

Exclosure to Subject Specific Regulations from  
 25.07.2018  
 for Master-Programme  
 Chemical and Bioprocess Engineering  
 at TUHH  
 Programme Director: Prof. Raimund Horn  
 Total: 120 CP  
 Number of Specialisations to choose: 1



## Course Scheme Master Chemical and Bioprocess Engineering (IMPCBE)

Consolidated Version  
 for Study Cohort: WiSe19/20  
 en\_head\_sda  
 and Approval of Chair from: 24.04.2019  
 In Force on: 01.10.2019  
 Out of Force on: 30.09.2022

Information regarding the lectures are available in the TUHH modul manuals as well as in the course catalogue.

Re com. Term	Module							Exami nation			Course Work		
	Module Name (German / English)	Language	Module Responsibility	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Exami nation Form(3)	Compulsory	Course Work Type	Bonus (in %)	
<b>Core qualification</b> Compulsory Courses: 72 LP Optional Courses: 0 LP													
1	Angewandte Thermodynamik: Thermodynamische Größen für industrielle Anwendungen / Applied Thermodynamics: Thermodynamic Properties for Industrial Applications	EN	Dr. Jakobtorweihen	V-8	C	CM	6	Y	MP	Y	SA	0	
1	Biokatalyse / Biocatalysis	EN	Prof. Liese	V-6	C	CM	6	Y	KL				
1	Partikeltechnologie für internationale Masterprogramme / Particle Technology for International Master Programs	EN	Prof. Heinrich	V-3	C	CM	6	Y	KL	Y	SA	0	
1	Systemverfahrenstechnik und Transportprozesse / Process Systems Engineering and Transport Processes	EN	Prof. Schlüter	V-5	C	CM	6	Y	KL				
1	Trenntechnik in den Life Sciences / Separation Technologies for Life Sciences	EN	Prof. Smirnova	V-8	C	CM	6	Y	KL	Y	RE	0	
2	Bioprocess- und Biosystemtechnik / Bioprocess and Biosystems Engineering	EN	Prof. Zeng	V-1	C	CM	6	Y	KL	Y	RE	20	
2	Heterogene Katalyse / Heterogeneous Catalysis	EN	Prof. Horn	V-2	C	CM	6	Y	KL	Y	RE	0	
2	Technische Mikrobiologie / Technical Microbiology	EN	Dr. Krüger	V-7	C	CM	6	Y	KL	N	ÜA	10	
										N	GD	10	
3	Forschungsprojekt IMP Chemical and Bioprocess Engineering / Research project IMP Chemical and Bioprocess Engineering	DE / EN	Dozenten des SD V	SD-V	C	CM	6	Y	STA				
3	Projektierungskurs / Process Design Project	DE / EN	Dozenten des SD V	V-9	C	CM	6	N	FFA				
1-3	Betrieb & Management / Business & Management	DE / EN	Prof. Meyer	W-1	C	OM	6	Selection out of seperatly published Catalogue					
1-3	Nichttechnische Ergänzungskurse im Master / Nontechnical Elective Complementary Courses for Master	DE / EN	Richter	0-TUHH	C	OM	6	Selection out of seperatly published Catalogue					

