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MASTER (M.SC.) DATA SCIENCE

Data Science encompasses the generation of insights and value from raw data and is the core of digital businesses across all sectors. It's a field that requires a diverse mix of capabilities and skills—and never gets boring. Data informs key decisions, leads to optimisation of existing processes, and is the enabler of entirely new business models via data insights and automation. The IU bachelor in Data Science is an ideal opportunity to dive deep into the technical skills step-by-step—with a hands-on approach and expert guidance. Our professors make sure you gain the hacking skills, math and statistical knowledge, and domain expertise needed with the right balance of supervised and independent study. We put much emphasis on practical work throughout your degree, helping you to acquire a portfolio of projects to demonstrate your skills once you graduate. When you take a bachelor's degree in data science you join the data revolution that is leading major changes in businesses, economies, and societies today.



Degree

Master of Science (M.Sc.)



Study start

Online: Anytime

On Campus: October 2022*



Study model available

Online, or On Campus in Berlin



Duration

Online: 12, 18, or 24 months (60 ECTS);

24, 36 or 48 months (120 ECTS)

On Campus: 12 months (60 ECTS);

24 months (120 ECTS)



Ultimate flexibility

Our On Campus model means that...

- You can start your degree online for distance learning while taking care of visa issues and join us later in Germany to experience campus life. You say which semester you want to spend on campus or online.
- You want to go on a trip during your studies? No problem. You can study online at your own pace without missing any classes.



Fees

Online: From €121 per month (60 ECTS); from €98 per month (120 ECTS)

On Campus: From €649 per month (60 ECTS); from €499 per month (120 ECTS)



Credits

120 ECTS

*Subject to approval by the Thuringian Ministry of Economy, Science and Digital Society. We expect the Ministry's approval no later than the start of the studies. So far, the approval has always been on time.

Study Content (60 or 120 ECTS)

1. PRESENCE TIMEFRAME	2. PRESENCE TIMEFRAME	MODULE TITLE 60-ECTS-MODEL	SEMESTER	CREDITS (ECTS)	TEST TYPE
Oct/Nov/Dec	Apr/May/Jun	Use Case and Evaluation	1	5 ECTS	OA
Oct/Nov/Dec	Apr/May/Jun	Machine Learning		5 ECTS	E
Oct/Nov/Dec	Apr/May/Jun	Advanced Statistics		5 ECTS	AWB
Jan/Feb/Mar	Jun/Jul/Aug	Seminar: Current Topics in Data Science		5 ECTS	WARE
Jan/Feb/Mar	Jun/Jul/Aug	Deep Learning		5 ECTS	OA
Apr/May/Jun On Campus	Oct/Nov/Dec	Case Study: Model Engineering	2	5 ECTS	WACS
Online		Elective A		10 ECTS	
	Master Thesis	15 ECTS		WAMT & PC	
1. PRESENCE TIMEFRAME	2. PRESENCE TIMEFRAME	MODULE TITLE 120-ECTS-MODEL	SEMESTER	CREDITS (ECTS)	TEST TYPE
Oct/Nov/Dec	Apr/May/Jun	Advanced Mathematics	1	5 ECTS	E
Oct/Nov/Dec	Apr/May/Jun	Use Case and Evaluation		5 ECTS	OA
Oct/Nov/Dec	Apr/May/Jun	Programming with Python		5 ECTS	WAWA
Jan/Feb/Mar	Jul/Aug	Data Science		5 ECTS	E
Jan/Feb/Mar	Jul/Aug	Seminar: Data Science and Society		5 ECTS	WARE
Jan/Feb/Mar	Jul/Aug	Seminar: Current Topics in Data Science		5 ECTS	WARE
Apr/May/Jun	Oct/Nov/Dec	Machine Learning	2	5 ECTS	E
Apr/May/Jun	Oct/Nov/Dec	Big Data Technologies		5 ECTS	OA
Apr/May/Jun		Cyber Security and Data Protection		5 ECTS	OA
Jul/Aug	Jan/Feb/Mar	Advanced Statistics		5 ECTS	AWB
Jul/Aug	Jan/Feb/Mar	Project: Data Science Use Case		5 ECTS	PO
Jul/Aug	Jan/Feb/Mar	Deep Learning		5 ECTS	OA
Oct/Nov/Dec	Apr/May/Jun	Case Study: Model Engineering		3	5 ECTS
Oct/Nov/Dec	Apr/May/Jun	Software Engineering for Data Intensive Sciences	5 ECTS		OA
Online		Elective A	10 ECTS		
Online		Elective B	10 ECTS		
Online		Master Thesis	3	30 ECTS	WAMT & PC

AWB = Advanced Workbook, E = Exam, OA = Oral assignment, PC = Presentation: Colloquium, PO = Portfolio, WABT = Written assessment: Bachelor thesis, WACS = Written assessment: Case study, WAMT = Written assessment: Master thesis, WAPR = Written assessment: Project report, WARE = Written assessment: Research essay, WAWA = Written assessment: Written assignment, OPR = Oral project report

CHOOSE YOUR ELECTIVES

Choose one from the following electives.

Choose one elective for the 60-ECTS model Elective programmes:

- Applied Autonomous Driving
- Big Data und Software Engineering
- Smart Manufacturing Methods and

Electives on Campus:

Those elective modules where the minimum number of participants is not reached will not be offered on campus but only online (distance learning). However, IU ensures that there are always electives on campus.

Choose one elective for the 120-ECTS model from Electives A programmes:

- Business Analyst
- Data Engineer
- Data Science Specialist
- Technical Project Lead

Choose one elective for the 120-ECTS model from Electives B programmes:

- Applied Autonomous Driving
- Cognitive Computing
- Consumer Behaviour and Research
- Corporate Finance
- Industrial Automation and Internet of Things
- Innovate and Change
- Management
- Sales, Pricing and Brand Management
- Self Learning Systems