

# **Chemnitz University of Technology**



www.tu-chemnitz.de



## **Chemnitz – a Prosperous City**



# 2025: Chemnitz – The European Capital of Culture ~ 250,000 residents

https://www.tu-chemnitz.de/tu/pressestelle/aktuell/10405/en



## University of Technology



# University of Technology Chemnitz



## **Core Competencies in Research and Teaching**







### RESOURCE-EFFICIENT PRODUCTION AND LIGHTWEIGHT STRUCTURES



### HUMANS AND TECHNOLOGY



4

www.tu-chemnitz.de



Faculty of Natural Sciences	Faculty of Computer Science
Faculty of Mathematics	Faculty of Economics and Business Administration
Faculty of Mechanical Engineering	Faculty of Humanities
Faculty of Electrical Engineering and Information Technology	Faculty of Behavioural and Social Sciences
+ Centre for Teacher Training	



## **Faculties**

Faculty of Natural Sciences study program Institute of Chemistry (Strasse der Nationen) (Central Campus)

https://www.tu-chemnitz.de/chemie/index.php.en

"Advanced Functional Materials"

**Institute of Physics** 



### https://www.tu-chemnitz.de/physik/index.html.en



## Campus





## **Reichenhainer Straße Campus**



- 1. Central Lecture Hall Building N
- 2. MERGE
- 3. eniPROD
- 4. Fraunhofer Institute (IWU)
- 5. Fraunhofer Institute (ENAS)
- 6. MAIN
- 7. Faculty of Electrical Engineering and Information Technology
- 8. Department of Mechanical Engineering
- 9. Faculty of Natural Sciences
- 10. Department of Facility and Technical Management
- 11. Smart Systems Campus
- 12. Department of Mathematics
- 13. Faculty of Humanities Faculty of Behavioural and Social Sciences
- 14. Faculty of Economics and Business Administration
- 15. Student Union
- 16. Mensa
- 17. Pegasus Center
- 18. Student dormitories
- 19. Campus Library II
- 20. Sports field and gymnasium
- 21. 3D Micromac
- 22. Electronic Design Chemnitz
- 23. Villa Rosenberg



## Master degree program



Research and developement of modern, innovative, and functional materials with pronounced potentials for profound applications in science and technology.



## Study schedule





# **Obligatory Basic Modules**

1 <sup>st</sup> -3 <sup>rd</sup> semester	Winter term	Summer term
Materials Chemistry		
Synthetic Methods in Chemistry (211002-302)	Х	
Material Characterisation (211040-002)	Х	
• Sustainable Chemical Production Technologies (211037-004)		Х
Materials Physics		
<ul> <li>Surfaces, Thin Films and Interfaces (212001-335)</li> </ul>	Х	
Semiconductor Physics – Nano Structure (212001-371)		Х
<ul> <li>Physics of Solar Cells (212001-337)</li> </ul>	Х	
Advanced Functional Materials		
Advanced Concepts in Chemistry and Physics (211002-303)	Х	
Facets of Materials Science (211002-301)		Х
<ul> <li>Research Project (3<sup>rd</sup> semester) (211002-304)</li> </ul>		
<ul> <li>Module Master Thesis (4<sup>th</sup> semester) (211002-305)</li> </ul>		
Soft skills		
<ul> <li>Deutsch als Fremdsprache I and II (A1/A2)*</li> </ul>	Х	Х
11		



# **Compulsory Elective Modules – 2024/2025**

	1 <sup>st</sup> -3 <sup>rd</sup> semester	Winter term	Summer term
•	Polymer Materials (211033-001)	Х	
•	Prozesse und Produkte der chemischen Industrie (211037-001)	Х	
•	Colloids & Interfaces (211034-001)		Х
•	Lab Course Colloids & Interfaces (211034-002)		Х
•	Heterogene Katalyse (211037-002)		Х
•	Crystallography (211040-001)	Х	
•	Circular economy of polymers (211033-002)	Х	
•	Computational Chemistry (211042-002)		Х
•	Elektrochemie funktioneller Nanomaterialien (211036-001)	Х	
•	Modern synthetic methods and homogeneous catalysis (211031-002)		Х
•	Molecular electronics (211031-003)	Х	
•	Photocatalysis (211031-005)	Х	
•	Synthesis of functional polymers for energy conversion and storage (211033-003)		Х
•	Sustainable Energy Infrastructure (211040-003)	Х	
•	Nanophysics - Physics of mesoscopic systems (212002-348)	Х	



