



TECHNISCHE UNIVERSITÄT  
BERGAKADEMIE FREIBERG

The University of Resources. Since 1765.



For Internationals

# STUDY IN FREIBERG



Study Programmes, Language Courses, Application, Services



[tu-freiberg.de/en](https://tu-freiberg.de/en)

# STUDY PROGRAMMES



Doctoral studies are possible in all subjects represented by professors of the TU Bergakademie Freiberg.  
For details please contact the International Centre:  
[tu-freiberg.de/international](https://tu-freiberg.de/international)

Programme name in English	Programme name in German	Ba.	Ma.	Dipl.			Start
MATHEMATICS, COMPUTER SCIENCE & NATURAL SCIENCES   MATHEMATIK, INFORMATIK & NATURWISSENSCHAFTEN							
Applied Computer Science	Angewandte Informatik	6	4		✓		W,S
Applied Mathematics	Angewandte Mathematik			9	✓		W,S
Applied Natural Science	Angewandte Naturwissenschaft	6	4		✓		W,S
Business Mathematics	Wirtschaftsmathematik	6	4		✓		W,S
Chemistry	Chemie	6	4	10	✓		W,S
Mathematics for Data and Resource Science			4			✓	W
Mathematics in Economics, Engineering and Computer Science	Mathematik in Wirtschaft, Engineering und Informatik	6			✓		W,S
Robotics	Robotik			10	✓		W,S
Sustainable and Innovative Natural Resource Management (SINReM)			4			✓	W,S

EARTH SCIENCES   GEOWISSENSCHAFTEN							
Advanced Mineral Resources Development (AMRD)			4			✓	W
Geoecology (Earth System Science)	Geoökologie	6	4		✓		W,S
Geotechnics, Mining and Geo-Energy	Geotechnik, Bergbau und Geo-Energiesysteme			9	✓		W,S
Geoinformatics	Geoinformatik		4		✓		W,S
Geoinformatics and Geophysics	Geoinformatik und Geophysik	6			✓		W,S
Geology/Mineralogy	Geologie/Mineralogie	6			✓		W,S
Geomatics for Mineral Resource Management			4			✓	W
Geophysics	Geophysik		4		✓		W,S
Geoscience			4			✓	W
Geosciences	Geowissenschaften		4		✓		W, S
Groundwater Management			4			✓	W
Mine Surveying and Applied Geodesy	Markscheidewesen und Angewandte Geodäsie			10	✓		W,S
Sustainable Mining and Remediation Management (MORE)			3			✓	W,S

ENGINEERING SCIENCES   INGENIEURWISSENSCHAFTEN							
Additive Manufacturing	Additive Fertigung	7			✓		W,S
Advanced Components: Materials for mobility	Advanced Components: Werkstoffe für die Mobilität			10	✓		W, S
Advanced Materials Analysis (AMA)			4			✓	W
Ceramic, Glass and Building Materials Technology	Keramik, Glas- und Baustofftechnik		3	10	✓		W,S
Computational Materials Science (CMS)			4			✓	W
Computational Science and Engineering			4		✓		*

# STUDY PROGRAMMES

Programme name in English	Programme name in German	Ba.	Ma.	Dipl.			Start
Energy Engineering	Energietechnik		3		✓		W,S
Engineering		7			✓		W,S
Environmental Engineering	Umwelt-Engineering		3		✓		W,S
Foundry Technology	Gießertechnik	7	3		✓		W,S
Industrial Engineering and Management	Wirtschaftsingenieurwesen	7	3	10	✓		W,S
Materials and Components for Vehicles	Fahrzeugbau: Werkstoffe und Komponenten		3		✓		W,S
Materials Science and Materials Technology	Werkstoffwissenschaft und Werkstofftechnologie			10	✓		W,S
Mechanical and Process Engineering			4			✓	W
Mechanical Engineering	Maschinenbau		3	10	✓		**
Metallic Materials Technology (MMT)			3			✓	W,S
Nanotechnology	Nanotechnologie		4	10	✓		W,S
Process Engineering	Verfahrenstechnik		3	10	✓		W,S
Technology and Application of Inorganic Engineering Materials (TAIEM)			4			✓	W

\* Ma. Computational Science and Engineering starts at TU Dresden, further information: [tu-dresden.de](http://tu-dresden.de)

\*\* Dipl. Mechanical Engineering starts in winter semester, Ba. and Ma. start in W and S

