

Energy and Environmental Engineering Curriculum (part-time)

Valid from Autumn Semester 2023/2024 / 29.01.2024

Semester	Context Modules	Project Modules	Subject-Specific Modules	Mathematics and Natural Science Modules
Semester 8		Bachelor Thesis: Energy and Environmental Engineering DE/EN 12	Specialisation Module 2 4 Specialisation Module 4 4 Specialisation Module 6 4	
Semester 7		Project Thesis: Energy and Environmental Engineering DE/EN 6	Specialisation-Module 1 4 Specialisation Module 3 4 Specialisation Module 5 4	Elective Module Cross-Curricular 4
Semester 6	Elective Module Context 2	Smart Grid and Electromobility DE 4	Thermal and electrical Fundamentals of Power Plant Technology DE 4 Control Engineering DE 4 Transformation of socio-technical Systems DE 4	Specialisation Module 8 4
Semester 5	Elective Module Context 2 Elective Module Context 2	Project Management in Energy Plant Construction 4	Solar Technology Solar Power DE 4 Introduction to Electrical Power Grids DE 4	Specialisation Module 7 4 Statistics Strength of Materials Physics 3 DE 4
Semester 4	Business Administration DE 2	Technology Assessment DE 4	Applied Heat Transfer DE 4 Material Technology DE 4	Numerics DE 4 Physics 2 DE 4
Semester 3	Communication Competence 3 DE/EN 2	Metrology in Solar Systems DE 4	Thermodynamics DE 4 Technology Field Analysis DE 4	Analysis 3 DE 4 Physics 1 DE 4
Semester 2	Communication Competence 2 DE/EN 2		Fluidynamics DE 4 Electrical Engineering and Semiconductors 2 DE 4 Computer Science Tools DE 2 CAD for EU DE 2	Analysis 2 DE 4 Algebra and Statistics 2 DE 4
Semester 1	Communication Competence 1 DE/EN 2		Energy Efficiency and Policy DE 4 Electrical Engineering and Semiconductors 1 DE 4 Computer Science Programming 1 DE 4	Analysis 1 DE 4 Algebra and Statistics 1 DE 4

Module Name
Language of Instruction
Credits

Overview of Energy and Environmental Engineering focus areas

During your fourth year of study, you will choose one of the following three specialisations:

Renewable Thermal Energy Systems			Renewable Electrical Energy Systems			Sustainable Development/Environment		
Semester 8	Wind Water Sector Coupling Synthetic Fuels DE	Thermal Energy Systems DE	Semester 8	Photovoltaic Technology and Memory Production DE	Photovoltaic Power Electronics and Systems DE	Semester 8	Smart Solutions DE	Sustainable Business Models DE
Semester 7	Refrigeration and Heat Pumps DE	Exhaust Gas and Wastewater Treatment DE	Semester 7	Electrical Storage Systems and Power Electronics DE	Electrical Power Systems - Power Grids DE	Semester 7	Energy System Dynamics DE	Foresight and Scenarios DE

In addition, you will select four elective modules from the other two specialisations, with at least one module from each specialisation. It is also possible to select the Smart Grid module.

Of the last four elective modules, numbers 7 and 8 are regularly attended in the 5th and 6th semester of the TZ EU programme.