

CURRICULUM M.SC. DATA SCIENCE
DISTANCE LEARNING, 120 ECTS CREDITS

Semester			Module	Course Code	Course	ECTS credits	Type of Exam
FT	PT I	PT II					
1. Semester	1. Semester	1. Semester	Data Science	DLMBDSA01-01	Data Science	5	Exam
			Programming with Python	DLMDSPPW01	Programming with Python	5	Written Assignment
			Advanced Mathematics	DLMDSAM01-01	Advanced Mathematics	5	Exam
	2. Semester	2. Semester	Advanced Statistics	DLMDSAS01	Advanced Statistics	5	Advanced Workbook
			Use Case and Evaluation	DLMDSUCE01	Use Case and Evaluation	5	Oral Assignment
			Project: Data Science Use Case	DLMDSUDSUC01	Project: Data Science Use Case	5	Portfolio
2. Semester	3. Semester	3. Semester	Advanced Research Methods	DLMARM01-01	Advanced Research Methods	5	Written Assignment
			Machine Learning	DLMDSML01	Machine Learning	5	Exam
			Deep Learning	DLMDSDL01	Deep Learning	5	Oral Assignment
			Seminar: Data Science and Society	DLMDSOSS01	Seminar: Data Science and Society	5	Research Essay
3. Semester	4. Semester	4. Semester	ELECTIVES A*		e.g. IT Project Management	10	
			ELECTIVES B*		e.g. Leadership	10	
			ELECTIVES C		Internship or modules to choose	5	
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4.	6.	6.	ELECTIVES C		Internship or modules to choose	5	
			Master Thesis	MMTHE01 MMTHE02	Master Thesis Thesis Defense	27 3	Master Thesis Presentation; Colloquium
Total			120 ECTS credits				

Information about electives C:
 Decide at the beginning between an internship at a company or modules from electives C. You will complete the internship with a practical reflection. If you decide on the modules from electives C, all modules from this area must be completed. Mixed forms of internship and compulsory electives C are not possible.

* Electives: Two modules per elective to choose from, each elective module can only be chosen once.

FT: Full-Time, 24 months
 PT I: Part-Time I, 36 months
 PT II: Part-Time II, 48 months

Electives A:	Electives B:	Electives C:
IT Project Management Project: Technical Project Planning Data Engineering Project: Data Engineering Business Intelligence I Project: Business Intelligence Seminar: Current Topics in Data Science Explainable and Interpretable Machine Learning Models	Leadership Strategic Management Global Brand Management Sales and Pricing International Consumer Behavior Applied Marketing Research Corporate Finance Advanced Corporate Finance Change Management & Organizational Development Innovation and Entrepreneurship NLP and Computer Vision Advanced NLP and Computer Vision Architectures of Self-Driving Vehicles Case Study: Localization, Motion Planning and Sensor Fusion Reinforcement Learning Inference and Causality Modelling in Automation Engineering Internet of Things Artificial Intelligence Project: AI Excellence with Creative Prompting Techniques Manufacturing Methods Industry 4.0 Project: Data Science for Industry 4.0 Advanced Requirements Engineering Seminar: Ethic & Societal Considerations in Data Management Seminar: Sustainability, Ethics, and Law in Machine Learning	Internship: Master AI, Machine Learning and Data Science or Cyber Security and Data Protection Big Data Technologies Software Engineering for Data Intensive Sciences Case Study: Model Engineering