CURRICULUM B.SC. DATA SCIENCE

DISTANCE LEARNING

Semester			Module	Course Code	Course	ECTS	Type of Exam
FT	PT I	PT II					
1. Semester	1. Semester	1. Semester	Introduction to Data Science	DLBDSIDS01	Introduction to Data Science	5	Oral Assignment
			Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook
			Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
		2. Semester	Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	Exam
			Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
	2. Semester		Statistics - Probability and Descriptive Statistics	DLBDSSPDS01	Statistics - Probability and Descriptive Statistics	5	Exam
2. Semester		3. Semester	Object Oriented and Functional Programming with Python	DLBDSOOFPP01	Object Oriented and Functional Programming with Python	5	Portfolio
			Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	Exam
			Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	Case Study
	3. Semester	4. Semester	Statistics - Inferential Statistics	DLBDSSIS01	Statistics - Inferential Statistics	5	Exam
			Database Modeling and Database Systems	DLBCSDMDS01	Database Modeling and Database Systems	5	Case Study
			Project: Build a Data Mart in SQL	DLBDSPBDM01	Project: Build a Data Mart in SQL	5	Portfolio
3. Semester		5. Semester	Business Intelligence	DLBCSEBI01	Business Intelligence	5	Exam
			Project: Business Intelligence	DLBCSEBI02	Project: Business Intelligence	5	Project Report
	4. Semester		Machine Learning - Supervised Learning	DLBDSMLSL01	Machine Learning - Supervised Learning	5	Exam
		6. Semester	Machine Learning - Unsupervised Learning and Feature Engineering	DLBDSMLUSL01	Machine Learning - Unsupervised Learning and Feature Engineering	5	Case Study
			Data Science Software Engineering	DLBDSDSSE01	Data Science Software Engineering	5	Exam
			Project: From Model to Production	DLBDSMTP01	Project: From Model to Production	5	Oral Project Report
4. Semester	5. Semester	7. Semester	Agile Project Management	DLBCSAPM01	Agile Project Management	5	Project Report
			Big Data Technologies	DLBDSBDT01	Big Data Technologies	5	Exam
			Data Quality and Data Wrangling	DLBDSDQDW01	Data Quality and Data Wrangling	5	Written Assignment
		8. Semester	Explorative Data Analysis and Visualization	DLBDSEDAV01	Explorative Data Analysis and Visualization	5	Written Assignment
			Cloud Computing	DLBDSCC01	Cloud Computing	5	Exam
	6. Semester		Seminar: Ethical Considerations in Data Science	DLBDSSECDS01	Seminar: Ethical Considerations in Data Science	5	Research Essay
5. Semester		9. Semester	Time Series Analysis	DLBDSTSA01	Time Series Analysis	5	Exam
			Neural Nets and Deep Learning	DLBDSNNDL01	Neural Nets and Deep Learning	5	Oral Assignment
			ELECTIVE A**		e.g. Data Engineer	10	
	7. Semester	10.	ELECTIVE B**		e.g. Automation and Robotics	10	
6. Semester			ELECTIVE III**		e.g. Data Analyst	10	
	8. Semester	11.	Introduction to Data Protection and Cyber Security	DLBCSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
			Model Engineering	DLBDSME01	Model Engineering	5	Case Study
		12.	Bachelor Thesis	DLBBT01 DLBBT02	Bachelor Thesis Colloquium	9 1	Bachelor Thesis Presentation: Colloquium
Total 180 ECTS							

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You've already planned out exactly how your course schedule should look? Wonderful! The IU offers you the flexibility to choose any module you like from any semester. You can work on a number of modules at the same time or one by one.

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At the beginning, choose modules that particularly interest you or that you can use directly in your job. This motivates you and gives you success right from the start.

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A module with two courses consists of an introduction and a consolidation. In order to successfully complete a module, you must successfully pass both the introduction and the consolidation of the module within the framework of a module examination.

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* Electives: Choose three modules, every elective module can only be chosen once.

FT: Full-Time, 36 months
PT I: Part-Time I, 48 months
PT II: Part-Time II, 72 months

Elective A:	Elective B:	Elective C:
Data Engineer	International Marketing and Branding	Data Engineer
Data Analyst	Applied Sales	Data Analyst
AI Specialist	Supply Chain Management	AI Specialist
	Smart Factory	International Marketing and Branding
	Automation and Robotics	Applied Sales
	Autonomous Driving	Supply Chain Management
		Smart Factory
		Automation and Robotics
		Autonomous Driving
		Studium Generale
		Foreign Language German
		Foreign Language Italian
		Foreign Language French
		Foreign Language Spanish

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You can find more information