

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: WiSe17/18
 according to Decision of Academic Senate:
 25.07.2018
 and Approval of Chair from: 22.08.2018
 Replaces Version from: 26.04.2017
 In Force on: 01.10.2018
 Out of Force on: 30.09.2020

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

Re com. Term	Module						Exami nation		
	Module Name (German / English)	Language	Module Responsibility	Institute	C/EC (1)	CM/ OM (2)	CP (4)	Grade	Exami nation Form(3)
Core qualification 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
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
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
2	Bioprozess- und Biosystemtechnik / Bioprocess and Biosystems Engineering	EN	Prof. Zeng	V-1	C	CM	6	Y	KL
2	Heterogene Katalyse / Heterogeneous Catalysis	EN	Prof. Horn	V-2	C	CM	6	Y	KL
2	Technische Mikrobiologie / Technical Microbiology	EN	Dr. Krüger	V-7	C	CM	6	Y	KL
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	Dozenten des SD V	V-9	C	CM	6	N	FFA

Re com. Term	Module Name (German / English)	Module					Examination		
		Language	Module Responsibility	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Examination Form(3)
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	
1-3	Betrieb & Management / Business & Management	DE / EN	Prof. Meyer	W-1	C	OM	6	Selection out of seperatly published Catalogue	
Specialisation General Process Engineering 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
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 Bioprosesstechnik / 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
3	Soft-Computing / Soft Computing	DE / EN	Prof. Zimmermann	E-13	EC	CM	6	Y	MP
3-4	Auslegung und Bewertung regenerativer Energiesysteme / Dimensioning and Assessment of Renewable Energy Systems	DE / EN	Prof. Kaltschmitt	V-9	EC	CM	6	Y	SA
Specialisation Bioprocess Engineering 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 Bioprosesstechnik / Industrial Bioprocess Engineering	DE / EN	Prof. Zeng	V-1	EC	CM	6	Y	RE
3	Soft-Computing / Soft Computing	DE / EN	Prof. Zimmermann	E-13	EC	CM	6	Y	MP
Specialisation Chemical Process Engineering 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
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		
Re com. Term	Module Name (German / English)	Language	Module Responsibility	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Examination Form(3)
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
Thesis Compulsory Courses: 30 LP Optional Courses: 0 LP									
4	Masterarbeit / Master Thesis		Professoren der TUHH	0-TUHH	C	CM	30	Y	AB

Explanation:

¹C=Compulsory, EC=Elective Compulsory

²CM=Compulsory Defined Module, OM=Optional Defined Module

³KL=Written exam, SA=Written elaboration, FFA=Subject theoretical and practical work, MP=Oral exam, RE=Presentation, STA=Study work, ÜA=Exercises, AB=Thesis

⁴CP=Credit Points

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

⁶DE=German, EN=English, DE/EN=German and English

⁷SWS=Contact hours