Deutscher Akademischer Austauschdienst
German Academic Exchange Service



Table of Contents

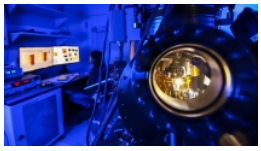
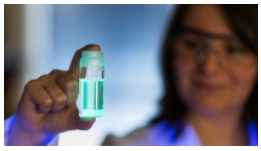
Master's degree **2**

Advanced Functional Materials • Chemnitz University of Technology • Chemnitz 2

Master's degree

Advanced Functional Materials

Chemnitz University of Technology • Chemnitz




Overview

Degree	Master of Science (MSc)
Teaching language	• English
Languages	Obligatory courses are held in English. Additional elective courses that are taught in German are available.
Full-time / part-time	• full-time
Programme duration	4 semesters
Beginning	Winter semester
Application deadline	15 July for the following winter semester
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	The advanced chemical and physical aspects of modern materials and the transfer of skills in synthesis, development, analysis and manufacturing of functional materials are the key issues of the Master's degree programme in Advanced Functional Materials. The interdisciplinary programme is offered by the Faculty of Natural Sciences and is based on courses in materials chemistry and materials physics. The research-oriented extension and intensification of physical and chemical knowledge is completed by advanced courses in modern research fields including the lab-oriented modules, which include a research project and the Master's thesis.

Course Details

Course organisation

Mandatory Basic Modules
The mandatory basic modules (first to third semester) are taught in English.

Materials Chemistry

- Synthetic Methods in Chemistry
- Analytical Methods
- Sustainable Production Technologies

Materials Physics

- Advanced Surfaces, Thin Films and Interfaces
- Semiconductor Physics – Nanostructures
- Photovoltaics with Nanotechnology

Advanced Functional Materials

- Facets of Materials Science
- Research Project (third semester)

Soft skills

- "Deutsch als Fremdsprache" (German as a Foreign Language) I and II (A1/A2)*

*for non-native speakers only

Compulsory Elective Modules (first to third semester)
The following compulsory elective modules are taught in English:

- Materials in micro and nano technologies
- Microscopy and spectroscopy on the atomic and molecular scale
- Complex materials for manufacturing
- Challenges for Future Energy Concepts - Chemical Energy Conversion
- Crystallography
- Surface and Interface Engineering
- Magnetism
- Light Emitting Diodes (LEDs), Laser Diodes, and Optical Sensor Systems
- Nanophysics – Physics of mesoscopic systems

The following compulsory elective modules are taught in German only:

- Kolloide
- Polymermaterialien
- Werkstoffkunde
- Prozesse und Produkte der chemischen Industrie
- Praxis der elektrochemischen Materialwissenschaften
- Funktionsmaterialien
- Oberflächen- und Kolloidanalytik
- Praktikum zu Oberflächen- und Kolloidanalytik
- Heterogene Katalyse
- Polymerphysik
- Experimentalphysik – Komplexe Materialien
- Grenzflächendesign für Faserkunststoffverbunde
- Elektrochemisches Beschichten
- Werkstoffwissenschaft – Strukturbildungsprozesse

Non-native speakers of English can choose one of the following modules if the "Deutsch als Fremdsprache I" module or the "Deutsch als Fremdsprache II" module have not been attended:

- Englisch in Studien- und Fachkommunikation I
- Englisch in Studien- und Fachkommunikation III

Non-native speakers of German can choose one of the following modules if the "Deutsch als Fremdsprache I" module or the "Deutsch als Fremdsprache II" module have not been attended:

- Deutsch als Fremdsprache III (level B1)

- Deutsch als Fremdsprache IV (level B2)
- Deutsch als Fremdsprache – Fachkommunikation I (level C1)

