

#### '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 live 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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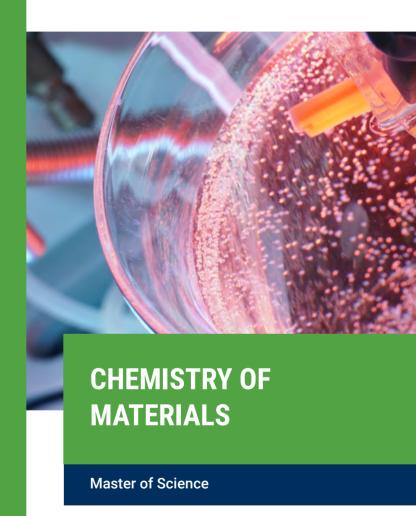
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#### MRPINT

Friedrich Schiller University Jena, Faculty of Chemistry and Earth Sciences, Humboldtstr. 11, 07743 Jena, Germany | Photos: University Photo Centre | Edited by: Prof. Lothar Wondraczek | Layout: Claudia Hilbert | Printed in May 2018

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









"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.

links to industry create a first-class environment for interdisciplinary studies across the broader fields of materials chemistry and nanotechnology."

# "With this M.Sc. programme we aim for highest quality, research-oriented trai-

# 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	Master's Thesis (30 ECTS)
Adjustment Modules in Physics and/or Chemistry and/or Materials Science depending on the Bachelor's degree (20 ECTS)	Functional Materials and Nano- materials (10 ECTS)	Research Laboratory Work (15 ECTS)	
	Materials Synthesis (10 ECTS)		
Open Specialization (5 ECTS)	Open Specialization (5 ECTS)		
Multi-Scale Simulation and Computational Materials Science I	Multi-Scale Simulation and Computational Materials Science II		
Advanced Characterization Tools I	Advanced Characterization Tools I	Scientific Internship (15 ECTS)	
Soft Skills (5 ECTS)	Elective Module (5 ECTS)		
Organization, Project Ma- nagement 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			

Prof. Lothar Wondraczek, Programme Coordinator