## **Compulsory Elective Modules – 2024/2025**

	1 <sup>st</sup> -3 <sup>rd</sup> semester	Winter Term	Summer term
•	Modern microscopies (212001-334)		Х
•	Polymerphysik (212055-002)		Х
•	Introduction to magnetic materials (magnetism I) (212001-333)		Х
•	Methods and applications of magnetic materials (magnetism II) (212002-333)	Х	
•	Light Emitting Diodes, Laser Diodes, and Optical Sensor Systems (212002-688)	Х	
•	Physics of 2D Materials (212002-349)		Х
•	Aspects of modern optics (212002-345)	Х	
•	Halide Perovskites in Optoelectronics (212002-361)	Х	
•	Physics of Organic Semiconductors (212001-338)		Х
•	Materials in Micro and Nano Technologies (244037-015)	Х	
•	Flexible Electronics (244037-025)		Х
•	Modern Battery Materials (244037-035)		Х
•	Surface and Interface Engineering (231833-007)		Х
•	Printed Electronics & Special Topics of Functional Printing (231631-003)		Х
•	Electroplating and Thermal Coating (231833-010)	Х	

13



# **Compulsory Elective Modules – 2024/2025**

(1 <sup>st</sup> -3 <sup>rd</sup> semester) taught in English language	Winter term	Summer term
Complex Materials for Manufacturing (231831-012)	X	
<ul> <li>Werkstoffwissenschaft – Strukturbildungsprozesse (231832-003)</li> </ul>		Х
Functional Materials (211002-306)	Х	
Kinetics of Materials (212038-370)		Х
Option only for students whose native language is not English and who have not already tal German as a Foreign Language I (level A1) or German as a Foreign Language II (level A2): C can be chosen:	ken one of the n One of the follow	nodules ving modules
<ul> <li>Englisch in Studien- und Fachkommunikation III (Niveau C1) (136001-004)</li> </ul>	Х	Х
• Englisch in Studien- und Fachkommunikation V (Niveau C1) (136001-006)	Х	Х
<ul> <li>Englisch in Studien- und Fachkommunikation VI (Niveau C1) (136001-007)</li> </ul>	Х	Х
Option only for students whose native language is not German and who have not already ta Language I (level A1) or German as a Foreign Language II (level A2): One of the following m	ken German as Iodules can be c	a Foreign hosen:
<ul> <li>Deutsch als Fremdsprache III (Niveau B1) (136004-007)</li> </ul>	Х	Х

Deutsch als Fremdsprache IV (Niveau B2) (136004-008)
 Deutsch als Fremdsprache – Fachkommunikation I (Niveau C1) (136004-001)
 X
 X



- Homepage → Studies (1) → Pupils and Candidates → Course Catalogue (2)
  - $\rightarrow$  Lehrveranstaltungen  $\rightarrow$  Naturwissenschaften (3)
- or direct link  $\rightarrow$  course catalogue (4)







• Homepage  $\rightarrow$  Studies (1)  $\rightarrow$  Pupils and Candidates  $\rightarrow$  Course Catalogue (2)

 $\rightarrow$  Lehrveranstaltungen  $\rightarrow$  Naturwissenschaften (3)

• or direct link  $\rightarrow$  course catalogue (4)







- Homepage  $\rightarrow$  Studies (1)  $\rightarrow$  Pupils and Candidates  $\rightarrow$  Vorlesungsverzeichnis (2)
  - $\rightarrow$  Lehrveranstaltungen  $\rightarrow$  Naturwissenschaften (3)
- or direct link  $\rightarrow$  course catalogue (4)







- Homepage  $\rightarrow$  Studies (1)  $\rightarrow$  Pupils and Candidates  $\rightarrow$  Vorlesungsverzeichnis (2)
  - → Lehrveranstaltungen → Naturwissenschaften (3)
- or direct link  $\rightarrow$  course catalogue (4)

	Direktlinks - Mein Profil Kontakt Suchwort Suche in Q
2#5	Universität Fakultäten Zentrale Einrichtungen Studium International
TECHNISCHE UNIVERSITÄT IN DER KULTURHAUPTSTADT EUROPAS CHEMNITZ	Vorlesungsverzeichnis
TU Chemnitz $\rightarrow$ Vorlesungsverzeichnis $\rightarrow$ L	_ehrveranstaltungen
Allgemeines	Lehrveranstaltungen im Wintersemester 2024/25
Lehrveranstaltungen	Bitte wählen Sie zunächst eine Fakultät im Menü auf der linken Seite aus.
Naturwissenschaften	
Mathematik	
Maschinenbau	
Elektrotechnik und Informationstechnik	
Informatik	
Wirtschaftswissenschaften	
Philosophische Fakultät	
Human- und Sozialwissenschaften	
Zentrum für Lehrer*innenbildung und Bildungsforschung	
Studium generale	
Mein Plan	
Suche	
□ Lernplattform OPAL	
Kursangehot Fremdsprachen	

