

Study Plan (AIMS)

Specialization: Data-Driven Biology



Name: _____

Year of Enrollment: _____

Matricule Number: _____

Mentor: _____

Winter Semester (1st Semester)		approx. 30 CP		
Foundations 1.-2. Semester 26 CP (total)	Compulsory	CP		
		Introduction to AIMS	5	x
		Mathematics for Engineers A	8	x
		Programming in Python and Python Lab	8	x
Specialization Data-Driven Biology 1.-3. Semester 37 CP (total)	Elective (10-15 CP)	Applied bioinformatics: biomarkers for diagnosis	10	
		A) Sum of achieved CP for Specialization		
Key Qualifications 1.-3. Semester 12 CP (total)	Compulsory	Ethics and Epistemology	5	x
	Elective	Elective Modules	7	

Summer Semester (2nd Semester)		approx. 30 CP		
Foundations 1.-2. Semester 26 CP (total)	Compulsory	CP		
		Scientific Software Engineering – Lab	5	x
Advanced Machine Learning and AI 2.-3. Semester 15 CP (total)	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	
Specialization Data-Driven Biology 1.-3. Semester 37 CP (total)	Compulsory Basic Module (10 CP)	Molecular Microbial Evolution and Diversity	10	x
	Elective (10-15 CP)	Immunometabolism	10	
		Network Biology	5	
		Functional Genomics in Infection Biology	10	
		Microbial Proteomics	10	
		B) Sum of achieved CP for Specialization		
Key Qualifications 1.-3. Semester 12 CP (total)	Elective	Elective Modules	7	

Winter Semester (3rd Semester)		approx. 30 CP		
Advanced Machine Learning and AI 2.-3. Semester 15 CP (total)	Elective	CP		
		Pattern Recognition (offered in German in winter semester)	5	
		Computer Lab Pattern Recognition	5	
Specialization Data-Driven Biology 1.-3. Semester 37 CP (total)	Elective (10-15 CP)	Applied bioinformatics: biomarkers for diagnosis	10	
		C) Sum of achieved CP for Specialization		
	Compulsory (12-17 CP)	Research Lab	12-17	x
		37 CP - (A + B + C) = CP Research Lab		
Key Qualifications 1.-3. Semester 12 CP (total)	Compulsory	Ethics and Epistemology	5	x
	Elective	Elective Modules	7	

Summer Semester (4th Semester)		approx. 30 CP		
Master's Thesis 4. Semester 30 CP	Compulsory	CP		
		Master's Thesis	30	x

120 CP in total

Date: _____ Signature Student: _____

Signature Mentor: _____