question in the field of photonic systems and imaging measurement methods through experiments or simulations.
Teaching and Learning Forms	2 hours per week of lectures, 2 hours per week of practical lab courses, and self-study. The language of instruction for lectures and practical lab courses can be either German or English and will be determined by the lecturer at the beginning of the semester and announced in the usual manner.
Prerequisites for Participation	Knowledge of physics at advanced high school level (Leistungskurs-Abiturniveau) and the competencies to be acquired in the module "Systems Theory" are required.
Usability	The module is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 SO and § 33 paragraph 4 PO of the main study program in the fields of Automation Technology and Robotics as well as Information Technology in the diploma program Electrical Engineering. Furthermore, it is an elective module in the elective area "Competence Deepening" according to § 6 paragraph 3 SO and § 33 paragraph 3 PO of the main study program in the field of Automation, Sensor Technology, and Robotics in the diploma program Information Systems Technology. Additionally, it is an elective module in the elective area "Methods and Applications" according to § 6 paragraph 3 SO and § 33 paragraph 3 PO of the main study program in the diploma program 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 non-public oral examination as an individual examination lasting 20 minutes and a complex assignment with a workload of 40 hours. Both examination components are required to pass.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is calculated as 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.