### (only available in German!)



	Direktlinks - Mein Profil Kontakt Suchwort Suche in
TECHNISCHE UNIVERSITÄT IN DER KULTURHAUPTSTADT EUROPAS CHEMNITZ	Universität Fakultäten Zentrale Einrichtungen Studium International
TU Chemnitz $\rightarrow$ Vorlesungsverzeichnis $\rightarrow$	Lehrveranstaltungen
Allgemeines Lehrveranstaltungen	Lehrveranstaltungen sortiert nach Studiengängen Fakultät für Naturwissenschaften im Wintersemester 2024/25
Naturwissenschaften	Alle Veranstaltungen dieser Fakultär zeigen
Mathematik	Bachelor-Studiengänge Master-Studiengänge
Maschinenbau	
Elektrotechnik und Informationstechnik	Master-Studiengang Advanced Functional Materials       • Master-Studiengang Advanced Functional Materials - 1.Sem (M_AM_1)     • Lists and C
Informatik	Master-Studiengang Advanced Functional Materials - 3. Sem (M_AM_3)     Semester a
Wirtschaftswissenschaften	Master-Studiengang Chemie
Philosophische Fakultät	Master-Studiengang Chemie - 1.Sem (M_Ch_1)     Master-Studiengang Chemie - 3.Sem (M_Ch_3)
Human- und Sozialwissenschaften	Master-Studiengang Computational Science
Zentrum für Lehrer*innenbildung und Bildungsforschung	<ul> <li>Master-Studiengang Computational Science - 1.Sem (M_CS_1) </li> <li>Master-Studiengang Computational Science - 3.Sem (M_CS_3) </li> <li>Master-Studiengang Computational Science - 4.Sem (M_CS_4) </li> </ul>
Studium generale	Master-Studiengang Physik
Mein Plan	● Master-Studiengang Physik - 1.Sem (M_Ph_1) 🎬
Suche	Master-Studiengang Physik - 3.Sem (M_Ph_3)
	Master-Studiengang Sensorik und Kognitive Psychologie
⊢ Lemplattform OPAL	Master-Studiengang Sensorik und kögnlive Psychologie - 1.Sem (M_SK_1)  Master-Studiengang Sensorik und kögnlive Psychologie - 3.Sem (M_SK_3)
Kursangehot Fremdenrachon	





- All courses related to AFM are listed here
- You can create a personalized timetable by selecting courses
- A personalized timetable can be synchronized with the mobile app of "**TU Chemnitz**".





		Divitotag	MILLWOCH	Donnerstag	Freitag
07:30 - 09:00		V wahlobl. Polymer materials	S wahlobl. Sustainable Energy Infrastructure wöchentlich	S obl. Synthetic Methods in Chemistry S2 ungerade KW	V wahlobl. Sustainable Energy Infrastructure Ungerade KW P wahlobl. Complex Materials for Manufacturing E gerade KW
09:15 - 10:45 V Adva of ph	. <u>obl.</u> anced concepts hysics ■= wōchentlich	V obl. Material Characterisation Wöchentlich V wahlobl. Halide Perovskites in Optoelectronics Wöchentlich	V       wahlobl.         Photocatalysis       Image: Comparison of the system         Image: Comparison of the system       Image: Comparison of the system         V       wahlobl.         Produkte der chemischen Industricher       Image: Comparison of the system         Image: Comparison of the system       Image: Comparison of the system         V       wahloble         V       wahloble         V       wahloble         V       wahloble         V       wahloble         V       wahloble         Statistication       Image: Comparison of the system         With the system       Image: Comparison of the system         V       wahloble         V<	U       wahlobl.         Aspects of modern optics       Image: Constraint of the second	Ü     wahlobl.       DaF Kurs 1 (A1)     Image: Constraint of the second secon

## V – Vorlesung / lecture S – Seminar / seminar

Ü – Übung / exercise = seminar

### P – Praktikum / internship, lab work

finding the lecture hall / e.g. room 1/232 1 – Straße der Nationen (new: A) 2 – Campus Reichenhainer Straße (new: C)

See Campusfinder: https://www.tu-chemnitz.de/tu/lageplan/index.php.en or use function in "**TU Chemnitz**" mobile app



# How to choose the "right" courses



Allgemeines

59 Veranstaltungen für

Start with planning your choice of modules and schedule right from the beginning of your studies!