## ECONOMICS AND INTERDISCIPLINARY STUDY PROGRAMMES | WIRTSCHAFTSWISSENSCHAFTEN UND INTERDISZIPLINÄRE STUDIENGÄNGE

Business Administration	Betriebswirtschaftslehre	6	4		✓		W,S
Business Administration for the Resources Based Industry	Betriebswirtschaftslehre für die Ressourcenwirtschaft			9	✓		W,S
Business Analytics			4		✓		W,S
Business and Law		8			✓		W,S
Energy and Resource Management	Energie- und Ressourcenwirtschaft		4		✓		W,S
Industrial Archaeology	Industriearchäologie	6			✓		W,S
Industrial Engineering and Management	Wirtschaftsingenieurwesen	7	3	10	✓		W,S
Industrial Heritage	Industriekultur		4		✓		W,S
International Business and Resources in Emerging Markets (IBRE)			4			✓	W
Technology Law	Technikrecht		4		✓		W,S


## POSTGRADUATE STUDY PROGRAMMES | AUFBAUSTUDIENGÄNGE

Business Administration for Engineers, Mathematicians and Scientists	Wirtschaftswissenschaften für Ingenieure, Mathematiker und Naturwissenschaftler			4	✓		W,S
Environmental Process Engineering	Umweltverfahrenstechnik			4	✓		W,S


**Ba.** Bachelor degree programme (the number indicates study period in semesters)

**Ma.** Master degree programme (the number indicates study period in semesters)

**Dipl.** Diplom degree programme (the number indicates study period in semesters)

 Language of instruction is German

**W** Winter semester (1 October – 31 March)

 Language of instruction is English

**S** Summer semester (1 April – 30 September)

More information:

[tu-freiberg.de/study-programmes](http://tu-freiberg.de/study-programmes)



## MASTER PROGRAMMES IN ENGLISH

### GEOSCIENCE

- Goals:** Gain thorough knowledge in one of these two geo-scientific disciplines:  
1. Environmental Geoscience (interactions in the atmosphere, including climate and chemistry of the atmosphere), 2. Tectonophysics of Orogeny (work with methods of structural geology, geo-thermo chronology, geomorphology, remote sensing and petrology).
- Degree:** Master of Science (M.Sc.)
- Specifics:** Evaluate problems related to geoscience, environmental impact and risk assessment studies.
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

### ADVANCED MINERAL RESOURCE DEVELOPMENT (AMRD)

- Goals:** To gain competence in developing sustainable, environmental friendly methods in mining and mine remediation from an economic point of view. The Master programme combines natural, engineering, and economic sciences and encourages the acquisition of intercultural competence.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Study in three different countries. Besides Austria and Germany, choose between Ukraine, Mongolia, China, Iran, Russia, Portugal and Spain.
- Tuition fee:** yes
- Start:** In winter semester in Leoben/Austria
- Duration:** 4 semesters

### GROUNDWATER MANAGEMENT

- Goals:** Gain knowledge of hydrosphere, water chemistry, modeling and groundwater rehabilitation. Combine it with management techniques and business administration skills. Apply field and laboratory methods, numerical modeling of flow, transport and chemical reactions in aquatic systems. Learn how to develop methods for groundwater protection.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Higher education in environmental law and general management of geo-resources
- Tuition fee:** None
- Start:** Winter semester (1 October)
- Duration:** 4 semesters



## GEOMATICS FOR MINERAL RESOURCE MANAGEMENT

- Goals:** Geomatics is an interdisciplinary field of research that combines aspects of surveying and sensor technology with data processing, geoinformatics and geomodelling. The main focus of Geomatics lies on the regulation and control of the interplay between resource extraction and its environmental impact.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Sensing technologies for mine data gathering, spatial (big) data management and visualization, spatial (big) data analysis and modelling
- Tuition fee:** none
- Prerequisite:** German language proficiency B1
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

## ADVANCED MATERIALS ANALYSIS (AMA)

- Goals:** Materials analysis plays a key role not only in research and development but also in their production control. Learn techniques for the analysis of materials like advanced steels, materials for electronics, shape memory alloys and energy materials.
- Degree:** Master of Science (M.Sc.)
- Specifics:** The strongly methodological character of the programme will open the door to a quite versatile range of industrial fields, from metallurgy to semiconductor industry, in academic research and in research centres.
- Tuition fee:** None
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