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<b>Specialisation General Process Engineering</b> Compulsory Courses: 0 LP Optional Courses: 18 LP													
2	Hochdruckverfahrenstechnik / High Pressure Chemical Engineering	DE / EN	Dr. Johannsen	V-8	EC	CM	6	Y	KL	Y	RE	15	
2	Modellierung und technische Auslegung von Bioraffinerieprozessen / Modelling and technical design of bio refinery processes	DE	Prof. Kaltschmitt	V-9	EC	CM	6	Y	SA				
2	Molekulare Modellierung und Numerische Strömungssimulation / Molecular Modeling and Computational Fluid Dynamics	EN	Prof. Schlüter	V-5	EC	CM	6	Y	MP				
2	Nexus Engineering - Wasser, Boden, Nahrung und Energie / Nexus Engineering - Water, Soil, Food and Energy	EN	Prof. Otterpohl	B-2	EC	CM	6	Y	FFA				
2	Numerik gewöhnlicher Differentialgleichungen / Numerical Treatment of Ordinary Differential Equations	DE / EN	Prof. Le Borne	E-10	EC	CM	6	Y	KL				
2	Zell- und Gewebekultur / Cell and Tissue Engineering	EN	Prof. Pörtner	V-1	EC	CM	6	Y	KL				
3	Abwasserreinigung und Luftreinhaltung / Wastewater Treatment and Air Pollution Abatement	DE / EN	Dr. Hartge	V-3	EC	CM	6	Y	KL				
3	Industrielle Bioprozesstechnik / Industrial Bioprocess Engineering	DE / EN	Prof. Zeng	V-1	EC	CM	6	Y	RE				
3	Ländliche Entwicklung und Ressourcen Orientierte Sanitärsysteme für verschiedene Klimate / Rural Development and Resources Oriented Sanitation for different Climate Zones	EN	Prof. Otterpohl	B-2	EC	CM	6	Y	FFA				
3	Membran Technologie / Membrane Technology	EN	Prof. Ernst	B-11	EC	CM	6	Y	KL				
3	Modellierung von granularen Materialien / Modeling of Granular Materials	EN	Prof. Dosta	V-3	EC	CM	6	Y	KL				
3	Prozessautomatisierungstechnik / Industrial Process Automation	EN	Prof. Schlaefer	E-1	EC	CM	6	Y	KL	N	ÜA	10	
3-4	Auslegung und Bewertung regenerativer Energiesysteme / Dimensioning and Assessment of Renewable Energy Systems	DE	Prof. Kaltschmitt	V-9	EC	CM	6	Y	SA				
<b>Specialisation Bioprocess Engineering</b> Compulsory Courses: 0 LP Optional Courses: 18 LP													
2	Zell- und Gewebekultur / Cell and Tissue Engineering	EN	Prof. Pörtner	V-1	EC	CM	6	Y	KL				
3	Bioressourcen und Bioraffinerien / Bioresources and Biorefineries	EN	Dr. Körner	B-2	EC	CM	6	Y	KL				
3	Industrielle Bioprozesstechnik / Industrial Bioprocess Engineering	DE / EN	Prof. Zeng	V-1	EC	CM	6	Y	RE				
<b>Specialisation Chemical Process Engineering</b> Compulsory Courses: 0 LP Optional Courses: 18 LP													
2	Hochdruckverfahrenstechnik / High Pressure Chemical Engineering	DE / EN	Dr. Johannsen	V-8	EC	CM	6	Y	KL	Y	RE	15	
2	Molekulare Modellierung und Numerische Strömungssimulation / Molecular Modeling and Computational Fluid Dynamics	EN	Prof. Schlüter	V-5	EC	CM	6	Y	MP				
2	Numerik gewöhnlicher Differentialgleichungen / Numerical Treatment of Ordinary Differential Equations	DE / EN	Prof. Le Borne	E-10	EC	CM	6	Y	KL				

		Module						Examination			Course Work		
Re com. Term	Module Name (German / English)	Language	Module Responsibility	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Examination Form(3)	Compulsory	Course Work Type	Bonus (in %)	
3	Membran Technologie / Membrane Technology	EN	Prof. Ernst	B-11	EC	CM	6	Y	KL				
3	Modellierung von granularen Materialien / Modeling of Granular Materials	EN	Prof. Dosta	V-3	EC	CM	6	Y	KL				
3	Prozessautomatisierungstechnik / Industrial Process Automation	EN	Prof. Schlaefer	E-1	EC	CM	6	Y	KL	N	ÜA	10	
<b>Thesis</b> Compulsory Courses: 30 LP Optional Courses: 0 LP													
4	Masterarbeit / Master Thesis		Professoren der TUHH	0-TUHH	C	CM	30	Y	AB				

#### Explanation:

<sup>1</sup>C=Compulsory, EC=Elective Compulsory

<sup>2</sup>CM=Compulsory Defined Module, OM=Optional Defined Module

<sup>3</sup>KL=Written exam, SA=Written elaboration, FFA=Subject theoretical and practical work, MP=Oral exam, RE=Presentation, GD=Group discussion, STA=Study work, ÜA=Exercices, AB=Thesis

<sup>4</sup>CP=Credit Points

<sup>5</sup>VL=Lecture, SE=Seminars, UE=Recitation Section (small), PBL=Project-/problem-based Learning, PR=Practical Course, PK=Projection Course, HÜ=Recitation Section (large)

<sup>6</sup>DE=German, EN=English, DE/EN=German and English

<sup>7</sup>SWS=Contact hours