

# Master of Science in Chemistry – HS23 / FS24

## Credits according to categories

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 , Laboratory Course or Industry Internship					13		
	529-0200-10	Research Project I (7 weeks)	16A	13		ungraded semester performance	
	529-0202-00	Industry Internship (min. 7 weeks)		13		ungraded semester performance	
	529-0739-10	Biological Chemistry A: Technologies for Directed Evolution of Enzymes	16P	13		ungraded semester performance	
Master's studies							
Core Subjects					18		
Inorganic Chemistry	529-0134-01	Functional Inorganics	3G	6		o	30
Organic Chemistry	529-0233-01	Organic Synthesis: Methods and Strategies	3G	6		w + o	60 + 30
	529-0241-10	Selectivity in Organic Synthesis	3G	6		w + o	60 + 20
Physical Chemistry	529-0433-01	Advanced Physical Chemistry: Statistical Thermodynamics	3G	6		o	25
Compensatory Subjects							
Inorganic Chemistry	529-0143-01	Aspects of Modern Inorganic Chemistry: Concepts, Building Blocks, and Polymers	3G	6		o	30
Physical Chemistry	529-0443-01	Advanced Magnetic Resonance	3G	6		o	30
	529-0445-01	Advanced Optics and Spectroscopy	3G	6		o	30
Electives (also Core or Compensatory Subjects can be used as Electives)					19		
Inorganic Chemistry	529-0144-01	NMR Spectroscopy in Inorganic Chemistry	3G	6		o	30
	529-0948-00	Solid State Chemistry	10P	6		graded semester performance	
Organic Chemistry	529-0243-01	Transition Metal Catalysis: From Mechanisms to Applications	3G	6		w + o	60 + 30
	529-0242-00	Supramolecular Chemistry	3G	6		w + o	20 + 60
	529-0077-00	Biosynthesis of Fragrant and Medicinal Natural Products	2G	3		w	120
	529-0240-00	Chemical Biology - Peptides	3G	6		w + o	60 + 20
	529-0731-00	Nucleic Acids and Carbohydrates	3G	6		w	100
Physical Chemistry	529-0130-00	Advanced Magnetic Resonance - DNP Instrumentation and Analysis	3G	6		o	30
	529-0014-00	Advanced Magnetic Resonance -Relaxation	3G	6		o	30
	529-0027-00	Advanced Magnetic Resonance - Solid State NMR	3G	6		o	30
	529-0445-01	Advanced Optics and Spectroscopy	3G	6		o	30
Analytical Chemistry	529-0042-00	Structure Elucidation by NMR	2G	4		w	60
	529-0043-01	Analytical Strategy	3G	6		w + o	60 + 30
	529-0059-00L	Nanoscale Molecular Imaging	2G	3		o	20
Biological Chemistry	529-0733-01	Chemical Biology and Synthetic Biochemistry	3G	6		w	100
Chemical Aspects of Energy	529-0507-00	Hands-on Electrochemistry for Energy Storage and Conversion Applications	6P	6		graded semester performance	
	151-0209-00	Renewable Energy Technologies	3G	4		end-of-sem. exam	
Chemical Crystallography	529-0029-01	Structure Determination	3G	6		o	30
Chemical Technology	636-0108-00	Biological Engineering and Biotechnology	3V	4		w	90
Computational Chemistry	529-0150-00	Digital Chemistry	3G	6		o	30
	529-0003-01	Advanced Quantum Chemistry	3G	6		o	30
	529-0004-01	Classical Simulation of (Bio)Molecular Systems	4G	6		o	30
Material Science	529-0941-00	Introduction to Macromolecular Chemistry	3G	4		w	60
	402-0468-15	Nanomaterials for Photonics	2V+ 1U	6		o	20
	227-0390-00	Elements of Microscopy	3G	4		o	30
	327-2145-00	Advanced Polymer Synthesis	3G	4		w	100
	327-0703-00	Electron Microscopy in Material Science	2V+2U	4		o	30
Environmental Chemistry	529-0180-00	Sustainable Chemistry and Chemical Engineering in Industry	2G	2		graded semester performance	
	529-0052-00	Concepts and Tools for Sustainable Chemicals Manufacture	2G	4		w	60
	529-0745-01	General and Environmental Toxicology	3V	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
Research Project II					13		
	529-0201-10	Research Project II (7 weeks)	16A	13		ungraded semester performance	
Master Thesis	529-0500-10	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							