

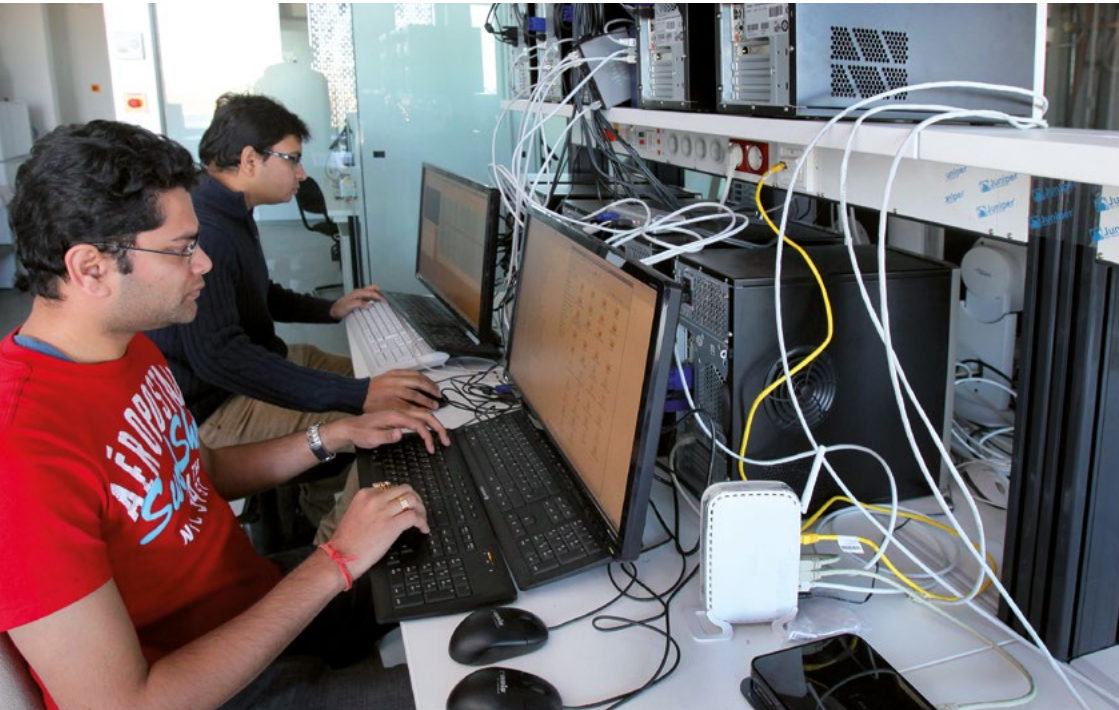


UNIVERSITY OF TECHNOLOGY  
IN THE EUROPEAN CAPITAL OF CULTURE  
CHEMNITZ

# Information and Communication Systems

Faculty of Electrical Engineering and Information Technology

Master degree program



“Information and communication technologies have large impact on major industries. Besides in the classical fields of telecommunications and networking ICT will provide the base technology for several new areas like smart grids, building automation, medical engineering, remote sensing, traffic control and ambient assisted living. Thus, graduates of the ICS Master Programme are well-prepared to start a career in a wide range of businesses.”

Prof. Dr. Thomas Bauschert, Chair for Communication Networks



## What characterizes the Master degree program Information and Communication Systems?

This English-language Master's Programme covers a wide range of modules with the focus on future challenges of the increasingly globalised field of Information and Communication Systems. Digitisation and the increasing penetration of private and occupational areas of life by Information and Communication technologies will extensively shape the information society of the future. Students at Chemnitz University of Technology are qualified to solve engineering problems and to work in research and development as well as in management positions. Focal points of the degree course are Communications Engineering, Microwave Engineering and Photonics, Circuit and System Design, Communication Networks, Digital Signal Processing and Circuit Theory.



“In today's world, there is practically no engineering application that does not contain elements of Information Systems and Technology. The universal scope of this field makes it an indispensable and futuristic branch of electrical engineering. The new Master's Programme, the university, and the city of Chemnitz – a city with an illustrious technological heritage – together offer a most promising academic and cultural experience with unparalleled value-for-investment. We look forward to processing your application.”

Prof. Dr. Madhukar Chandra, Head of Chair

## Degree Structure

Lectures are given by professors with a sound background from industry and research who formerly worked at Nokia, Siemens Networks, Loewe, Alcatel-Lucent, Daimler and the German Aerospace Center.

### Basic Modules (1st - 3rd semester)

- Multisensorial Systems
- Mobile and Car-to-X Communication
- Mobile Localization and Navigation
- Advanced Communications Engineering
- Basics of Microwave and Photonic Systems
- Optical Communications and Networks
- Design of Digital Systems
- Digital Components and Architectures for Data Processing
- Next Generation Internet
- Simulation and Performance Analysis of Communication Networks
- Network Planning
- Advanced Mobile Networks
- Digital Signal Processing
- Computer Vision
- Wireless Broadband Data Reception

### Focal Modules (1st - 3rd semester)

- Image Processing and Pattern Recognition
- Digital Signal Processing
- Video Signal Processing
- Programming and Data Analysis
- Aerospace Remote Sensing
- Antennas and Wave Propagation
- Design of Heterogeneous Systems
- Test of Digital and Mixed-Signal Circuits
- Verification of Digital Systems
- Hardware Acceleration using FPGAs
- IP Networking and Software Defined Networking Lab
- Communication Networks Seminar
- Network Security
- Self-Organizing Networks
- Optimization for Non-Mathematicians
- Management Accounting
- Communication and Leadership

### Module Research Project (3rd semester)

### Module Master Thesis (4th semester)

## Career Opportunities

Graduates are offered excellent career opportunities both in academia and in the global Information and Communication industry. Also occupational activities in management are possible.

Graduates are well prepared for working at:

- communication equipment manufacturers
- network operators
- consulting companies
- research institutes
- automotive companies
- aerospace companies

## GENERAL INFORMATION

Admission requirements: in general vocationally-qualifying university bachelor's degree in Electrical Engineering and Information 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

### FURTHER INFORMATION:

#### Studying in Chemnitz

[www.study-in-chemnitz.com](http://www.study-in-chemnitz.com)

#### Online application:

[www.tu-chemnitz.de/studienbewerbung](http://www.tu-chemnitz.de/studienbewerbung)

#### FAQ - Frequently Asked Questions

[www.tu-chemnitz.de/studierendenservice/faq.php.en](http://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](mailto:admission@tu-chemnitz.de)

#### Central Course Guidance Service

Straße der Nationen 62, room A10.046

+49 371 531-55555

[studienberatung@tu-chemnitz.de](mailto:studienberatung@tu-chemnitz.de)

#### Academic Course Guidance

For an overview of all academic counsellors

[www.tu-chemnitz.de/studienberater](http://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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