

Module Name	Hydrogen Technologies
Module Number	Eul-RES-E-H2
Responsible Lecturer	Prof. Dr.-Ing. habil. W. Lippmann wolfgang.lippmann@tu-dresden.de
Qualification Objectives	Students master the fundamentals of hydrogen technology and are familiar with the components required for a hydrogen-based energy economy. They understand the basics of cryogenic and storage technologies for hydrogen.
Contents	The module covers fundamental aspects of the currently available technical-technological prerequisites (production, storage, transport, utilization) for a hydrogen-based energy economy. It also includes potential development trends in this field as well as the energy-economic framework conditions for a hydrogen energy economy (efficiency, costs, price structures). Additional focal points are cryogenic, process, and storage technologies as well as safety-related aspects.
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 Fundamentals of Thermodynamics, Renewable Energy Systems Advanced, and Introduction to Energy Economics are required.
Usability	The module is an elective module from the elective area "Competence Deepening" according to § 6 paragraph 3 SO and § 33 paragraph 3 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.
Credit Points and Grades	7 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 210 hours.
Duration of the Module	The module lasts one semester.