Module Name	Fundamentals of Aerospace Engineering
Module Number	EuI-MT-E-A05G
Responsible Lecturer	Dr. Felix Biertümpfel felix.biertuempfel@tu-dresden.de
Qualification Objectives	Students acquire practical knowledge of the process of a typical interdisciplinary development project in the field of aerospace engineering. They are capable of successfully planning and conducting a design process in teamwork. Furthermore, they are able to apply the necessary planning and design methods and present the results in oral and written form.
Contents	The module includes the design of a specific device in the field of aerospace engineering, such as a fixed-wing aircraft, helicopter, multicopter, satellite, or launch vehicle. It particularly focuses on the design process from concept creation to detailed design, taking interdisciplinary aspects into account.
Teaching and Learning Forms	2 hours per week of exercises, 2 hours per week of practical lab courses, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Technical Mechanics, Fundamentals of Kinematics and Kinetics, Multidimensional Differential and Integral Calculus, as well as Partial Differential Equations and Probability Theory, are required.
Usability	The module 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 term paper requiring 100 hours of work.
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.