

Master of Science in Chemical and Bioengineering

Credits according to categories – HS23 / FS24

Categories according to study regulation (SR) 2018				Hours	Credits		Performance assessment mode / minutes	
Examination subjects according to regulation		Courses according to curriculum			ECTS	min. per category		
Pre-study option during Bachelor's studies								
Research Project, Industry Internship						13		
	529-0301-00	Industry Internship (min. 7 weeks)		13		ungraded semester performance		
	529-0300-10	Research Project (7 weeks)	16A	13		ungraded semester performance		
Master's studies								
Core Subjects						24		
Biochemical Engineering	529-0615-01	Biochemical and Polymer Reaction Engineering	3G	6		o	30	
	529-0837-01	Biomicrofluidic Engineering	3G	6		w	75	
Products and Materials	529-0619-01	Chemical Product Design	3G	6		o	30	
	529-0610-01	Interface Engineering of Materials	4G	6		w	120	
Process Design	529-0643-01	Process Design and Development	3G	6		w	180	
	529-0613-01	Process Simulation and Flowsheeting	3G	6		w	180	
Catalysis and Separation	151-0927-00	Rate-Controlled Separations in Fine Chemistry	3V+ 1U	6		o	30	
	529-0617-01	Catalysis Engineering	3G	6		o	30	
Electives (Core Subjects can also be used as Electives)						23		
Biochemical Engineering	636-0108-00	Biological Engineering and Biotechnology	3V	4		w	90	
	636-0007-00	Computational Systems Biology	3V+2U	6		w	120	
	551-0324-00	Systems Biology	4V	6		w	150	
	551-0357-00	Cellular Matters: Properties, Functions and Applications of Biomolecular Condensates	2S	4	graded semester performance			
	376-1714-00	Biocompatible Materials	3V	4		w	90	
Environment and Energy	529-0745-01	General and Environmental Toxicology	3V	6		o	30	
	151-0209-00	Renewable Energy Technologies	3G	4	end-of-sem. exam			
	529-0191-00	Electrochemical Energy Conversion and Storage Technologies	3V+3U	4		w	120	
	529-0507-00	Hands-on Electrochemistry for Energy Storage and Conversion Applications	6P	6	graded semester performance			
	529-0659-00	Electrochemistry: Fundamentals, Cells & Applications	3G	6		o	30	
	529-0180-00	Sustainable Chemistry and Chemical Engineering in Industry	2G	2	graded semester performance			
Products and Materials	529-0052-00	Concepts and Tools for Sustainable Chemicals Manufacture	2G	4		w	60	
	327-2145-00	Advanced Polymer Synthesis	3G	4	end-of-sem. exam			
	529-0135-00	Cook and Look: Watching Functional Materials in Situ	3G	3	ungraded semester performance			
Systems and Process Engineering	529-0611-01	Molecular Aspects of Catalysts and Surfaces	4G	6		w	60	
	529-0941-00	Introduction to Macromolecular Chemistry	3G	4		w	60	
	529-0017-00	Chemometrics and Machine Learning for Chemical Engineers	3G	6		w	90	
	151-0109-00	Turbulent Flows	2V+1U	4		w	120	
Modeling and Simulations	529-0150-00	Digital Chemistry	3G	6		o	30	
	151-0207-00	Theory and Modeling of Reactive Flows	3G	4		o	30	
	529-0004-01	Classical Simulation of (Bio)Molecular Systems	4G	6		o	30	
Economics and Technology Management	363-0389-00	Technology and Innovation Management	2G	3	end-of-sem. exam			
	363-0565-00	Principles of Macroeconomics	2V	3	end-of-sem. exam			
	363-0503-00	Principles of Microeconomics	2G	3	end-of-sem. exam			
	363-1008-00	Public Economics	2V	3		w	90	
Case Studie						3		
	529-0459-01	Case Studies in Process Design	3A	3		ungraded semester performance		
Master Thesis	529-0600-10	Master Thesis (20 weeks)	40D	25	25	graded semester performance		
Compulsory Electives in 'Science in Perspective' (SiP)						2	acc. to performance ass.	
Total					90			
Sum according to regulation					90			

spring semester
autumn and spring semester