Course of Study Chemical and Bioprocess Engineering (Study Cohort w18)

Sample course plan B Master Chemical and Bioprocess Engineering (IMPCBE)

Specialisation Bioprocess Engineering

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

LP	Semester 1	Form	Hrs/wk	Semester 2	Form	Hrs/wk	Semester 3	Form	Hrs/wk	Semester 4	Form	Hrs/wk
1	**Applied Thermodynamics: Thermodynamic Properties for Industrial Applications**			**Bioprocess and Biosystems Engineering**			**Process Design Project**			**Master Thesis**		
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	UE	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**			**Industrial Bioprocess Engineering**					
14	Technical Biocatalysis	VL	2	Applied Molecular Biology	VL	2	Biotechnical Processes	PBL	2			
15	Biocatalysis and Enzyme Technology	VL	2	Technical Microbiology	VL	2	Development of bioprocess engineering processes in industrial practice	SE	2			
16				Technical Microbiology	HÜ	1						
17												
18												
19	**Process Systems Engineering and Transport Processes**			**Cell and Tissue Engineering**			**Bioresources and Biorefineries**					
20	Heat & Mass Transfer in Process Engineering	VL	2	Fundamentals of Cell and Tissue Engineering	VL	2	Bioresource Management	VL	2			
21	Multiphase Flows	VL	2	Bioprocess Engineering for Medical Applications	VL	2	Bioresource Management	UE	1			
22	Process Systems Engineering	VL	2				Biorefinery Technology	VL	2			
23							Biorefinery Technologie	UE	1			
24												
25	**Particle Technology for International Master Programs**											
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												
30												
	Business & Management (from catalogue) - 6LP											
	Nontechnical Elective Complementary Courses for Master (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.