

Module Name	Plasma Technology
Module Number	Eul-ET-E-PlaTe, Eul-IST-E-PlaTe, Eul-NES-E-PlaTe
Responsible Lecturer	Prof. Dr. rer. nat. habil. Elizabeth von Hauff elizabeth.von_hauff@tu-dresden.de
Qualification Objectives	After completing the module, students will have a fundamental understanding of the physical properties of plasmas used in industrial processes and systems. Furthermore, they will be able to select appropriate technical plasma sources and plasma process systems for specific applications. Additionally, they can identify typical examples of layers and layer stacks in the main application fields for coatings.
Contents	The module covers the fundamentals of plasma physics, industrial plasma processes, and the design of process systems, as well as the basics of thin-film growth, hard coatings and barriers, glass coatings and optical coatings, electronic and functional coatings, and treatment processes.
Teaching and Learning Forms	4 hours per week of lectures, 2 hours per week of exercises, and self-study. The language of instruction for lectures and exercises is English.
Prerequisites for Participation	In the diploma programs in Electrical Engineering and Information Systems Engineering, the competencies to be acquired in the module "Microelectronic Technologies and Components" are required. In the Master's program in Nanoelectronic Systems, knowledge of technologies and devices of microelectronics at the Bachelor's level is 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 specialization Microelectronics 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 specialization Microelectronics, Electronic Circuits, and Systems in the diploma program Information Systems Engineering. Additionally, it is an elective module according to § 6 paragraph 2 SO and § 33 paragraph 3 PO in the Master's program Nanoelectronic Systems. 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	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.