

Study Plan (AIMS)

Specialisation: Chemical Synthesis and Drug Design



Name: _____ Year of Enrollment: _____

Matriculation Number: _____ Mentor: _____

1 st Semester (winter semester)			30 CP
		CP	
Compulsory	Introduction to AIMS	5	x
	Mathematics for Engineers A	8	x
	Programming in Python and Python Lab	8	x
Compulsory Basic Module choose 1 of 2 (4 CP)	Organometallic Chemistry	4	
Compulsory Elective (16-20 CP)	Advanced Inorganic Chemistry	8	
	Organic Synthesis Planning	4	
	Enzyme Engineering	10	
	Fundamentals of Protein Structure Analysis	10	
	Advanced Theoretical Chemistry	8	
	Machine Learning in Computational Chemistry	8	
	A) Sum of achieved CP for Specialisation		
Compulsory	Ethics and Epistemology	5	x

Foundations 1.-2. semester 26 CP (total)
Specialisation Chemical Synthesis and Drug Design 1.-3. Semester 37 CP (total)
Key Qualifications 1.-3. Semester 12 CP (total)

2 nd Semester (summer semester)			30 CP
		CP	
Compulsory	Scientific Software Engineering – Lab	5	x
Compulsory Elective	Machine Learning for Data Science	5	
	Pattern Recognition	5	
	Computer Lab Pattern Recognition	5	
	Deep Learning Lab	5	
	Methods of Uncertainty Analysis and Quantification	5	
Compulsory Basic Module choose 1 of 2 (4 CP)	Reaction Mechanisms	4	
Compulsory Elective (16-20 CP)	Catalysis	8	
	Biomolecular Modelling	8	
	B) Sum of achieved CP for Specialisation		
Compulsory Elective	Elective Modules	7	

Foundations 1.-2. Semester 26 CP (total)
Advanced Machine Learning and AI 2.-3. Semester 15 CP (total)
Specialisation Chemical Synthesis and Drug Design 1.-3. semester 37 CP (total)
Key Qualifications 1.-3. Semester 12 CP (total)

3rd Semester (winter semester)	30 CP
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CP

Compulsory Elective	Pattern Recognition <i>(offered in German in winter term)</i>	5	
	Computer Lab Pattern Recognition	5	
Compulsory Elective (16-20 CP)	Advanced Inorganic Chemistry	8	
	Organic Synthesis Planning	4	
	Enzyme Engineering	10	
	Fundamentals of Protein Structure Analysis	10	
	Advanced Theoretical Chemistry	8	
	Machine Learning in Computational Chemistry	8	
	C) Sum of achieved CP for Specialisation		
	37 CP - (A + B + C) = CP Research Lab (13-17 CP)		
Compulsory Elective	Research Lab	13-17	x
	planned CP Research Lab		
Compulsory Elective	Ethics and Epistemology	5	x
	Elective Modules	7	

Advanced Machine Learning and AI
2.-3. Semester
15 CP (total)

Specialisation
Chemical Synthesis and Drugs
1.-3. Semester
37 CP (total)

Key Qualifications
1.-3. Semester
12 CP (total)

4th Semester (summer semester)	30 CP
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CP

Compulsory	Master Thesis	30	x

Master Thesis
4. Semester
30 CP

Date: _____ Signature Student: _____

Signature Mentor: _____