Master's Programme

Department of
Electrical Engineering and
Information Technology

Micro and Nano Systems

"The Master's degree Micro and Nano Systems is unique in Germany. With all courses held in English as the language of instruction. Graduates are well-prepared to start an international career in a future-oriented branch of business."

Prof. Dr. Thomas Geßner, Chair of Micro Technologies, Chemnitz University of Technology

CHEMNITZ UNIVERSITY
OF TECHNOLOGY

To know what is good. Study in Chemnitz.

What is Micro and Nano Systems all about?

The programme provides world-class, future-oriented education in design, manufacturing, characterization and integration of miniaturized components into engineering systems.

The interdisciplinary courses cover fundamental theoretical knowledge in physics and engineering but also application-oriented skills in developing innovative products, in business administration and management. Classes and practical training address current and prospective needs of industrial and academic research.

Career Opportunities

The possibilities for graduates are widespread, because of the high potential for innovation in nano and micro systems. The teaching language, English, offers degree holders excellent chances to become global actors, for example in the following areas:

- Automotive industry
- Semiconductor industry
- Chip industry
- Sensor industry
- Plant engineering
- Research and development at universities
- Employment at state-owned and private research facilities

"Studying Micro and Nano Systems was a very good choice for me. I am very passionate about the application-oriented character of the degree programme and the possibilities of research in the clean room facilities at the Center of Microtechnologies at the University Campus. Also, because of the internationally-recognised Master's degree, I can start my doctorate anywhere in the world."

Benchirouf Abderrahmane,
student of Micro and Nano Systems

Course Content

Compulsory Modules

1st and 2nd semester

- Microsystems design
- Systems design 1
- Semiconductor physics/ nano structures
- Micro and nano devices
- Smart sensor systems
- Reliability of micro and nano systems
- Technologies for micro and nano systems
- Advanced integrated circuit technology
- Materials in micro and nano technologies
- Network security

Elective Modules

2nd and 3rd semester

- Automotive sensor systems
- Integrated circuit design - transistor level
- Fields and waves
- Photonics
- Power semiconductor devices
- Microscopy and analysis on the nano scale
- Nanophysics - Physics of mesoscopic systems
- Surfaces, Thin films and Interfaces
- Micro optical systems
- Self-Organizing Networks

Module Research Project

3rd semester

Module Master's Thesis

4th semester

General Information

Requirements of admission: Bachelor's degree in Electrical Engineering or in a related field
Teaching language: English (Europ. B2, Unicert 2 or equivalent required)
Standard period of study: 4 semesters
Degree: Master of Science (M. Sc.)
Enrolment: Usually in the winter semester

Application

German students: Applications can be submitted via internet. Please contact the registrar's office if you wish the application form for study admission to be sent to you or if you require further information.

International students: Please use www.uni-assist.com for your application.

Further Information
Chemnitz University of Technology
Registrar's office
Straße der Nationen 62, room 043
09111 Chemnitz

✆ + 49 (0) 371 531-33333
studentensekretariat@tu-chemnitz.de

www.tu-chemnitz.de

Academic Advisory Service English Studies

Specialised course guidance you may find an overview over all specialised course advisors here

www.tu-chemnitz.de/studienberater

Student Advisory Service

Chemnitz University of Technology
Student Advisory Service
Straße der Nationen 62, room 046
09107 Chemnitz

✆ + 49 (0) 371 531-55555
studienberatung@tu-chemnitz.de

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