

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	Workbook
			Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
			Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	Exam
			Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
2. Semester	2. Semester	3. Semester	Statistics - Probability and Descriptive Statistics	DLBDSPPDS01	Statistics - Probability and Descriptive Statistics	5	Exam
			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
			Statistics - Inferential Statistics	DLBDSIS01	Statistics - Inferential Statistics	5	Exam
3. Semester	4. Semester	5. Semester	Database Modeling and Database Systems	DLBDCSDMS01	Database Modeling and Database Systems	5	Case Study
			Project: Build a Data Mart in SQL	DLBDSPPDM01	Project: Build a Data Mart in SQL	5	Portfolio
			Business Intelligence	DLBCSEBI01	Business Intelligence	5	Exam
			Project: Business Intelligence	DLBCSEBI02	Project: Business Intelligence	5	Project Report
			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	Machine Learning - Unsupervised Learning and Feature Engineering	DLBDSMLUSL01	Machine Learning - Unsupervised Learning and Feature Engineering	5	Case Study
			Machine Learning - Supervised Learning	DLBDSMLS01	Machine Learning - Supervised Learning	5	Exam
			Agile Project Management	DLBCSAPM01	Agile Project Management	5	Project Report
			Explorative Data Analysis and Visualization	DLBDSEDA01	Explorative Data Analysis and Visualization	5	Written Assignment
			Big Data Technologies	DLBDSBDT01	Big Data Technologies	5	Exam
			Data Quality and Data Wrangling	DLBDSDDQW01	Data Quality and Data Wrangling	5	Written Assignment
5. Semester	6. Semester	8. Semester	Seminar: Ethical Considerations in Data Science	DLBDSSECD01	Seminar: Ethical Considerations in Data Science	5	Research Essay
			Cloud Computing	DLBDSGCC01	Cloud Computing	5	Exam
			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	
6. Semester	7. Semester	10. Semester	ELECTIVE B**		e.g. Automation and Robotics	10	
			ELECTIVE III**		e.g. Data Analyst	10	
			Introduction to Data Protection and IT Security	DLBCSIDPITS01	Introduction to Data Protection and IT Security	5	Exam
			Model Engineering	DLBDSME01	Model Engineering	5	Case Study
8. Semester	11. Semester	12. Semester	Bachelor Thesis	DLBBT01 DLBBT02	Bachelor Thesis Colloquium	9 1	Bachelor Thesis Presentation: Colloquium
			Total			180 ECTS	

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.

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.

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.

* 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 Data Analyst AI Specialist	International Marketing and Branding Applied Sales Supply Chain Management Financial Services Management Smart Factory Automation and Robotics Autonomous Driving	Data Engineer Data Analyst AI Specialist International Marketing and Branding Applied Sales Supply Chain Management Financial Services Management Smart Factory Automation and Robotics Autonomous Driving Foreign Language Italian Foreign Language French Foreign Language Spanish

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You can find more information about your degree program in the module handbook on our website.