Module Name	Motion Controlled Machine Systems Basics
Module Number	EuI-MT-E-A07G
Responsible Lecturer	Prof. Dr.-Ing. Steffen Ihlenfeldt werkzeugmaschinen@tu-dresden.de
Qualification Objectives	After completing the module, students are familiar with the characteristic functions, requirements, and technical solutions of motion-controlled machine systems in production engineering for implementing forming and machining processes as well as tool and workpiece handling processes.
Contents	The module covers the mechatronic system characteristics and the resulting development potential of machine tools, the structure and function of the main components (main and feed drives, control systems, and frames), as well as the interaction of mechanical, electrical, and information-processing components. It also includes the specification, selection, and dimensioning of the main components and the determination and evaluation of the functionally relevant system behavior of motion-controlled machine systems.
Teaching and Learning Forms	3 hours per week of lectures, 2 hours per week of exercises, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Multidimensional Differential and Integral Calculus, Complex Analysis, Partial Differential Equations, Probability Theory, and Physics are required.
Usability	The module is an elective module from 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 written exam lasting 120 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.