

## CURRICULUM B.Sc. COMPUTER SCIENCE

myStudies, 180 ECTS Credits

Month	Model 1: Programme Start October			Model 2: Programme Start April			
	Courses			Courses			
Oct	Introduction to Computer Science	Object-oriented Programming with Java	Intercultural and Ethical Decision Making				
Nov							
Dec							
Jan	Mathematics I	Statistics: Probability and Descriptive Statistics	Collaborative Work				
Feb							
Mar							
Apr	Data Structures and Java Class Library	Mathematics II	Web Application Development	Introduction to Computer Science	Object-oriented Programming with Java	Intercultural and Ethical Decision Making	
May							
Jun	Lecture-Free Period						
Jul	Project: Java and Web Development*	Computer Architecture and Operating Systems*	Introduction to Academic Work	Mathematics I	Statistics: Probability and Descriptive Statistics	Collaborative Work	
Aug							
Sep	Lecture-Free Period						
Oct	Database Modeling and Database Systems	Project: Build a Data Mart in SQL	Requirements Engineering	Data Structures and Java Class Library	Mathematics II	Web Application Development	
Nov							
Dec							
Jan	Algorithms, Data Structures and Programming Languages	Operating Systems, Computer Networks, and Distributed Systems	Introduction to Programming with Python	Project: Java and Web Development*	Computer Architecture and Operating Systems*	Introduction to Academic Work	
Feb							
Mar							
Apr	IT Service Management	Project: IT Service Management	Theoretical Computer Science and Mathematical Logic	IT Service Management	Project: IT Service Management	Theoretical Computer Science and Mathematical Logic	
May							
Jun	Lecture-Free Period						
Jul	Software Quality Assurance	Introduction to Data Protection and Cyber Security	Cryptography	Software Quality Assurance	Introduction to Data Protection and Cyber Security	Cryptography	
Aug							
Sep	Lecture-Free Period						
Oct	Specification	Agile Project Management	Elective A Course a	Elective A Course b	Database Modeling and Database Systems	Project: Build a Data Mart in SQL	Requirements Engineering
Nov							
Dec							
Jan	IT Law	Project Software Engineering	Elective B Course c	Elective B Course d	Algorithms, Data Structures and Programming Languages	Operating Systems, Computer Networks, and Distributed Systems	Introduction to Programming with Python
Feb							
Mar							
Apr	Computer Science and Society	Seminar: Current Topics in Computer Science	Computer Science and Society	Seminar: Current Topics in Computer Science			
May							
Jun	Lecture-Free Period						
Jul	Bachelor Thesis			Bachelor Thesis			
Aug	Lecture-Free Period						
Sep	Lecture-Free Period						
Oct	Specification	Agile Project Management	Elective A Course a	Elective A Course b			
Nov							
Dec							
Jan	IT Law	Project Software Engineering	Elective B Course c	Elective B Course d			
Feb							
Mar							

### Elective A-

*Big Data and Cloud Technologies*

- a) Big Data Technologies\*
- b) Cloud Computing

*Business Intelligence*

- a) Business Intelligence
- b) Project: Business Intelligence

*IT Project and Architecture Management*

- a) IT Project Management
- b) IT Architecture Management

*Mobile Software Engineering*

- a) Mobile Software Engineering I
- b) Mobile Software Engineering II

*Salesforce Platform Development*

- a) Salesforce Platform App Builder
- b) Salesforce Platform Developer

*Salesforce Platform Management*

- a) Salesforce Fundamentals
- b) CRM with Salesforce Service Cloud

*Software Engineering with Python*

- a) Object oriented and functional programming in Python
- b) Data Science Software Engineering\*

### Elective B-

*Big Data and Cloud Technologies*

- c) Big Data Technologies\*
- d) Cloud Computing

*Business Intelligence*

- c) Business Intelligence
- d) Project: Business Intelligence

*IT Project and Architecture Management*

- c) IT Project Management
- d) IT Architecture Management

*Mobile Software Engineering*

- c) Mobile Software Engineering I
- d) Mobile Software Engineering II

*Salesforce Platform Development*

- c) Salesforce Platform App Builder
- d) Salesforce Platform Developer

*Salesforce Platform Management*

- c) Salesforce Fundamentals
- d) CRM with Salesforce Service Cloud

*Software Engineering with Python*

- c) Object oriented and functional programming in Python
- d) Data Science Software Engineering\*

