

Study Plan (AIMS)

Specialization: Chemical Synthesis and Drug Design



Name: _____

Year of Enrollment: _____

Matricule Number: _____

Mentor: _____

Winter Semester (1st Semester)		approx. 30 CP		
Foundations 1.-2. semester 26 CP (total)	Compulsory	CP		
		AM-P-1 Introduction to AIMS	5	x
		AM-P-2 Mathematics for Engineers A	8	x
		AM-P-3 Programming in Python and Python Lab	8	x
Advanced Machine Learning and AI 1.-3. Semester 15 CP (total)	Elective	AM-V-2 Pattern Recognition (offered in German in winter semester)	5	
		AM-V-3 Computer Lab Pattern Recognition	5	
Specialization Chemical Synthesis and Drug Design 1.-3. Semester 37 CP (total)	Compulsory Basic Module choose 1 of 2 (4 CP)	AM-A-2 Organometallic Chemistry	4	
	Elective (16-20 CP)	AM-A-4 Advanced Inorganic Chemistry	8	
		AM-A-5 Organic Synthesis Planning	4	
		AM-A-6 Enzyme Engineering	10	
		AM-A-6 Enzyme Engineering (light)	5	
		AM-A-7 Fundamentals of Protein Structure Analysis	10	
		AM-A-9 Advanced Theoretical Chemistry	8	
		AM-A-10 Machine Learning in Computational Chemistry	8	
		A) Sum of achieved CP for Specialization		
Key Qualifications 1.-3. Semester 12 CP (total)	Compulsory	AM-KQ-1 Ethics and Epistemology	5	x
	Elective	AM-KQ-2 Professionalization - Elective Modules	7	

Summer Semester (2nd Semester)		approx. 30 CP		
Foundations 1.-2. Semester 26 CP (total)	Compulsory	CP		
		AM-P-4 Scientific Software Engineering – Lab	5	x
Advanced Machine Learning and AI 1.-3. Semester 15 CP (total)	Elective	AM-V-1 Machine Learning for Data Science	5	
		AM-V-2 Pattern Recognition	5	
		AM-V-3 Computer Lab Pattern Recognition	5	
		AM-V-4 Deep Learning Lab	5	
		AM-V-5 Methods of Uncertainty Analysis and Quantification	5	
Specialization Chemical Synthesis and Drug Design 1.-3. semester 37 CP (total)	Compulsory Basic Module choose 1 of 2 (4 CP)	AM-A-1 Reaction Mechanisms	4	
	Elective (16-20 CP)	AM-A-3 Catalysis	8	
		AM-A-8 Biomolecular Modeling	8	
		B) Sum of achieved CP for Specialization		
Key Qualifications 1.-3. Semester 12 CP (total)	Elective	AM-KQ-2 Professionalization - Elective Modules	7	

Winter Semester (3rd Semester)		approx. 30 CP		
Advanced Machine Learning and AI 1.-3. Semester 15 CP (total)	Elective	CP		
		AM-V-2 <i>Pattern Recognition (offered in German in winter semester)</i>	5	
		AM-V-3 Computer Lab Pattern Recognition	5	
Specialization Chemical Synthesis and Drugs 1.-3. Semester 37 CP (total)	Elective (16-20 CP)	AM-A-4 Advanced Inorganic Chemistry	8	
		AM-A-5 Organic Synthesis Planning	4	
		AM-A-6 Enzyme Engineering	10	
		AM-A-6 Enzyme Engineering (light)	5	
		AM-A-7 Fundamentals of Protein Structure Analysis	10	
		AM-A-9 Advanced Theoretical Chemistry	8	
		AM-A-10 Machine Learning in Computational Chemistry	8	
		C) Sum of achieved CP for Specialization		
	Compulsory (13-17 CP)	AM-A-RP Research Lab	13-17	x
		37 CP - (A + B + C) = CP Research Lab		
Key Qualifications 1.-3. Semester 12 CP (total)	Compulsory	AM-KQ-1 Ethics and Epistemology	5	x
	Elective	AM-KQ-2 Professionalization - Elective Modules	7	

Summer Semester (4th Semester)		approx. 30 CP		
Final Module 4. Semester 30 CP	Compulsory	CP		
		AM-M Master's Thesis and Presentation	30	x

120 CP in total

Date: _____ Signature Student: _____

Signature Mentor: _____