

Module Name	Biomass Sources
Module Number	Eul-RES-E-BMBST
Responsible Lecturer	Prof. Dr.-Ing. Michael Beckmann michael.beckmann@tu-dresden.de
Qualification Objectives	Students master the processes of provision and preparation of various types of biomass and can characterize their relevant properties. They possess the ability to evaluate process chains energetically.
Contents	The module covers the occurrence of various types of biomass (wood, energy crops, agricultural residues, biogenic residues), provision and preparation processes, characterization in terms of chemical, mechanical, calorific, and reaction engineering properties, utilization strategies depending on the properties for energetic and material use (cascade utilization), and energetic evaluation of process chains.
Teaching and Learning Forms	2 hours per week of lectures, 1 hour per week of practical exercises, and self-study.
Prerequisites for Participation	The competencies to be acquired in the modules Renewable Energy Systems Basics, Fundamentals of Thermodynamics, Heat Transfer, Fundamentals of Fluid Mechanics, as well as Renewable Energy Systems Advanced and Thermodynamics of Processes are required.
Usability	The module is an elective module from 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 non-public oral examination as an individual examination lasting 30 minutes and an ungraded portfolio with a workload of 10 hours.
Credit Points and Grades	5 credit points can be earned through the module. If the portfolio is passed, the module grade corresponds to the grade of the oral examination; otherwise, the module grade is determined in accordance with § 15 paragraph 1 sentences 5 and 6 of the Examination Regulations as the weighted average of the grades of the individual examination components, with the portfolio weighted fourfold and the oral examination weighted sixfold.
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.