### You finally need 120 Credit Points!

(this corresponds to 30 CP per semester, but you can choose individually the time planning)





### There are many courses at the same time? Which one should I take?

## Have a look into the regulations!

- Basic courses (compulsory modules) are mandatory (take them!) Courses are offered in summer or winter term.
- Choose elective courses
  - in sum (compulsory or elective courses) around 30 CP per semester should be taken to study in time
  - language (English / German)?

*In general you are allowed to join all lectures of your choice (Some lectures require registration mainly through OPAL). Visit the lectures and check whether you can follow or not! You have to register to take the exam some weeks before the exam takes place (central examination office – online).* 

**Be aware that you have three attempts only to pass an exam!!!** You can not unselect modules if you failed the exam! Thus, be sure that you will be able to pass before registration for the exam.

ALWAYS BE WELL PREPARED FOR AN EXAM! Trial and error may be risky... 🙂



## German language courses

 $\rightarrow$  Homepage  $\rightarrow$  Central Institutions  $\rightarrow$  Foreign Language Centre

### **Foreign Language Centre**



#### Placementtests for the Winter Semester 2024/2025

All students who have previous knowledge of a foreign language but are unsure about which course or level suits them best can contact our language coordinators for an assessment of their individual language level.

Please see the following websites for further information on specific languages

- French

#### - English for all Faculties

#### - Spanish

For placement in the **Slavic languages** (Russian, Polish and Czech), please contact Ms Nataliya Bakman by e-mail in the period from October 7 to October 15, 2024.

#### Start and Registration Period for Language Courses in Winter Semester 24/25

The language courses in the winter semester will begin on **21 October 24**. Registration for the language courses is possible via OPAL from **30 September to 16 October 24**.

You can find more information about the language courses for the winter semester on our website: Languages offered or OPAL.

### $\rightarrow$ German as a Foreign Language (DaF)

### <u>note:</u>

- registration via OPAL check the web site when registration starts and ends!
- Please contact the Foreign Language Centre in case of problems directly.

https://www.tu-chemnitz.de/sprachenzentrum/index.php.en



Q: What do I have to know about the German A2 level I have to prove at the end of my AFM course?

A: **AFM students must demonstrate at least A2 level in German at the time of graduation.** This is intended as an incentive to develop language skills beyond the minimum level required for a Master's degree. In order to achieve this, in the current study documents, the option is given to take language courses as part of the compulsory elective modules. If the student cannot prove German A1 and A2, both courses can be taken from the **Foreign Language Centre** (https://www.tu-chemnitz.de/sprachenzentrum/index.php.en) and have to be successfully finished. For the graduation certificate, either just A2, or both A1 and A2 can be presented. This is handled by the **ZPA**. (For language courses of B1 or higher, only one language module can be used for the elective modules on the certificate). Please note that 1. only courses from the Foreign Language Centre is not as tightly integrated as for the other AFM modules. Thus, in case of questions ask the ZPA.



## **Get up-to-date information**

Either contact the Chemistry Student Council (Fachschaftsrat; fsr-chemie@tu-chemnitz.de) of the Faculty of Natural Sciences for using your TU Chemnitz e-mail and ask them to add you to the mailing list of the AFM study program (afm@tu-chemnitz.de)

Or register directly via <u>http://stura.cc/afm</u>



## Regulations

# → Download at AFM-Homepage (Only German version) → see https://www.tu-chemnitz.de/zpa/sopo/88/B65.php



#### Amtliche Bekanntmachungen

Herausgegeben im Auftrag des Rektors von der Abteilung Hochschulrechtliche, akademische und hochschulpolitische Angelegenheiten, Straße der Nationen 62, 09111 Chemnitz - Postanschrift: 09107 Chemnitz

Nr. 20/2024 Inhaltsverzeichnis	18. Juni 2024
Studienordnung für den englischsprachigen konsekutiven Studiengang Advanced Functional Materials mit dem Abschluss Master of Science (M.Sc.) an der Technischen Universität Chemnitz vom 17. Juni 2024	Seite 665
Prüfungsordnung für den englischsprachigen konsekutiven Studiengang Advanced	Seite 743

Functional Materials mit dem Abschluss Master of Science (M.Sc.) an der Technischen Universität Chemnitz vom 17. Juni 2024

Studienordnung für den englischsprachigen konsekutiven Studiengang Advanced Functional Materials mit dem Abschluss Master of Science (M.Sc.) an der Technischen Universität Chemnitz Vom 17. Juni 2024

