

Fundamental Subjects

Beginn Wintersemester

Modul	1. WS	2.SS	3.WS	4.SS	Credit Points
Fundamental Subjects (compulsory)				M	50
Chemistry		5		A	5
Advanced Fluid Dynamics		5		S	5
Advanced Heat and Mass Transfer		5		T	5
Mechanical Process Engineering		5		E	5
Chemical Reaction Engineering		5		R	5
Thermal Process Engineering	5			T	5
Process System Engineering	5			H	5
Combustion Engineering	5			E	5
Plant Design	5			S	5
Laboratory work and Excursion (1)	2	3		I S	5
Selective Subjects from list:	7	3	30		40
Chemical Engineering					
Energy Engineering					
Environmental Engineering					
Safety Engineering					
Master Thesis					30
Sum CP	29	31	30	30	120

Beginn Sommersemester

Modul	1. SS	2.WS	3.SS	4.WS	Credit Points
Fundamental Subjects (compulsory)				M	50
Chemistry	5			A	5
Advanced Fluid Dynamics	5			S	5
Advanced Heat and Mass Transfer	5			T	5
Mechanical Process Engineering	5			E	5
Chemical Reaction Engineering	5			R	5
Thermal Process Engineering		5		T	5
Process System Engineering		5		H	5
Combustion Engineering		5		E	5
Plant Design		5		S	5
Laboratory work and Excursion (1)	3	2		I S	5
Selective Subjects from list:	3	7	30		40
Chemical Engineering					
Energy Engineering					
Environmental Engineering					
Safety Engineering					
Master Thesis					30
Sum CP	31	29	30	30	120

Selective Subjects (01.4.2023)

Process Engineering Subjects	Lecturer	Hours		Credit Points
		WiSe / SoSe		
Advanced Process Systems Engineering	Prof. Sundmacher	4		5
Analysis and Design of Experiments	Xiang Zhang		3	4
Computational Biology and Chemistry	HP Stein	4		5
DE project: Visualization of Process Engineering Applications	Dr. Vorhauer-Huget	3	3	4
Dispersed Phase Systems in Chemical Engineering	Dr. Borchert		2	3
Drying Technology	Dr. Kharaghani	3		4
Electrochemical Process Engineering	Dr. Vidakovic-Koch		3	4
Fundamentals of Multiphase Flows	Prof. van Wachem/ Dr. Evrard/Dr. Sewerin		4	5
Internship	Dr. Hintz / CEE-Advisor			10
Introduction to the approval process of medical devices	Prof. Walles	3		5
Introduction to the pre-market phase in the approval process of medical devices	Prof. Walles		3	5
Machine Learning in Chemical Engineering	Ganzer		3	4
Modern Organic Synthesis	Prof. Schinzer		2	3
Nanoparticle Technology	Dr. Hintz	3		4
Plant and apparatus engineering in solid-state process engineering: design, implementation and problem-solving	HP Peglow		3	4
Process Control	Prof. Kienle /Dr. Disli-Kienle		3	4
Product Quality in the Chemical Industry	Prof. Tsotsas / Dr. Kharaghani		3	4
Seminar Mechanical Process Engineering	Prof. v. Wachem	4	4	5
Simulation of Mechanical Processes	Prof. van Wachem	3		5
Tissue Engineering I	Prof. Walles	4		5
Tissue Engineering Lab	Prof. Walles		3	5
Transport Phenomena in Granular, Particulate and Porous Media	Prof. Tsotsas		3	5
		33	42	
Summe:		75		102

Energy Engineering Subjects	Lecturer	Hours		Credit Points
		WiSe /	SoSe	
Computational Fluid Dynamics	apl. Prof. Janiga	3	3	4
Fuel Cells	Dr. Vidakovic-Koch	3		5
Renewable Energies: Materials, Components, Function	Prof. M. Scheffler		3	5
Sustainability Assessment for Biofuels	Dr. Rihko-Struckmann		3	4
Synthetic cell Technoloy	Drs. Otrin		3	4
Thermal Power Plants	Prof. Beyrau		3	4
		6	15	
Summe:			21	26

Environmental Engineering Subjects	Lecturer	Hours		Credit Points
		WiSe /	SoSe	
Bioinorganic Chemistry	Prof. Kulak		2	3
Environmental Biotechnology	Dr. Benndorf	2		3
Control of Toxic Trace Elements	Prof. Köser	3		4
Waste Water and Sludge Treatment	Dr. Müller	3		5
		8	2	
Summe:			10	15

Safety Engineering Subjects	Lecturer	Hours		Credit Points
		WiSe /	SoSe	
Dispersion of Hazardous Materials	Dr. Zinke	3		4
Numerical simulation in explosion protection	Dr. Grosshans	2		3
Air Pollution Control	Prof. Krause		3	4
Hazardous Materials and Safety Characteristics	Prof. Krause	2		3
Methods of Risk Analysis	Prof. Krause		3	4
		7	6	
Summe:			13	18