

Module Name	Mobile Machinery Basics
Module Number	Eul-MT-E-A06G
Responsible Lecturer	Prof. Dr.-Ing. habil. T. Herlitzius agrarsystemtechnik@tu-dresden.de
Qualification Objectives	Students are able to apply the methodological fundamentals regarding the function and dimensioning of drives and steering systems of mobile working machines and commercial vehicles to analyze and evaluate various drive concepts of off-road vehicles. Students understand the requirements for agricultural processes and machinery and are capable of analyzing work processes, automation strategies, and the fundamentals of the functionality of mobile working machines and implementing them in an application-oriented manner.
Contents	The module covers the mechanical engineering and mechatronic requirements and fundamentals for system design, as well as the fundamentals of the operation and application of off-road vehicle technology. Furthermore, the module includes topics such as the function, design, and dimensioning of mobile working machines, as well as the fundamentals of designing various drive and automation concepts.
Teaching and Learning Forms	4 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 Materials, Technical Mechanics, and Measurement Technology 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 180 minutes and a public oral group examination lasting 45 minutes.
Credit Points and Grades	7 credit points can be earned through the module. The module grade is determined by the weighted average of the grades of the individual examination components. The written exam is weighted twice, and the oral examination is weighted once.
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.