Aufgrund von § 14 Abs. 4 i. V. m. § 37 Abs. 1 des Gesetzes über die Hochschulen im Freistat Sachsen (Sächsisches Hochschulgestez - SächsHSG) vom 31. Mai 2023 (SächsGVBI, S. 329), das zuletzt durch Artikel 2 des Gesetzes vom 31. Januar 2024 (SächsGVBI, S. 83, 87) geändert worden ist, hat der Fakultätsrat der Fakultät für Naturwissenschaften der Technischen Universität Chemnitz die folgende Studienordnung erlassen:

#### Inhaltsübersicht

#### Teil 1: Allgemeine Bestimmungen

- § 1 Geltungsbereich
- § 2 Studienbeginn und Regelstudienzeit 8 3 Zugangsvoraussetzungen
- § 3 Zugangsvoraussetzungen § 4 Lehr- und Lernformen
- § 5 Ziele des Studienganges

#### Teil 2: Aufbau und Inhalte des Studiums

- § 6 Aufbau des Studiums
- § 7 Inhalte des Studiums

#### Teil 3: Durchführung des Studiums

- § 8 Studienberatung
- § 9 Prüfungen 8 10 Forn- und Teilzeitetudium

		Direktlinks 👻	Anmelden	Kontakt	Suchwort	Suche in… <del>-</del>	Q
		I					
Universität	Fakultäten	Zentrale E	inrichtungen	Studium	International		
Zentrale	s Prüfun	gsamt					



#### Studien- und Prüfungsordnungen

#### Master Advanced Functional Materials

Studien- und Prüfungsordnungsversion 2024

- 🛱 Prüfungsordnung vom 17.06.2024 (Amtliche Bekanntmachung 20/2024)
- 🗟 Studienordnung vom 17.06.2024 (Amtliche Bekanntmachung 20/2024)

#### Studien- und Prüfungsordnungsversion 2018

- B Prüfungsordnung vom 10.07.2015 (Amtliche Bekanntmachung 24/2015)
- 🗟 Studienordnung vom 10.07.2015 (Amtliche Bekanntmachung 24/2015)
- 🛱 Änderungssatzung vom 24.05.2018 (Amtliche Bekanntmachung 15/2018)

#### Studien- und Prüfungsordnungsversion 2015

- 🛱 Prüfungsordnung vom 10.07.2015 (Amtliche Bekanntmachung 24/2015)
- 🔓 Studienordnung vom 10.07.2015 (Amtliche Bekanntmachung 24/2015)



## **International Office**



# New to Chemnitz Useful tips and tricks

### www.tu-chemnitz.de/international



## **International Office**

	Deutsch Shortcuts - I	Login Contact Search Word Search in Q
2#5	University Faculties Central Institutions	Studies International
UNIVERSITY OF TECHNOLOGY IN THE EUROPEAN CAPITAL OF CULTURE CHEMNITZ	International Office	
TU Chemnitz $\rightarrow$ International Office $\rightarrow$ In	coming → Student Buddy Program	
Student Buddy Program	#wirsin	ndchem nuz
Registration		
Cultural Activities		
Language Tandem		
Accommodation Board		
Orientation Week	Triff Stud	The Student Buddy Program of the International Office
Contact	Co Co Colle	
"Materialbüro"		
FAQ		NEEDS SOME DODDI
→ Important Information		The Student Buddy Program is part of the International Office of
B We are on Facebook		organized by student assistants who are supported by student
B Study in Chemnitz		volunteers ("Buddies").
		We look forward to welcoming you!
	in old	Tour Student Buddy Program
	DUDAN BUT PU.	

https://www.tu-chemnitz.de/international/incoming/patenprogramm/index.php.en



**AFM Mentoring and Guiding Platform (OPAL):** A platform to connect students of the Advanced Functional Materials Master program at the TUC. This platform provides information on the study program, a forum to communicate with each other, and an announcement board for urgent notifications. Just follow the link to register

https://bildungsportal.sachsen.de/opal/auth/RepositoryEntry/32347521027

The forum is connected with online meetings (Tutorium/Mentoring)

Link for the BBB Webroom: <a href="https://webroom.hrz.tu-chemnitz.de/gl/dip-rlq-7mr-pqu">https://webroom.hrz.tu-chemnitz.de/gl/dip-rlq-7mr-pqu</a>





Prof. Dr. Michael Mehring Dean of Studies for the master-program AFM



Prof. Dr. Carsten Deibel *Chairman of the AFM Audit Committee* 



Dr. Andreas Seifert *AFM Course Guidance* 



## Good luck!

