M.Sc. Computer Science

1st semester	
18 CP	compulsory area and compulsory elective area “Core Computer Science“
12 CP	compulsory elective area “Specialization“
2nd semester	
18 CP	compulsory area and compulsory elective area “Core Computer Science“
12 CP	compulsory elective area “Specialization“
3rd semester	
12 CP	compulsory area and compulsory elective area “Core Computer Science“
18 CP	compulsory elective area “Specialization“
4th semester	
30 CP	Master’s Thesis

What do you have to do for your degree in M.Sc. Computer Science?

You must complete 120 CP based on modules described in detail in our module catalog. The 120 CP must be achieved through

- the compulsory modules amounting to at least 60 CP (incl. Master's thesis),
- the compulsory elective area " Core Computer Science" of at least 18 CP,
  the compulsory elective area "Specialization" of at least 42 CP.
  The specializations " Core Computer Science", "Bioinformatics", "Human-Centred Computing" and "Information Systems" are offered. If you complete these 42 CP from a single specialization following the conditions defined in each case, the completed specialization can be shown on your Master's certificate.

The specializations

The specialization “Core Computer Science” provides students with analysis and design skills and a deep understanding of discrete mathematics and formal reasoning, which is essential for the formalization and solution of complex problems. Students are enabled to contribute to current research in the field of computer science with the theoretical and practical skills they have acquired.and to apply and question these skills from an ethical point of view.

Graduates of the “Bioinformatics” specialization can develop and apply computer science methods to biology questions to generate and test biological hypotheses. They have the basic biological expertise to pose relevant questions from biology and discuss them in interdisciplinary teams. They also have the methodological skills from mathematics, statistics, and computer science to formalize and solve data science problems from these questions.

The “Human-centred computing” specialization offers solid foundations in computer science with an explicit specialization in methods and applications that focus on people. The focus is on the practical application of computer science concepts such as machine learning / AI in areas where humans and machines interact with each other, such as chatbots, automatic processing of natural language or recommender systems.

The “Information Systems” specialization provides in-depth knowledge at the interface between computer science content, business management aspects and economic framework conditions. Students learn to analyze and evaluate operational and cross-organizational information systems and to design effective, secure systems in order to make optimal use of the potential of new technologies and processes such as machine learning. In addition, they acquire the skills to further develop and critically apply advanced methods of business informatics and to both analyze and present their results.