

# Fundamental Subjects

## Beginn Wintersemester

Modul	1. SS	2.WS	3.SS	4.WS	Credit Points
<b>Fundamental Subjects (compulsory)</b>	25	23	6	M	(54)
Chemistry	5			A	
Advanced Fluid Dynamics	5			S	
Advanced Heat and Mass Transfer	5			T	
Mechanical Process Engineering	5			E	
Chemical Reaction Engineering	5			R	
Thermal Process Engineering		5		T	
Process System Engineering		5		H	
Combustion Engineering		5		E	
Plant Design		5		S	
Laboratory work and Excursion (1)		3	6	I S	
<b>Selective Subjects from list:</b>	4	8	24		36
Chemical Engineering					
Energy Engineering					
Environmental Engineering					
Safety Engineering					
Master Thesis					30
<b>Sum CP</b>	<b>29</b>	<b>31</b>	<b>30</b>	<b>30</b>	<b>120</b>

## Beginn Sommersemester

Modul	1. WS	2.SS	3.WS	4.SS	Credit Points
<b>Fundamental Subjects (compulsory)</b>	20	28	6	M	(54)
Chemistry		5		A	
Advanced Fluid Dynamics		5		S	
Advanced Heat and Mass Transfer		5		T	
Mechanical Process Engineering		5		E	
Chemical Reaction Engineering		5		R	
Thermal Process Engineering	5			T	
Process System Engineering	5			H	
Combustion Engineering	5			E	
Plant Design	5			S	
Laboratory work and Excursion (1)		3	6	S	
<b>Selective Subjects from list:</b>	8	4	24		36
Chemical Engineering					
Energy Engineering					
Environmental Engineering					
Safety Engineering					
Master Thesis					30
<b>Sum CP</b>	<b>28</b>	<b>32</b>	<b>30</b>	<b>30</b>	<b>120</b>

## Selective Subjects (01.03.2018)

Process Engineering Subjects	Lecturer	Hours		Credit Points
		WS	SS	
Advanced Process Systems Engineering	Prof. Sundmacher	4		5
Dispersed Phase Systems in Chemical Engineering	Dr.-Ing. Borchert	2		3
Drying Technology	Dr. Kharaghani	3		4
Electrochemical Process Engineering	Dr. Vidakovic-Koch		3	4
Machine Learning for Computational Biology	Dr. Vargas	2		3
Micro Process Engineering and flexible production concepts	Dr. Schultz		2	3
Modeling with Population Balance (Aussetzung bis auf Weiteres)	N.N.		3	4
Modern Organic Synthesis	Prof. Schinzer		2	3
Molecular Modelling / Computational Biology and Chemistry	Dr. Stein	3		4
Multiphase flow fundamentals	Prof. Sommerfeld		2	4
Nanoparticle Technology	Dr. Hintz	3		4
Process Control	Prof. Kienle		3	4
Process Engineering of Metals and Ceramics	Prof. Specht		3	4
Product Quality in the Chemical Industry	Prof. Tsotsas / Dr. Kharaghani		3	4
Transport Phenomena in Granular, Particulate and Porous Media	Prof. Tsotsas		3	4
		17	24	
<b>Summe:</b>		<b>41</b>		<b>57</b>

Energy Engineering Subjects	Lecturer	Hours WS / SS		Credit Points
Computational Fluid Dynamics	PD Dr. Janiga	3	3	4
Fuel Cells	Dr. Ivanov	3		4
Industrial Energy Management	Jun.-Prof. Fond		3	4
Renewable Energies: Materials, Components, Function	Prof. M. Scheffler		3	4
Sustainability Assessment for Biofuels	Dr. Rihko-Struckmann		3	4
		6	12	
<b>Summe:</b>		<b>18</b>		<b>20</b>

Environmental Engineering Subjects	Lecturer	Hours WS / SS		Credit Points
Environmental Biotechnology	Dr. Benndorf	2		3
Consequences of accidents in industry	Prof. Krause	3		4
Control of Toxic Trace Elements	Prof. Köser		3	4
Waste Water and Sludge Treatment	Prof. Köser	3		4
		8	3	
<b>Summe:</b>		<b>11</b>		<b>15</b>

Safety Engineering Subjects	Lecturer	Hours WS / SS		Credit Points
Consequences of Accidents in Industries	Prof. Krause	3		4
Dispersion of Hazardous Materials	Dr. Zinke	3		4
		6	0	
<b>Summe:</b>		<b>6</b>		<b>8</b>