Course-specific, integrated German language courses	Yes
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	All students have to pay a semester contribution of approx. 280 EUR. This fee also covers the semester ticket, which permits you to use buses and trams in Chemnitz during the semester. International students will receive the bank account details after admission with which they can transfer the semester contribution. However, the fee can also be paid after arrival in Chemnitz (by German bank card or transfer).
Costs of living	Approx. 934 EUR per month to cover personal expenses
Funding opportunities within the university	Yes
Description of the above-mentioned funding opportunities within the university	Incoming students can apply for different funding opportunities via the International Office of Chemnitz University of Technology. https://www.tu-chemnitz.de/international/incoming/stipendien/index.php.en

Requirements / Registration

Academic admission requirements	In general, a university Bachelor's degree in Physics, Chemistry or Materials Science Degrees from universities other than Chemnitz University of Technology are to be checked by a board of examiners on the basis of the record of study. The applicant is to provide this record of study. The applicants must have basic lab experience.
Language requirements	German: Courses to obtain the required level of German language (A2 by the end of the third semester) are included within the curriculum for non-native speakers. Students providing a certificate of A2 level (CEFR) may choose advanced language courses or subject studies. English: • IELTS from 5.5 • TOEFL iBT (Internet-based Test): min. 72 points • TOEFL PBT: min. 543 points • TOEFL ITP Level 1: min. 543 points • Cambridge Preliminary English Test + Result Distinction (PET) • Cambridge First Certificate in English: Grade B or C (FCE)

	• Cambridge English: Business Vantage (BEC Vantage), Legal (ILEC), Financial (ICFE) • Cambridge IGCSE: 1st or 2nd Language on average B2 • Pearson PTE Academic: min. 59 points • TOEIC: Listening and Reading Test min. 785 points, Speaking Test min. 160 points, Writing Test min. 150 points • telc B2 • UNIcert II • Study in English studies • completed degree with English as the language of instruction • proof of professional qualification as interpreter/translator Applicants from countries with English as official/educational or native language are not required to submit a proof of English language proficiency within their application.
Application deadline	15 July for the following winter semester
Submit application to	Technische Universität Chemnitz c/o uni-assist e.V. 11507 Berlin Germany Applications may be submitted online at https://www.uni-assist.de/en/. However, please note that it is mandatory to submit officially attested application documents of your educational certificates by post to uni-assist by the application deadline.

Services

Possibility of finding part-time employment	Students can find offers for part-time jobs, work placements etc. on the job portal offered by the Career Service of Chemnitz University of Technology: https://www.tu-chemnitz.de/career-service/jobboerse/.
Accommodation	The "Studentenwerk" Chemnitz-Zwickau runs several student residences. International students can apply for a single room in one of the residences. The prices depend on the size and furnishings of the room and vary between 210 EUR and 320 EUR: https://www.swcz.de/en/student-housing/our-halls-of-residence/.
Career advisory service	The Career Service of Chemnitz University of Technology supports students during their studies as well as graduates entering their professional life. The Career Service provides a platform for companies and institutions to present themselves: https://www.tu-chemnitz.de/career-service/index.php.en.
Support for international students and doctoral candidates	• Tutors • Buddy programme



Eleven reasons to study in Chemnitz

Eleven reasons for you to study in Chemnitz

» more: https://www.youtube.com/watch?v=Nhglj76g_MQ

Chemnitz University of Technology



The "Böttcher-Bau" is the oldest building of Chemnitz University of Technology.

© Steve Conrad Fotografie

Come study in the **European Capital of Culture 2025**!

Approximately **9,500 students** from about **90 countries** study at Chemnitz University of Technology in eight faculties and at the Centre for Teacher Education. International students are supported by the International Office.

Due to the reasonably priced dormitory rooms directly on campus, the distances between accommodation, lecture buildings, cafeteria and student clubs are short. So if you feel like studying at a cosmopolitan university, apply to study in Chemnitz.

