

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

ONLINE STUDIES

Semester	Module	Course Code	Course	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	DLBDSSPDS01	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	DLBDSSIS01	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	DLBDSPBDM01	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	DLBDSDSSE01	Data Science Software Engineering	5	E
	Project: From Model to Production	DLBDSMTP01	Project: From Model to Production	5	OPR
	Machine Learning - Unsupervised Learning and Feature Engineering	DLBDSMLUSL01	Machine Learning - Unsupervised Learning and Feature Engineering	5	WACS
	Machine Learning - Supervised Learning	DLBDSMLS01	Machine Learning - Supervised Learning	5	E
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	DLBDSEDA01	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 I**		e.g. Data Engineer	10	
	ELECTIVE II**		e.g. Automation and Robotics	10	
6. Semester 30 ECTS	ELECTIVE 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!				



You've already planned out exactly how your course schedule should look? Wonderful! The IUBH 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.

- 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.

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

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- 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