

**CURRICULUM B.Sc. SOFTWARE DEVELOPMENT**

myStudies, 180 ECTS

Month	Model 1: Programme Start October			Model 2: Programme Start April				
	Courses			Courses				
Oct	Requirements Engineering	Software Engineering Principles	Introduction to Academic Work					
Nov								
Dec								
Jan	IT Architecture Management	Collaborative Work	Algorithms, Data Structures, and Programming Languages					
Feb								
Mar								
Apr	Database Modeling and Database Systems	Object-oriented Programming with Java	IT Service Management	Software Engineering Principles	Database Modeling & Database Systems	Object-oriented Programming with Java	IT Service Management	
May								
Jun	Semester Break							
Jul	Software Quality Assurance	Data Structures and Java Class Library	Specification	Software Quality Assurance	Data Structures and Java Class Library	Specification		
Aug	Semester Break							
Sep	Semester Break							
Oct	Web Application Development	IT Infrastructure	Ethics and Sustainability in IT	Requirements Engineering		Introduction to Academic Work		
Nov								
Dec								
Jan	Techniques and methods for agile software development <sup>1</sup>	Project: Agile Software Engineering <sup>1</sup>	Programming Information Systems with Java EE	IT Architecture Management	Collaborative Work	Algorithms, Data Structures, and Programming Languages		
Feb								
Mar								
Apr	Mobile Software Engineering <sup>1</sup>	Project: Mobile Software Engineering <sup>1</sup>	IT Project Management	Mobile Software Engineering <sup>1</sup>	Project: Mobile Software Engineering <sup>1</sup>	IT Project Management		
May								
Jun	Semester Break							
Jul	Seminar: Software Engineering	Introduction to Data Protection and IT Security	Cloud Programming	Seminar: Software Engineering	Introduction to Data Protection and IT Security	Cloud Programming		
Aug	Semester Break							
Sep	Semester Break							
Oct	DevOps and Continuous Delivery	User Interface Design and Ergonomics	Elective (online)	Elective (online)	Web Application Development	IT Infrastructure	Ethics and Sustainability in IT	
Nov								
Dec								
Jan	Introduction to Programming with Python	Elective (online)	Elective (online)	Techniques and methods for agile software development <sup>1</sup>		Project: Agile Software Engineering <sup>1</sup>	Programming Information Systems with Java EE	
Feb								
Mar								
Apr	Project: Software Development	Elective (online)	Elective (online)	Project: Software Development	Elective (online)	Elective (online)		
May								
Jun	Semester Break							
Jul	Bachelor Thesis			Bachelor Thesis				
Aug	Semester Break							
Sep	Semester Break							
Oct				DevOps and Continuous Delivery	User Interface Design and Ergonomics	Elective (online)	Elective (online)	
Nov								
Dec								
Jan				Introduction to Programming with Python	Elective (online)	Elective (online)		
Feb								
Mar								



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 semester breaks in June and September. 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.

<sup>1</sup> These courses take place one after another within the same quarter.

Elective A*	Elective B*	Elective C*
<b>Mathematics Basics</b> Mathematics I Mathematics II  <b>Mathematics: Linear Algebra and Analysis</b> Mathematics: Linear Algebra Mathematics: Analysis  <b>Statistics Basics</b> Statistics - Probability and Descriptive Statistics Statistics - Inferential Statistics  <b>Data Science and object oriented programming with Python</b> Introduction to Data Science Object Oriented and Functional Programming with Python  <b>Internet of Things and Embedded Systems</b> Introduction to the Internet of Things Embedded Systems  <b>Robotics and Production Engineering</b> Introduction to Robotics Production Engineering  <b>International Management and Leadership</b> International Management Leadership 4.0  <b>International Marketing and Branding</b> International Marketing International Brand Management  <b>Applied Sales</b> Applied Sales I Applied Sales II  <b>Supply Chain Management</b> Supply Chain Management I Supply Chain Management II	<b>Mathematics Basics</b> Mathematics I Mathematics II  <b>Mathematics: Linear Algebra and Analysis</b> Mathematics: Linear Algebra Mathematics: Analysis  <b>Statistics Basics</b> Statistics - Probability and Descriptive Statistics Statistics - Inferential Statistics  <b>Data Science and object oriented programming with Python</b> Introduction to Data Science Object Oriented and Functional Programming with Python  <b>Internet of Things and Embedded Systems</b> Introduction to the Internet of Things Embedded Systems  <b>Robotics and Production Engineering</b> Introduction to Robotics Production Engineering  <b>International Management and Leadership</b> International Management Leadership 4.0  <b>International Marketing and Branding</b> International Marketing International Brand Management  <b>Applied Sales</b> Applied Sales I Applied Sales II  <b>Supply Chain Management</b> Supply Chain Management I Supply Chain Management II	<b>Business Intelligence</b> Business Intelligence Project: Business Intelligence  <b>Smart Devices</b> Smart Devices I Smart Devices II  <b>Smart Factory</b> Smart Factory I Smart Factory II  <b>Smart Mobility</b> Smart Mobility I Smart Mobility II  <b>Smart Services</b> Smart Services I Smart Services II  <b>IT Security Consulting</b> Technical and Operational IT Security Concepts Project: Configuration and Application of SIEM Systems  <b>Business Consulting</b> Business Consulting I Business Consulting II  <b>Augmented, Mixed and Virtual Reality</b> Augmented, Mixed and Virtual Reality X-Reality Project  <b>Digital Business</b> Digital Business Models Project: Design Thinking  <b>Infrastructure and Operations</b> IT Operations Management Project: IT Service Management  <b>Data Engineer</b> Data Engineering Project: Data Engineering  <b>User Experience</b> User Experience UX-Project  <b>AI Specialist</b> Artificial Intelligence Project: Artificial Intelligence  <b>Stadium Generale</b> Stadium Generale I Stadium Generale II  <b>Internship</b>

