Course of Study Chemical and Bioprocess Engineering (Study Cohort w22)

Sample course plan C Master Chemical and Bioprocess Engineering (IMPCBE) Dual study program
Specialisation General Process Engineering

	Core Qualification Compulsory	Specialisation Compulsory	Focus Compulsory	Thesis Compulsory
	Core Qualification Elective Compulsory	Specialisation Elective Compulsory	Focus Elective Compulsory	Interdisciplinary complement

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1	**Applied Thermodynamics: Thermodynamic Properties for Industrial Applications**			**Bioprocess and Biosystems Engineering**			**Process Design Project**			**Master thesis (dual study program)**
2	Applied Thermodynamics: Thermodynamic Properties for Industrial Applications	VL	4	Bioreactor Design and Operation	VL	2	Process Design Project	PK	6	
3	Applied Thermodynamics: Thermodynamic Properties for Industrial Applications	GÜ	2	Biosystems Engineering	VL	2				
4				Bioreactors and Biosystems Engineering	PBL	1				
5										
6										
7	**Separation Technologies for Life Sciences**			**Heterogeneous Catalysis**			**Research project IMP Chemical and Bioprocess Engineering**			
8	Chromatographic Separation Processes	VL	2	Analysis and Design of Heterogeneous Catalytic Reactors	VL	2	Research Project IMP Chemical and Bioprocess Engineering	PBL	6	
9	Unit Operations for Bio-Related Systems	VL	2	Modern Methods in Heterogeneous Catalysis	VL	2				
10	Unit Operations for Bio-Related Systems	PBL	2	Modern Methods in Heterogeneous Catalysis	PR	2				
11										
12										
13	**Biocatalysis**			**Technical Microbiology**			**Practical module 3 (dual study program, Master's degree)**			
14	Technical Biocatalysis	VL	2	Applied Molecular Biology	VL	2	Practical term 3		0	
15	Biocatalysis and Enzyme Technology	VL	2	Technical Microbiology	VL	2				
16				Technical Microbiology	HÜ	1				
17										
18										
19	**Process Systems Engineering and Transport Processes**			**Practical module 2 (dual study program, Master's degree)**						
20	Heat & Mass Transfer in Process Engineering	VL	2	Practical term 2		0				
21	Multiphase Flows	VL	2							
22	Process Systems Engineering	IV	2							
23							**Industrial Process Automation**			
24							Industrial Process Automation	VL	2	
25	**Particle Technology for International Master Programs**						Industrial Process Automation	GÜ	2	
26	Particle Technology for IMP	VL	2							
27	Practicle Course Particle Technology for IMP	PR	3							
28	Excercise Particle Technology for International Master Program	HÜ	1							
29				**High Pressure Chemical Engineering**						
30				Advanced Separation Processes	VL	2				
31	**Practical module 1 (dual study program, Master's degree)**			Industrial Processes Under High Pressure	VL	2				
32	Practical term 1		0	High pressure plant and vessel design	VL	2				
33										
34										
35				**Numerical Methods for Ordinary Differential Equations**						
36				Numerical Treatment of Ordinary Differential Equations	VL	2				
37				Numerical Treatment of Ordinary Differential Equations	GÜ	2				
38										
39										
40										

Business & Management (from catalogue) - 6LP
Linking theory and practice (dual study program, Master's degree) (from catalogue) - 6LP

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.