*Mastering Prompts*

- c) Artificial Intelligence
- d) Project: AI Excellence with Creative Prompting Techniques

*Career Development*

- c) Personal Career Plan
- d) Personal Elevator Pitch

*Stadium Generale Internship*

### Course Information

Module	Course Code	Course	ECTS Credits	Type of Exam
Introduction to Computer Science	DLBCSCS01	Introduction to Computer Science	5	Exam
Object-oriented Programming with Java	DLBCSOOPJ01	Object-oriented Programming with Java	5	Exam
Intercultural and Ethical Decision Making	DLBCSDM01	Intercultural and Ethical Decision Making	5	Written Assessment: Case Study
Mathematics I	DLBCSMI01	Mathematics I	5	Exam
Statistics - Probability and Descriptive Statistics	DLBOSPD501-01	Statistics - Probability and Descriptive Statistics	5	Exam
Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
Data Structures and Java Class Library	DLBCSDSCL01	Data Structures and Java Class Library	5	Exam
Mathematics II	DLBCSMI02	Mathematics II	5	Exam
Web Application Development	DLBCSWAD01	Web Application Development	5	Advanced Workbook
Project: Java and Web Development*	DLBCSPJWD01	Project: Java and Web Development*	5	Portfolio
Computer Architecture and Operating Systems*	DLBCSCAO01	Computer Architecture and Operating Systems*	5	Exam
Introduction to Academic Work	DLBCSIWA01	Introduction to Academic Work	5	Basic Workbook
Database Modeling and Database Systems	DLBCSDMS01	Database Modeling and Database Systems	5	Exam
Project: Build a Data Mart in SQL	DLBDSPBDM01	Project: Build a Data Mart in SQL	5	Portfolio
Requirements Engineering	DLBCSRE01	Requirements Engineering	5	Written Assessment: Case Study
Algorithms, Data Structures and Programming Languages	DLBCSL01-01	Algorithms, Data Structures and Programming Languages	5	Exam/Advanced Workbook
IT Service Management	DLBCSITSM01-02	IT Service Management	5	Exam
Project: IT Service Management	DLBCSPITSM01	Project: IT Service Management	5	Written Assessment: Project Report
Operating Systems, Computer Networks, and Distributed Systems	DLBIBRV501_E	Operating Systems, Computer Networks, and Distributed Systems	5	Exam
Theoretical Computer Science and Mathematical Logic	DLBCSTCSML01	Theoretical Computer Science and Mathematical Logic	5	Exam
Introduction to Programming with Python	DLBDSPPWP01	Introduction to Programming with Python	5	Exam
Software Quality Assurance	DLBCSQAO01	Software Quality Assurance	5	Exam
Specification	DLBCSS01	Specification	5	Exam
Computer Science and Society	DLBCSCSA01	Computer Science and Society	5	Written Assessment: Written Assignment
Cryptography	DLBCSCT01-01	Cryptography	5	Written Assessment: Case Study
Introduction to Data Protection and Cyber Security	DLBCSIDPITS01	Introduction to Data Protection and Cyber Security	5	Exam
Agile Project Management	DLBCSAPM01	Agile Project Management	5	Written Assessment: Project Report
Seminar: Current Topics in Computer Science	DLBCSCTCS01	Seminar: Current Topics in Computer Science	5	Written Assessment: Research Essay
IT Law	DLBCSITL01	IT Law	5	Written Assessment: Case Study
Project Software Engineering	DLBCSPSE01	Project Software Engineering	5	Written Assessment: Project Report
ELECTIVE A-		e.g. Big Data and Cloud Technologies	10	
ELECTIVE B-		e.g. Business Intelligence	10	
Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis
		Thesis Defense	1	Presentation: Colloquium

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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.



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



If you are studying Model 2 you will have to start your Bachelor Thesis before completing your final courses.

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



- Electives: Choose one module with two courses from the Elective A and one module from the Elective B. Every elective module can only be chosen once.

Note: 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.

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