

Exclosure to Subject Specific Regulations
from 25.07.2018
for Master-Programme

Chemical and Bioprocess Engineering
at TUHH

Programme Director: Prof. Alexander Penn

Total: 120 CP

Number of Specialisations to choose: 1



Course Scheme Master Chemical and Bioprocess Engineering (IMPCBE)

Consolidated Version
for Study Cohort: WiSe21/22
en_head_sda
and Approval of Chair from:
19.05.2021
Replaces Version from: 08.07.2020
Out of Force on: 30.09.2024

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

Re-com. Term	Module						Examination			Course Work		
	Module Name (German / English)	Language	ModuleResponsability	Institute	C/EC (1)	CM/OM (2)	CP (4)	Grade	Examination Form(3)	Compulsory	Course Work Type	Bonus (in %)
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	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	Dr. Gurikov	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	Prof. Gescher	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 / EN	Dozenten des SD V	V-9	C	CM	6	N	FFA			
1-3	Nichttechnische Angebote im Master / Non-technical 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												

		Module					Examination			Course Work		
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2	Angewandte Optimierung in der Energie- und Verfahrenstechnik / Applied optimization in energy and process engineering	DE / EN	Prof. Skiborowski	V-4	EC	CM	6	Y	MP			
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	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. Ruprecht	E-10	EC	CM	6	Y	KL			
2	Numerische Strömungssimulation und Lagrangscher Transport / Numerical Simulation and Lagrangian Transport	EN	Prof. Schlüter	V-5	EC	CM	6	Y	MP			
2	Prozessbildgebung / Process Imaging	EN	Prof. Penn	V-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. Pietsch	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	Industrielle homogene Katalyse / Industrial homogeneous catalysis	EN	Prof. Albert	0-UNIHH-C	EC	CM	6	Y	MP			
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			

Specialisation Bioprocess Engineering Compulsory Courses: 0 LP Optional Courses: 18 LP

Module							Examination			Course Work		
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2	Angewandte Optimierung in der Energie- und Verfahrenstechnik / Applied optimization in energy and process engineering	DE / EN	Prof. Skiborowski	V-4	EC	CM	6	Y	MP			
2	Industrielle Bioprozesse in der Praxis / Industrial Bioprocesses in Practice	EN	Prof. Liese	V-6	EC	CM	6	Y	RE			
2	Prozessbildgebung / Process Imaging	EN	Prof. Penn	V-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	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			
3	Industrielle homogene Katalyse / Industrial homogeneous catalysis	EN	Prof. Albert	0-UNIH-H-C	EC	CM	6	Y	MP			

Specialisation Chemical Process Engineering Compulsory Courses: 0 LP Optional Courses: 18 LP

2	Angewandte Optimierung in der Energie- und Verfahrenstechnik / Applied optimization in energy and process engineering	DE / EN	Prof. Skiborowski	V-4	EC	CM	6	Y	MP			
2	Hochdruckverfahrenstechnik / High Pressure Chemical Engineering	DE / EN	Dr. Johannsen	V-8	EC	CM	6	Y	KL	Y	RE	15
2	Numerik gewöhnlicher Differentialgleichungen / Numerical Treatment of Ordinary Differential Equations	DE / EN	Prof. Ruprecht	E-10	EC	CM	6	Y	KL			
2	Numerische Strömungssimulation und Lagrangscher Transport / Numerical Simulation and Lagrangian Transport	EN	Prof. Schlüter	V-5	EC	CM	6	Y	MP			
2	Prozessbildgebung / Process Imaging	EN	Prof. Penn	V-10	EC	CM	6	Y	KL			
3	Industrielle homogene Katalyse / Industrial homogeneous catalysis	EN	Prof. Albert	0-UNIH-H-C	EC	CM	6	Y	MP			
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

Thesis Compulsory Courses: 30 LP Optional Courses: 0 LP

4	Masterarbeit / Master Thesis		Professoren der TUHH	0-TUHH	C	CM	30	Y	AB			
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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=Excercises, AB=Thesis, SA lt. FPrO=Written elaboration (accord. to Internship Regulations)

⁴CP=Credit Points

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

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

⁷SWS=Contact hours