UNIVERSITY OF TECHNOLOGY
IN THE EUROPEAN CAPITAL OF CULTURE
CHEMNITZ

Faculty of Electrical Engineering and Information Technology
Master degree program
Micro and Nano Systems

"The Master degree program 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)

What characterizes the Master degree program Micro and Nano Systems?

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.

"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)

Degree Structure

Basic Modules (1st - 2nd semester)

- Microsystems design
- Design of Heterogeneous Systems
- Semiconductor physics / Nanostructures
- 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

Focal Modules (2nd - 3rd semester)

- Automotive Sensor Systems
- Integrated circuit design – transistor level
- Fields and Waves

- Design for Testability for Circuits and Systems 2
- Power semiconductor devices
- Microscopy and analysis on the nano scale
- Optoelectronic devices
- Surfaces, Thin films and Interfaces
- Micro optical systems
- Self-Organizing Networks
- Network Security

Module Research Project (3rd semester)

Module Master Thesis (4th semester)

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 and sensor industry
- Plant engineering
- Research and development at universities
- Employment at state-owned and private research facilities

General information

Faculty of Electrical Engineering and Information Technology
Admission requirements: in general vocationally-qualifying university bachelor's degree in Electrical Engineering, Information & Communication Technology or equivalent degree program with regard to content, English language proficiency at Level B2 and German language proficiency at level A2 according to the CEFR
Standard period of study: 4 semesters
Degree: Master of Science (M.Sc.)
Start of the degree program: usually winter semester
Language of tuition: English

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Further information

Studying in Chemnitz

www.study-in-chemnitz.com

Online application:

www.tu-chemnitz.de/studienbewerbung

FAQ - Frequently Asked Questions

www.tu-chemnitz.de/studierendenservice/faq.php.en

Student Service Point

Straße der Nationen 62, room A10.043
+49 371 531-12125
admission@tu-chemnitz.de

Central Course Guidance Service

Straße der Nationen 62, room A10.046
+49 371 531-55555
studienberatung@tu-chemnitz.de

Academic Course Guidance

For an overview of all academic counsellors
www.tu-chemnitz.de/studienberater

Postal address

Technische Universität Chemnitz
Studierendenservice und Zentrale Studienberatung
09107 Chemnitz

For reasons of readability, the masculine gender was mostly used. However, the terms, titles and functions equally refer to all genders.

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