

Module Plan: Bachelor Sustainable Engineering for Materials and Processes

CP = Credit Point

Major Materials

★ Fundamentals

Semester	Compulsory Modules					
1. 30 CP	Mathematics 1 5 CP ★	General and Inorganic Chemistry 5 CP	Introduction to Material Science 5 CP ★	Physics 5 CP ★	Statistics 5 CP ★	Practical Course General Chemistry 5 CP
2. 31 CP	Mathematics 2 5 CP	Solid-State Physics 5 CP	Fundamentals of Thermodynamics 5 CP ★	Introduction to Process Engineering 5 CP	Material Flow Analysis and Life Cycle Assessment 6 CP	Organic Chemistry 5 CP
3. 31 CP	Introduction to Electrochemistry 5 CP	Fluid Mechanics and Heat Transfer 6 CP	Foundation of Programming 5 CP	Structure Property Correlation 5 CP	Natural Polymers 5 CP	Electronic Spectroscopy 5 CP
4. 30 CP	Electrical Engineering 5 CP	Fibre and Polymer Technology 5 CP	Basics of Renewable Utilization 5 CP	Inorganic, nonmetallic Materials 5 CP	Material Testing 5 CP	Project Work 5 CP
5. 30 CP	Research Internship 10 CP		Microscopy and Diffractometry 5 CP	Elective 5 CP	Elective 5 CP	Elective 5 CP
6. 28 CP	Bachelor' Thesis 10 CP		Elective 5 CP	Elective 5 CP	Elective 5 CP	General Elective 3 CP

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Major Processes

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1. 30 CP	Mathematics 1 5 CP ★	General and Inorganic Chemistry 5 CP	Introduction to Material Science 5 CP ★	Physics 5 CP ★	Statistics 5 CP ★	Practical Course General Chemistry 5 CP
2. 31 CP	Mathematics 2 5 CP	Solid-State Physics 5 CP	Fundamentals of Thermodynamics 5 CP ★	Introduction to Process Engineering 5 CP	Material Flow Analysis and Life Cycle Assessment 6 CP	Organic Chemistry 5 CP
3. 31 CP	Introduction to Electrochemistry 5 CP	Fluid Mechanics and Heat Transfer 6 CP	Foundation of Programming 5 CP	Structure Property Correlation 5 CP	Elective 5 CP	Elective 5 CP
4. 30 CP	Electrical Engineering 5 CP	Fibre and Polymer Technology 5 CP	Basics of Renewable Utilization 5 CP	Sustainable Energy Technology 5 CP	Reaction Engineering and Fluid Separations 10 CP	
5. 30 CP	Research Internship 10 CP		Bioprocess Engineering 5 CP	Laboratory Chemical Process Engineering 5 CP	Practical Course Bioprocess Engineering 5 CP	Elective 5 CP
6. 28 CP	Bachelor' Thesis 10 CP		Elective 5 CP	Elective 5 CP	Elective 5 CP	General Elective 3 CP