School of Engineering

Energy and Environmental Engineering Curriculum (part-time)

Valid from Autumn Semester 2025/2026 / 21.02.2025

	Context Modules	Project Modules	Subject-Specific Modules						Mathematics and Natural Science Modules		
Semester 8		Bachelor Thesis: Energy and Environmental Engineering DE/EN 12	Schwerpunktmodul 2 4	Schwerpunktmodul 4 4	Specialisation Module 4	Specialisation Module 6 4					
Semester 7		Project Thesis: Energy and Environmental Engineering DE/EN 6	Specialisation-Module 1 4	Spectalisation Module 2 4	Specialisation Module 3	Specialisation Module 5 4	Elective Module Cross-Curricural 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	Elevtive Module Communication 2		Technology Assessment DE 4	Applied Heat Transfer DE 4	Material Technology DE 4				Numerics DE 4		Physics 2 DE 4
Semester 3	Elevtive Module Communication 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 Compet. Basic 2			Fluiddynamics 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	Business Administration DE 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

School of Engineering

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

Semester 8	Wind Water Sector Coupling Synthetic Fuels DE	Thermal Energy Systems DE
Semester 7	Refrigeration and Heat Pumps DE	Exhaust Gas and Wastewater Treatment DE

Renewable Electrical Energy Systems

Semester 8	Photovoltaic Technology and Memory Production DE	Photovoltaic Power Electronics and Systems DE
Semester 7	Electrical Storage Systems and Power Electronics DE	Electrical Power Systems - Power Grids DE

Sustainable Development/Environment

Semester 8	Smart Solutions DE	Sustainable Business Models 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.