

Semester	Context Modules	Project Modules	Subject-Specific Modules				Mathematics and Natural Science Modules		
Semester 8		Bachelor Thesis: Computer Science DE/EN 12	Elective Module 4 4	Elective Module 6 4	Elective Module 8 4				
Semester 7	Elective Module 2	Project Thesis: Computer Science DE/EN 6	Elective Module 3 4	Elective Module 5 4	Elective Module 7 4	Optional Module 4			
Semester 6	Elective Module 2	Software Project 4 DE/EN 4	Software Engineering 2 DE 2	Computer Engineering 2 DE 4	Operating Systems DE 4	Elective Module 2 4			Physics Engines DE 2
Semester 5	Elective Module 2		Web Development DE 4	Computer Engineering 1 DE 4	IT Security DE 4	Machine Learning und Data Mining DE 4	Elective Module 1 4		
Semester 4	Elective Module Communication 2	Software Project 3 DE/EN 4	Software Engineering 1 DE 4	Communication Technology DE 4	System-oriented programming DE 4				Higher Mathematics for Computer Scientists 2 DE 4
Semester 3	Elective Module Communication 2		Databases DE 4		Algorithms and Data Structures DE 4		Stochastics and Statistics DE 4	Higher Mathematics for Computer Scientists 1 DE 4	Electronics and Digital Technology: Basic Principles DE 4
Semester 2	Communication Compet. Basic 2	Software Project 2 DE 4	Programming 2 DE 4		Theory of Computation DE 4		Analysis 2 DE 4	Linear Algebra DE 4	
Semester 1	Business Administration DE 2	Software Project 1 DE 4	Programming 1 DE 4		Information Theory and Coding DE 4		Analysis 1 DE 4	Discrete Mathematics DE 4	

Module Name
Language of Instruction
Credits

Overview of Computer Science elective modules

During your third and fourth year of study, you will choose eight of the following elective

Semester	Module	Language
Semester 6/8	Advanced Software Engineering 2	DE
	Artificial Intelligence 2	EN
Semester 6/8	Cloud Computing 2	EN
	Communication Networks and Services 2	EN
Semester 6/8	DoNet Technologie und Frameworks 2	DE
	Information Engineering 2	DE
Semester 6/8	Internet of Things 2	EN
	Microcomputer Systems 2	DE
Semester 6/8	Mobile Applications 2	DE
	Software and System Security 2	EN
Semester 6/8	Visual Computing 2	DE
	Digital Signal Processing 1	DE
Semester 6/8	Functional Programming	DE
	Game Development	DE
Semester 6/8	Multicore and Parallel Computing	EN
	Optimization Methods in Compute	DE
Semester 6/8	Robotic Applications Programming	EN
	Advanced Software Engineering 1	DE
Semester 5/7	Artificial Intelligence 1	EN
	Cloud Computing 1	EN
Semester 5/7	Communication Networks and Services 1	EN
	Digital Image Processing 1	EN
Semester 5/7	DotNet Technology and Frameworks 1	DE
	Information Engineering 1	DE
Semester 5/7	Internet of Things 1	EN
	Microcomputer Systems 1	DE
Semester 5/7	Mobile Applications 1	DE
	Software and System Security 1	EN
Semester 5/7	Visual Computing 1	DE
	Introduction to Quantum Informatics	DE
Semester 5/7	Embedded Software Engineering	DE
	Cryptography	DE
Semester 5/7	Natural User Interfaces	DE
	Operations Research	DE
Semester 5/7	Programming Languages	DE
	Scientific Computing	EN
Semester 5/7	Serverless and Cloud Application Development	EN
	System on Chip Design	EN

You have the opportunity to specialise by choosing from the elective modules, for example in the following areas:

- IT Security and Artificial Intelligence
- Software Engineering
- Information Engineering and Data Science
- Natural User Interfaces
- Cloud Computing and Applications
- Embedded Computing
- Internet of Things
- Communication Systems

It is also possible to establish an individual profile. The range of elective modules is constantly being revised and updated.