CURRICULUM M.Sc. COMPUTER SCIENCE

myStudies, 120 ECTS Credits

	Model 1: Programme Start October			Model 2: Programme Start April		
Month	**Courses**			**Courses**		
Oct	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection			
Nov						
Dec						
Jan	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics*			
Feb						
Mar						
Apr	Data Science	Big Data Technologies	Programming with Python	Data Science	Big Data Technologies	Programming with Python
May						
Jun	Lecture-Free Period					
Jul	Software Engineering: Software Processes	Project: Software Engineering*	Networks and Distributed Systems	Software Engineering: Software Processes	Project: Software Engineering*	Networks and Distributed Systems
Aug						
Sep	Lecture-Free Period					
Oct	Seminar: Current Topics in Computer Science		Project: Computer Science Project	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection
Nov						
Dec						
Jan	Elective A Course a		Elective A Course b	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics*
Feb						
Mar						
Apr	Elective B Course c		Elective B Course d	Seminar: Current Topics in Computer Science		Project: Computer Science Project
May						
Jun	Lecture-Free Period					
Jul	Master Thesis			Elective A Course a		Elective A Course b
Aug						
Sep	Lecture-Free Period					
Oct				Elective B Course c		Elective B Course d
Nov						
Dec						
Jan				Master Thesis		
Feb						
Mar						

INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

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Here you see the order in which you study your courses in presence depending on your personal study start in October or April. Each semester consists of two blocks. In each block, you attend classes on campus for usually three courses to deepen the content in direct exchange with your fellow students and lecturers.

You have lecture-free periods in both June and September, which you can spend reviewing and preparing for exams. Attending the courses on campus is mandatory and will be verified due to Visa regulations (not valid for DACH students).

Each block concludes with a two-week exam preparation phase. You can defer those exams to a later date that you do not want to take during this period. This way, your exam phases are always spread evenly over the year. Exceptions to this are courses that count as admission requirements for other courses.

Note: You can already start with your thesis earlier than the designated block, once you have met the minumum amount of credit points required to enter.

Elective A~

Advanced Cyber Security and Cryptology
- a) Seminar: Advanced Cyber Security*
- b) Cryptology*

Blockchain and Quantum Computing
- a) Blockchain
- b) Quantum Computing

IT Governance and Service Management
- a) IT Service Management
- b) IT Governance and Compliance

UI/UX Expert
- a) User Interface and Experience
- b) Project: Human Computer Interaction*

Internship

Elective B~

Business Analyst
- c) Business Intelligence I
- d) Project: Business Intelligence*

Data Engineer
- c) Data Engineering
- d) Project: Data Engineering*

Machine Learning and Deep Learning
- c) Machine Learning*
- d) Deep Learning*

Technical Project Lead
- c) IT Project Management
- d) Project: Technical Project Planning*

Use Case Identification and Evaluation for Analytical Applications
- c) Use Case and Evaluation
- d) Project: Data Science Use Case*

Internship

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~ Electives: Choose one module from the Elective A and one module from the Elective B.

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

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* This course comes with admissions requirements. Please consult the module handbook for more information.

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Attention: Attendance times may vary slightly depending on public holidays and the federal state holidays the campus is located in.

Course Information

Module	Course Code	Course	ECTS Credits	Type of Exam
Advanced Mathematics	DLMDSAM01-01	Advanced Mathematics	5	Exam
Algorithmics	DLMCSA01	Algorithmics	5	Exam
Cyber Security and Data Protection	DLMCSITSDP01	Cyber Security and Data Protection	5	Oral Assignment
Seminar: Computer Science and Society	DLMCSSCSAS01	Seminar: Computer Science and Society	5	Written Assessment: Research Essay
Artificial Intelligence	DLMAIAI01	Artificial Intelligence	5	Exam
Advanced Statistics*	DLMDSAS01	Advanced Statistics*	5	Advanced Workbook
Data Science	DLMBDSA01-01	Data Science	5	Exam
Big Data Technologies	DLMDSBDT01	Big Data Technologies	5	Oral Assignment
Programming with Python	DLMDSPWP01	Programming with Python	5	Written Assessment: Written Assignment
Software Engineering: Software Processes	DLMCSSESP01	Software Engineering: Software Processes	5	Oral Assignment
Project: Software Engineering*	DLMCSPSE01	Project: Software Engineering*	5	Portfolio
Networks and Distributed Systems	DLMCSNDS01	Networks and Distributed Systems	5	Exam
Seminar: Current Topics in Computer Science	DLMCSSCTCS01	Seminar: Current Topics in Computer Science	5	Written Assessment: Research Essay
Project: Computer Science Project	DLMCSPCSP01	Project: Computer Science Project	5	Portfolio
ELECTIVE A~		e.g. Advanced Cyber Security and Cryptology	10	
ELECTIVE B~		e.g. Data Engineer	10	
Master Thesis		Master Thesis	27	Master Thesis
		Thesis Defense	3	Presentation: Colloquium