Chemnitz University of Technology is a **cosmopolitan university** with strong regional, national and international networks. It is also home to about **2,300 academic and administrative employees**. It is thus the third largest university in Saxony. In terms of the proportion of foreign students, Chemnitz University of Technology occupies a top position among state universities nationwide. Chemnitz, the **European Capital of Culture 2025**, can point to many years of positive development in gross domestic product and a high proportion of highly qualified employees. It also owes this to its university, as Chemnitz University of Technology is the **intellectual heart of the city** and has developed into an **internationally visible research location for future value creation processes and sustainable future security**

The university combines **engineering and natural sciences** as well as **mathematics** with **humanities, social sciences and economics**. At the junctures, **unique degree programmes** are created alongside pioneering research projects. These include, for example, sensor technology and cognitive psychology, computer science for humanities and social scientists, and the degree programme MINT: Mathematics, Computer Science and Natural Sciences with Applications in Technology. As of the winter semester 2023/2024, the university has a total of **95 degree programmes** offered. A particular hallmark is the high degree of interdisciplinarity.

Chemnitz University of Technology considers **excellent teaching** to be an essential basis for additional lively scientific development of the research landscape as well as for the transfer of new questions, findings and methods to the economy and society. The university has created the necessary framework for this in its **"Teaching Mission Statement"**. Thus, teachers and students jointly shape the teaching and learning conditions at Chemnitz University of Technology in the context of internationality and regionality. The further development of study programmes is regularly initiated by the **TUCpanel student survey** as well as by **accreditation procedures**. This makes student success factors visible, which ultimately helps **more students to successfully complete their studies in the standard period of study**

With almost **30 percent international students** and numerous international researchers with **cooperative relationships to 130 universities on every continen**t, Chemnitz University of Technology is one of the most internationally oriented universities in Germany. As a result of numerous exchange programmes, you can meet students from Chemnitz all over the world. It has been pursuing this path for many years with increasing dynamism and at a professional level, as evidenced by the **seal of the HRK Re-Audit Internationalisation of Universities**

University location

Chemnitz, European Capital of Culture in 2025, the third largest city in Saxony, looks back proudly on a history of innovation with which few other cities can hope to compete. With the advent of the Industrial Revolution, Chemnitz quickly developed into the leading centre of mechanical engineering in Germany. This great tradition has continued uninterrupted to the present day, even through the period in which the city was known as Karl-Marx-Stadt. Today, Chemnitz (population 245,000) is well on its way to becoming one of the most important high-tech locations in Germany. But Chemnitz has much more to offer than just science and technology. Amongst other things, there is the Opera House (built in 1909), the King Albert Museum with its excellent collection of German Expressionist paintings, the Natural History Museum and the German Board Games Museum, the only one of its kind in Germany. And in the Kassberg Quarter, you can see the largest intact area of Art Nouveau architecture in Germany.

Contact

Chemnitz University of Technology
Faculty of Natural Sciences
Institute of Chemistry
Polymer Chemistry

Dr Andreas Seifert

Straße der Nationen 62
09111 Chemnitz

Tel. +49 37153135021
studienberatung-afm@tu-chemnitz.de
Course website: https://www.tu-chemnitz.de/chemie/ma_afm.html.en

https://de-de.facebook.com/TUChemnitz

https://twitter.com/TUChemnitz

https://www.linkedin.com/school/technische-universitat-chemnitz/

https://www.instagram.com/tuchemnitz/

https://www.youtube.com/user/tuchemnitz

Last update 29.03.2024 14:47:14

International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

Editor
DAAD - Deutscher Akademischer Austauschdienst e.V.
German Academic Exchange Service
Section K23 – Information on Studying in Germany
Kennedyallee 50
D-53175 Bonn
www.daad.de

GATE-Germany
Consortium for International Higher Education Marketing
www.gate-germany.de

Disclaimer
The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and “Language and Short Courses in Germany”.

The publication is funded by the German Federal Ministry of Education and Research and by contributions of the participating German institutions of higher education.

