

Module Name	Thermodynamics of Processes
Module Number	Eul-RES-C-PrTD
Responsible Lecturer	Prof. Cornelia Breitzkopf cornelia.breitzkopf@tu-dresden.de
Qualification Objectives	Students master the fundamental concepts of thermodynamics and are capable of independently formulating relevant energy-related technical problems using the fundamental laws of thermodynamics. They are able to evaluate energy conversions in technical cyclic processes based on the first and second laws of thermodynamics.
Contents	The module covers applications of the first and second laws of thermodynamics to cyclic processes, as well as the general classification and development of evaluation criteria for cyclic processes in general. Fundamental reference processes for internal combustion engines, gas and steam turbines, combined gas-steam processes, cogeneration systems, as well as reversed processes and their optimization potentials are further topics. Additionally, processes involving moist air are addressed.
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 module Thermodynamics Basics are required.
Usability	The module is a compulsory module 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 examination performance.
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.