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

Note: The Electives are only offered in distance learning (online)

Module	Course Code	Course	ECTS	Type of Exam
Requirements Engineering	DLBCSRE01	Requirements Engineering	5	Exam
Software Engineering Principles	IGIS01_E	Software Engineering Principles	5	Exam
Introduction to Academic Work	DLBCSIAW01	Introduction to Academic Work	5	Basic Workbook
IT Architecture Management	DLBCSEITPAM02	IT Architecture Management	5	Exam
Collaborative Work	DLBCSCW01	Collaborative Work	5	Oral Assignment
Algorithms, Data Structures, and Programming Languages	DLBCL01	Algorithms, Data Structures, and Programming Languages	5	Exam
Database Modeling and Database Systems	DLBCSDMDS01	Database Modeling and Database Systems	5	Exam
Object-oriented Programming with Java	DLBCSOOPJ01	Object-oriented Programming with Java	5	Exam
IT Service Management	DLBCSITSM01-01	IT Service Management	5	Exam
Software Quality Assurance	DLBCSSQA01	Software Quality Assurance	5	Exam
Data Structures and Java Class Library	DLBCSDSJCL01	Data Structures and Java Class Library	5	Exam
Specification	DLBCSS01	Specification	5	Exam
Web Application Development	DLBCSWAD01	Web Application Development	5	Advanced Workbook
IT Infrastructure	DLBSEPTI01_E	IT Infrastructure	5	Exam
Ethics and Sustainability in IT	DLBSEPINT01_E	Ethics and Sustainability in IT	5	Case Study
Techniques and methods for agile software development	IWNFD01_E	Techniques and methods for agile software development	5	Exam
Project: Agile Software Engineering	IWNFD02_E	Project: Agile Software Engineering	5	Project Report
Programming Information Systems with Java EE	IPWA02-01_E	Programming Information Systems with Java EE	5	Exam
Mobile Software Engineering	IWMB01_E	Mobile Software Engineering	5	Exam
Project: Mobile Software Engineering	IWMB02-01_E	Project: Mobile Software Engineering	5	Portfolio
IT Project Management	DLBCSEITPAM01	IT Project Management	5	Exam
Seminar: Software Engineering	ISSE01_E	Seminar: Software Engineering	5	Research Essay
Introduction to Data Protection and IT Security	DLBCSIDPITS01	Introduction to Data Protection and IT Security	5	Exam
Cloud Programming	DLBSEPCP01_E	Cloud Programming	5	Portfolio
DevOps and Continuous Delivery	DLBSEPOCD01_E	DevOps and Continuous Delivery	5	Case Study
User Interface Design and Ergonomics	DLBMIUID01_E	User Interface Design and Ergonomics	5	Exam
Introduction to Programming with Python	DLBDSIPWP01	Introduction to Programming with Python	5	Exam
Project: Software Development	DLBSEPPSD01_E	Project: Software Development	5	Oral Project Report
ELECTIVE A*		e.g. Robotics and Production Engineering	10	
ELECTIVE B*		e.g. International Management and Leadership	10	
ELECTIVE C*		e.g. Smart Factory	10	
Bachelor Thesis		Bachelor Thesis	9	Bachelor Thesis
		Thesis Defense	1	Presentation: Colloquium