

CURRICULUM B.SC. DATA SCIENCE; FULL-TIME (36 MONTHS)

Semester	Module	Course Code	Course Name	ECTS	
1. Semester 30 ECTS	Introduction to Data Science	DLBDSIDS01	Introduction to Data Science	5	OA
	Introduction to Academic Work	DLBCSIW01	Introduction to Academic Work	5	WB
	Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	E
	Collaborative Work	DLBCSCW01	Collaborative Work	5	OA
	Statistics - Probability and Descriptive Statistics	DLBDSPPDS01	Statistics - Probability and Descriptive Statistics	5	E
	Mathematics: Linear Algebra	DLBDSMFLA01	Mathematics: Linear Algebra	5	E
2. Semester 30 ECTS	Intercultural and Ethical Decision-Making	DLBCSIDM01	Intercultural and Ethical Decision-Making	5	WACS
	Statistics - Inferential Statistics	DLBDSIS01	Statistics - Inferential Statistics	5	E
	Object Oriented and Functional Programming with Python	DLBDSOFP01	Object Oriented and Functional Programming with Python	5	P
	Database Modeling and Database Systems	DLBCSDMS01	Database Modeling and Database Systems	5	WACS
	Project: Build a Data Mart in SQL	DLBDSBDM01	Project: Build a Data Mart in SQL	5	P
	Mathematics: Analysis	DLBDSMFC01	Mathematics: Analysis	5	E
3. Semester 30 ECTS	Business Intelligence	DLBCSEBI01	Business Intelligence	5	E
	Project: Business Intelligence	DLBCSEBI02	Project: Business Intelligence	5	WAPR
	Data Science Software Engineering	DLBDSSE01	Data Science Software Engineering	5	E
	Project: From Model to Production	DLBDSMTP01	Project: From Model to Production	5	OPR
	Machine Learning - Supervised Learning	DLBDSMLS01	Machine Learning - Supervised Learning	5	E
	Machine Learning - Unsupervised Learning and Feature Engineering	DLBDSMLUSL01	Machine Learning - Unsupervised Learning and Feature Engineering	5	WACS
4. Semester 30 ECTS	Agile Project Management	DLBCSAPM01	Agile Project Management	5	WAPR
	Big Data Technologies	DLBDSBDT01	Big Data Technologies	5	E
	Data Quality and Data Wrangling	DLBDSQDW01	Data Quality and Data Wrangling	5	WAWA
	Explorative Data Analysis and Visualization	DLBDEDAV01	Explorative Data Analysis and Visualization	5	WAWA
	Cloud Computing	DLBDSGCC01	Cloud Computing	5	E
	Seminar: Ethical Considerations in Data Science	DLBDSSECD01	Seminar: Ethical Considerations in Data Science	5	WARE
5. Semester 30 ECTS	Time Series Analysis	DLBDSTSA01	Time Series Analysis	5	E
	Neural Nets and Deep Learning	DLBDSNNDL01	Neural Nets and Deep Learning	5	OA
	ELECTIVE MODULE I **		e.g. Data Engineer	10	
	ELECTIVE MODULE II **		e.g. Automation and Robotics	10	
6. Semester 30 ECTS	ELECTIVE MODULE III **		e.g. Data Analyst	10	
	Introduction to Data Protection and IT Security	DLBCSIDPITS01	Introduction to Data Protection and IT Security	5	E
	Model Engineering	DLBDSME01	Model Engineering	5	WACS
	Bachelor Thesis	DLBBT01 DLBBT02	Bachelor Thesis Colloquium	9 1	WABT PC
Total 180 ECTS	GOAL: In order to stay on schedule, you should finish modules of about 30 Credit Points per semester!				

* All the modules that have been unlocked for the Online Exams can be found in CARE.

NOTE:
If the result of the recognition exam is still pending, you should not choose any courses that you have applied for.

E Exam (monthly at study centres or anytime via the online exam*)
OA Oral Assignment
OPR Oral Project Report
P Portfolio
PC Presentation: Colloquium
WB Workbook
WABT Written Assessment: Bachelor Thesis
WACS Written Assessment: Case Study
WAPR Written Assessment: Project Report
WARE Written Assessment: Research Essay
WAWA Written Assessment: Written Assignment

**** Electives
- Choose three modules**

Elective Module I:

- Data Engineer
- Data Analyst
- AI Specialist

Elective Module II:

- International Marketing and Branding
- Applied Sales
- Supply Chain Management
- Financial Services Management
- Smart Factory
- Automation and Robotics
- Autonomous Driving

Elective Module III:

- 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

NOTE:
Every elective module can only be chosen once.

You've already planned out exactly how your course schedule should look? Wonderful! You can work on a number of modules at the same time or one by one.

As you begin your studies, choose modules that are of particular interest to you or that you can use directly in your job. This motivates you and helps you succeed 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.