

Module Name	Large-Scale Solar Thermal Systems
Module Number	Eul-RES-E-GAST
Responsible Lecturer	Prof. Dr.-Ing. Clemens Felsmann clemens.felsmann@tu-dresden.de
Qualification Objectives	Students acquire the skills to design, dimension, and evaluate large-scale solar thermal systems from an energy economics perspective. They master the fundamental principles of heat and power generation in solar thermal power plants.
Contents	The module covers the structure, function, dimensioning, and operation of solar thermal systems for heat utilization, with a particular focus on large-scale systems for district and process heat supply. It also includes the structure and function of solar thermal power plants, including hybrid power plant processes for solar power generation.
Teaching and Learning Forms	4 hours per week of lectures, 1 hour per week of exercises, 1 hour per week of practical lab courses, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Renewable Energy Systems Basics, Thermodynamics Basics, and Thermodynamics of Processes are required.
Usability	The module is an elective module in the elective area "Competence Deepening" according to § 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 Renewable Energy Systems.
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 and an ungraded portfolio with a workload of 10 hours. If fewer than 10 participants are registered, the written exam will be replaced by a non-public oral group examination lasting 20 minutes. This will be announced to the registered students at the end of the registration period in the usual manner.
Credit Points and Grades	7 credit points can be earned through the module. If the portfolio is passed, the module grade corresponds to the grade of the written exam. Otherwise, the module grade is determined in accordance with § 15 paragraph 1 sentences 5 and 6 of the Examination Regulations, based on the weighted average of the grades of the individual examination components, with the portfolio weighted once and the written exam weighted three times.
Frequency of the Module	The module is offered every winter semester.
Workload	The total workload is 210 hours.
Duration of the Module	The module lasts one semester.