



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



Advanced Manufacturing

Chemnitz University of Technology • Chemnitz



Overview

Degree	Master of Science in Advanced Manufacturing
Teaching language	<ul style="list-style-type: none">English
Languages	Courses are taught in English (100%).
Full-time / part-time	<ul style="list-style-type: none">full-time
Mode of study	Less than 50% online
Programme duration	4 semesters
Beginning	Winter semester
Additional information on beginning, duration and mode of study	We provide individual support for students experiencing visa issues. Online courses are offered for first-semester students, enabling them to already begin their studies from their homes.
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	<p>By participating in our international Master's programme, you will gain expertise in latest and future manufacturing technologies, life cycle assessment, resource efficient supply chain management and human-machine-collaboration in future manufacturing processes. Manufacturing site planning, printed electronics and composite materials are elective courses.</p> <p>Furthermore, working on your soft skills will help you make responsible decisions based on</p>

multiple perspectives, e.g. political developments, geographical constellations and regional economics. At Chemnitz University of Technology, you will benefit from a long-established tradition of excellent research and teaching in mechanical engineering, natural sciences, human factors and economics. During the integrated internships, you will build strong ties with innovation leaders in industry and business.

By its four profile areas, which include "Hybrid Technologies", "Printed Functionalities", "Work Design and Sustainability Management" and "Production Systems", the degree programme is oriented towards the research key areas of Chemnitz University of Technology in a transdisciplinary, faculty-overarching and future-oriented way. In addition, the students also acquire intercultural competencies due to the international and heterogeneous character of the degree programme.

Course Details

Course organisation

In the Advanced Manufacturing study programme, fundamental mathematical basic knowledge for the further studies are imparted in a block seminar at the beginning of the study. Additionally, students get a first overview of different future-oriented manufacturing methods and bring them in correlation with current questions regarding the availability of resources. The supplementary modules in research methods and soft skills enable the students to the methodological preparation for independent scientific works. Within the profile modules, the students have the choice between four profile areas for deepening their scientific knowledge. According to the individual interests, two additional modules may be taken from other profiles within the supplementary modules elective courses. Based on the scientific and methodological abilities acquired, the second-year students work on their own research topics in an academic or industrial context, and they complete their studies with the Master's thesis.

The profiles to choose from are Hybrid Technologies, Printed Functionalities, Work Design and Sustainability Management, and Production Systems.

The structure of the programme is as follows:

- Basic Modules Advanced Manufacturing (semesters 1 and 2)
- Modules Research Methods and Soft Skills (semesters 1 and 2)
- Profile Modules (semesters 1 to 3)
- Elective Courses (semesters 2 to 3)
- Research Project / Internship (semester 3)
- Master's thesis (semester 4)

A Diploma supplement will be issued

Yes

Certificates for specific modules are awarded

Yes

International elements

- Study trips
- Projects with partners in Germany and abroad

Integrated internships

Internships are not mandatory but recommended. Time for doing an internship is specifically reserved in the schedule. Partners from university and industry will support you.

Special promotion / funding of the programme

- DFG (e.g. Research Training Groups)
- Other (e.g. state level)

Course-specific, integrated German language courses Yes

Course-specific, integrated English language courses No

Online learning

Pace of course Instructor-led (Specific due dates for lectures/assignments/exams)

Phase(s) of attendance in Germany (applies to the entire programme) Yes, compulsory

Types of online learning elements

- Access to databases with study material
- Message Boards
- Online sessions
- Online study material provided by institution
- Online tutorials
- Video learning (Pre-recorded videos, Vlogs, Video-Podcasts)
- Wikis

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 The admission requirements for the Master's programme in Advanced Manufacturing are fulfilled by students who have acquired a first professional qualification in an engineering or natural science

degree programme and, additionally, in-depth scientific knowledge in the following fields:

1. Special mathematical methods of engineering, totalling at least 18 ECTS and including the topics of Fourier transforms, regression calculation, probability and mathematical statistics
2. Scientific and engineering data processing, totalling at least 12 ECTS and including the topics of CAD, CAS, numerical simulation and data acquisition as well as multiphysics simulation and practical experience
3. Metrology and control engineering, totalling at least 8 ECTS and including the topics of sensors, actuators and digital methods of manufacturing
4. New materials for engineering, totalling at least 8 ECTS and including the topics of polymers, metals, composites, matrix systems and functional properties
5. In-depth theoretical basics of engineering, in a total of at least 12 ECTS and including the subjects of engineering mechanics, design, manufacturing and fluid dynamics
6. Resource-efficient manufacturing concepts, totalling at least 8 ECTS and including the topics of technical and natural cycles and networks, system optimisation and energy concepts
7. English language proficiency at level B2 according to the Common European Framework of Reference for Languages (details below)

The Examination Board decides on the admission of the applicants.

Language requirements

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 oder 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.

German language proficiency:

From winter semester 2024/25 German language proficiency A1 is **compulsory!**

Applicants applying for a degree programme offered in English language need to show a German language proof at minimum level A1 at the time of application. Until the end of their third study semester at Chemnitz University of Technology, they have to submit a German language proof at level A2. German language courses at level A2 will be offered at our university. Language certificates for German language proof at level A1 are only accepted from the Goethe-Institut or ÖSD. German language attendance certificates will not be accepted.

It is also possible to take an online course before the semester starts. The course takes place from 9-27 September 2024 (Monday to Thursday). The course starts at 10 am and ends after five lessons at 2:15 pm. There are no lessons on Fridays.

We will use the online access via the corresponding online teaching course (<https://bildungsportal.sachsen.de/opal/auth/RepositoryEntry/41172664321/BusinessGroup/432775415>).

Technical equipment and

Internet access and a device for accessing the online learning materials with a larger screen (than a

programmes mobile phone) is recommended.

Application deadline 15 July for the following winter semester

Submit application to Applications may be submitted online at <https://www.uni-assist.de/en>.

It is not necessary to send certified copies. Please note that uni-assist must receive all application documents 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

- Buddy programme
- Welcome event



©TU Chemnitz

Chintan Malani
MSc

I am a student in the Advanced Manufacturing Master's programme at the TU Chemnitz. This programme provides a large selection of courses in the Master's programme, which helps me to put together individual modules according to my own interests and ideas for my future professional life. The experience that I gained from practical academic training is providing me with a good preparation for the future.



Eleven Reasons to Study in Chemnitz

Eleven reasons for your studies in Chemnitz

» more:

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

Chemnitz University of Technology



Main building, TU Chemnitz

© TU Chemnitz

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 continent**, 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.

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Disclaimer

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