

Module Name	Heat and Mass Transfer
Module Number	Eul-RES-E-WStÜ
Responsible Lecturer	Prof. Dr.-Ing. M. Beckmann michael.beckmann@tu-dresden.de
Qualification Objectives	Students acquire practical foundational knowledge of the processes of heat and mass transfer, which are essential in energy technology and many other technical applications. They are capable of analyzing technical processes and applying the principles of heat and mass transfer to the mathematical-physical modeling of these processes, thereby contributing to solving technical problems.
Contents	The module covers the fundamentals of heat and mass transfer for unsteady heating and cooling processes, as well as processes involving phase changes, such as melting and solidification, evaporation, film and drop condensation, drying, and the analogy between heat and mass transfer, including diffusion and convective mass transport.
Teaching and Learning Forms	2 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 Introduction to Analysis and Algebra, Multidimensional Differential and Integral Calculus, Physics, Heat Transfer, and Thermodynamics Basics are required.
Usability	The module is an elective module within the elective orientation area in accordance with § 6 paragraph 3 of the Study Regulations (SO) and § 33 paragraph 3 of the Examination Regulations (PO) in the main study phase of the diploma program in Renewable Energy 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 120 minutes.
Credit Points and Grades	5 credit points can be earned through the module. The module grade corresponds to the grade of the written exam.
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.