



'Student's Paradise' Jena

Jena is a vibrant city in Central Germany, surrounded by the **scenic limestone mountains** of the Saale Valley. It hosts the Friedrich Schiller University (founded in 1558), and one of Germany's most dense communities of **high-level research institutions**. Of the more than 18,000 students who are enrolled in FSU's programmes, about 15 % have an international background. Strolling around the city you will **enjoy this diversity** of student life in every corner.

The city with a population of about 100,000 people has set itself the goal of being **one of the most student-friendly towns in Europe** – a 'student's paradise'. This means offering not only **outstanding study conditions** and excellent, service-oriented support, but also a **wide range of cultural and leisure activities**, an attractive range of pubs and restaurants, and **Thuringia's largest University Sports Association** with more than 80 disciplines.

➔ www.studentenparadies-jena.de



Master Service Centre

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Study programme
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Friedrich Schiller University Jena
www.uni-jena.de/en/start



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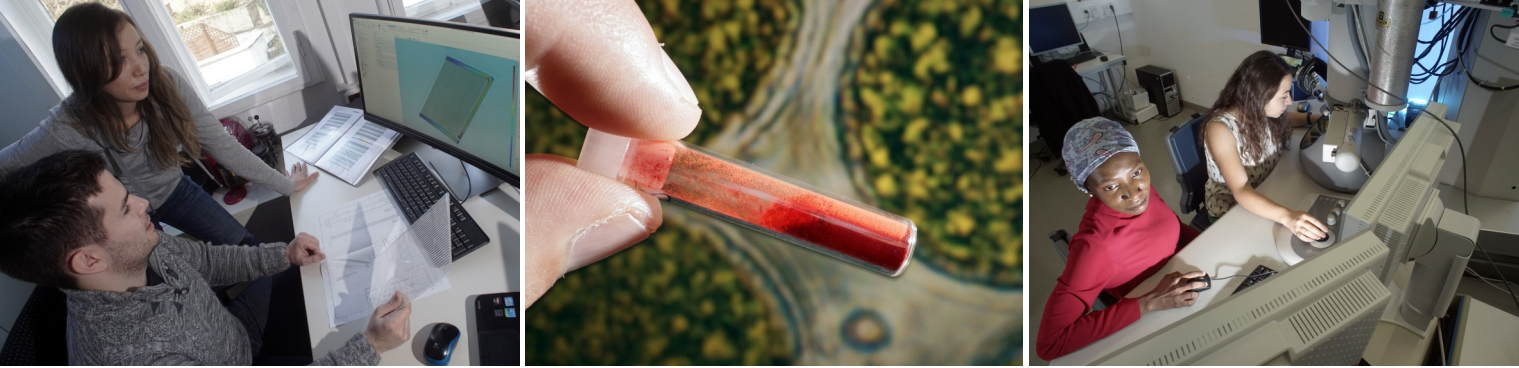
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FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA Faculty of Chemistry and Earth
Sciences



CHEMISTRY OF MATERIALS

Master of Science



"In the lectures the students gain deep insight into a scientific field at the interface of chemistry, physics and materials science. The focus on research-oriented practical training offers early, hands-on experience with high-level analytical as well as computational tools."

Dr Lenka Müller,
lecturer and scientist

Curriculum

For implementing innovative approaches and concepts **from molecules to materials and their applications** materials chemistry plays an increasingly important role across the field of natural sciences.

FSU's 2-year Master's programme „Chemistry of Materials“ (120 ECTS) is designed for students with a **Bachelor's degree** in either **chemistry, physics, materials sciences, any of the chemistry-related disciplines of engineering** or related fields. The course language is **English**. The study programme starts in the **winter semester** (October 1st) of each academic year.

The programme comprises three stages: adjustment, specialization and practical training. The **adjustment stage** provides students with the necessary academic background to embark on materials chemistry, depending on their individual Bachelor education. Basic German or project management skills can also be obtained during the first semester. The **specialization stage** provides students with fundamental courses as well as the opportunity to specialize in various fields of materials chemistry depending on personal interest. During the **practical training** students perform research laboratory work and a scientific internship either at research groups in Jena or at partner institutions abroad. At the end of the programme, students work towards a thesis on a current topic of research.

"With this M.Sc. programme we aim for highest quality, research-oriented training. The participating groups, international collaboration partners and strong links to industry create a first-class environment for interdisciplinary studies across the broader fields of materials chemistry and nanotechnology."

Prof. Lothar Wondraczek,
Programme Coordinator

Gained Skills & Competencies

- Chemistry „from molecules to materials“
- Nanotechnology, self-assembly & nanostructured materials
- Advanced computational tools
- Multi-scale simulation of materials problems
- Modern routes for material manufacture
- Advanced analytical tools, spectroscopy and microscopy
- Creativity, critical thinking and data analysis
- Basic German language skills, project management skills

Job Opportunities

The skills you gain in this study programme open doors to careers in many different technological fields. In particular, the programme targets the increasing demand for graduates in materials chemistry in **chemical and materials oriented industries, pharmaceutical companies, life sciences, aerospace or research centres** in developing novel materials and modern fabrication techniques.

The degree also enables admission into programmes of higher scientific qualification such as a **doctoral school** (Ph. D.) at universities or in collaboration with one of the many research centres in the region.

First Semester	Second Semester	Third Semester	Fourth Semester
Entrance and Consolidation	Specialization	Mobility	
Adjustment Modules in Physics and/or Chemistry and/or Materials Science depending on the Bachelor's degree (20 ECTS)	Functional Materials and Nanomaterials (10 ECTS)	Research Laboratory Work (15 ECTS)	Master's Thesis (30 ECTS)
Open Specialization (5 ECTS)	Materials Synthesis (10 ECTS)		
Multi-Scale Simulation and Computational Materials Science I	Open Specialization (5 ECTS)	Scientific Internship (15 ECTS)	
Advanced Characterization Tools I	Multi-Scale Simulation and Computational Materials Science II		
Soft Skills (5 ECTS)	Elective Module (5 ECTS)		
Organization, Project Management and Reporting in the Scientific Field	e.g. Nanobiotechnology, Polymer Synthesis, Batteries and Fuel Cells, Light-Matter Interaction, Simulation Methods etc.		
German as a Foreign Language			