M.Sc. Computational and Data Science

Faculty: Faculty of Mathematics and Computer Science

Institutes: Institute of Computer Science, Institute of Applied Mathematics

Type: research-oriented

Language of instruction: German (German proficiency proof mandatory!)

Immatriculation: winter semester (October) and summer semester (April)

Application period:

summer term:	1 December - 15. January
winter term:	
International applicants	1 April - 15 July
German applicants	1 April - 15 September

Open to students with degrees in: computer science, mathematics, or similar disciplines (preferably in the natural sciences)

Programme summary: Computational Science plays an important role at the crossroads between applied mathematics, computer science, engineering, and natural science and has become a key technology for the future. We need strategic interdisciplinary approaches to high-performance computer systems in order to efficiently conduct simulations and analyze large data sets gathered in experiments. This is the objective of the field of computational science. It involves creating mathematical models, numerically processing these models, implementing the models in computer systems, and knowing how to apply comprehensive knowledge in relevant natural science disciplines.

Special features: Students will acquire skills according to the diverse areas of research at the Friedrich Schiller University of Jena: applied mathematics, computer science, and in several important areas of application of computational science (physics, materials sciences, chemistry, geology, geography, bioinformatics, neurology, and computer linguistics).

Career opportunities: Graduates are qualified for both practical and theoretical work in this field. They are capable of developing independent academic work as well as developing computer-aided methods in engineering, natural science, and linguistics.

Application requirements: Applicants must hold a bachelor's degree or equivalent with a grade point average of 2.5 (German and US systems) or better. Proficiency in the English language and an advanced programming language are required as well. Applicants should be interested in interdisciplinary contexts and have sufficient basic knowledge in the fields of computer science, mathematics, and natural science. Skills in linear algebra, calculus, and stochastics are essential and should be demonstrated through at least 21 credits of

coursework in these areas. Those with a degree in computer science should have earned 18 credits in programming, data structures and algorithms.

Application documents:

You have to send by post (please see also the step-by-step explanation)**:**

- Signed online application form "Application for Admission at the Friedrich Schiller University Jena to the Masters Programme" (generated automatically at the end of the online application)

You have to upload online (please see also the step-by-step explanation)**:**

- Motivation letter, in which you describe your intention to pursue graduate studies in the field of your choice (written in GERMAN)
- Curriculum vitae including complete contact information, educational background, and professional experience
  School education:
- Your secondary school leaving certificate (baccalauréat, high school diploma, etc.)
  University education:
- All previous university degrees (Bachelor of Arts, Bachelor of Science, etc.) if available before the application deadline - otherwise, please make a note of the anticipated date of issue
- The corresponding transcripts for each degree, including your cumulative grade point average (minimum requirement is the proof of credits of the term before last)
- For foreign Bachelor degrees: Proof of the grading system used by the university
  Language proficiency proof:
- German proficiency proof at the level DSH-2 (for details see German language requirements)
- Optionally: English proficiency proof
  Special requirements for international applicants:
- **APS certificate:** applicants with a **Chinese, Mongolian or Vietnamese degree**
- **College Entrance Examination:** Iran (since 2011 no college entrance examination, but pre-university year), Republic of Korea (Scholastic Ability Test)

Additional information on application documents and procedure is available here.

Contact persons for general questions (application/enrolment process , framework conditions):

Master Service Centre

Contact person for subject related questions:

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