## SUSTAINABLE MINING AND REMEDIATION MANAGEMENT (MORE)

- Goals:** Gain knowledge and skills for self-reliant scientific work in the fields of environmentally friendly mining, mining remediation and vitalisation of industries.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Based on the worldwide unique German know-how on mining remediation, especially for uranium, lignite and ore mining.
- Tuition fee:** None
- Start:** Winter semester (1 October), starting in summer semester (1 April) is possible, but may lead to an extension of studies
- Duration:** 3 semesters





## COMPUTATIONAL MATERIALS SCIENCE (CMS)

- Goals:** Be able to simulate material behavior in several computational methods, build the links between Mechanical Engineering, Materials Sciences and Solid State Physics. Master predictive simulation tools to understand and to design the structure and properties of materials at all length scales.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Cutting-edge research applications, interaction with industrial partners during seminars.
- Tuition fee:** None
- Start:** Winter semester (1 October)
- Duration:** 4 semesters
- Prerequisite:** German language proficiency level A1

## MECHANICAL AND PROCESS ENGINEERING (MPE)

- Goal:** This degree programme leads to advanced knowledge and skills, methodical and technical expertise in the field of Mechanical and Process Engineering. It combines knowledge from both mechanical and process specifics – machinery and plants with methods of process engineering.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Familiarization with modern design methods and at least one numerical tool. Working on projects in small, intercultural teams.
- Tuition fee:** None
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

## METALLIC MATERIALS TECHNOLOGY (MMT)

- Goals:** Gain deeper knowledge in metal production especially in steel making, secondary metallurgy, continuous casting and foundry technology.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Graduates can work in the following areas: Iron and steelmaking industry, foundry industry, metal forming industry, engineering industry, refractory industry, metal processing industry, process development, technical sales and distribution, research institutions.
- Tuition fee:** None
- Start:** Summer semester (1 April), starting in winter semester (1 October) is possible, but may lead to an extension of studies
- Duration:** 3 semesters

## TECHNOLOGY AND APPLICATION OF INORGANIC ENGINEERING MATERIALS (TAIEM)

- Goals:** Develop the knowledge on key materials such as steels and ceramics, their design, properties, applications and production technologies. Become a specialist in design & production tailored to work in a wide range of strategic industries.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Interdisciplinary and practice-oriented degree course, learn via laboratory and practical courses to apply the theoretical knowledge in real applications.
- Tuition fee:** None
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

## MATHEMATICS FOR DATA AND RESOURCE SCIENCE

- Goals:** Successful graduates of the Master's programme will have acquired the techniques, methods and general mathematical skills to solve the most pressing problems of today. These include the ability to understand and exploit large amounts of data, a mastery of so-called computer-based machine learning as well as a broad understanding of problems in the field of scarce resources.
- Degree:** Master of Science (M.Sc.)
- Specifics:** Application-oriented degree programme
- Tuition fee:** 17.000 euros per semester for non-EU students
- Start:** Winter semester (1 October)
- Duration:** 4 semesters

## INTERNATIONAL BUSINESS AND RESOURCES IN EMERGING MARKETS (IBRE)

- Goals:** To provide future Eastern and Western managers the theoretical and practical insights into modern international business administration and development economics needed to excel in top-careers.
- Degree:** Master of Business Administration (MBA)
- Specifics:** Possibility to study one semester abroad at a partner university, double degree options.
- Tuition fee:** none
- Prerequisite:** GMAT or GRE
- Start:** Winter semester (1 October)
- Duration:** 4 semesters







## COSTS OF LIVING

The average costs of living in Freiberg depend on your individual lifestyle and may vary between 750 and 950 € per month. For visa application you have to proof the availability of 11.208 € for one year (934 per month).

### AVERAGE COSTS PER MONTH IN FREIBERG

Rent and utilities	200–380 €
Supply of electricity	35–40 €
Food, home necessities, laundry, etc.	300 €
Public health insurance	110 €
Phone & mobile internet	20 €

### IMPORTANT FEES IN FREIBERG

Public TV & radio licence	
fee per month (obligatory):	18,36 €
Semester fee (each 6 months):	94 €
Residence permit for one year:	100 €

### EXAMPLES OF EVERYDAY EXPENSES IN FREIBERG

- A loaf of bread (1 kg) at a local bakery:  
3.20 €
- Apples, 1 kg:  
2.50 to 4 €, depending on time in year
- Bus ticket (1 zone):  
2.50 €
- Train ticket to Dresden (one way):  
11.40 €
- Sports course at the university:  
20 to 25 € for one semester
- A visit to the cinema:  
7 to 10 €, depending on the day of the week
- A visit to the theatre:  
8 to 23 €





## THE UNIVERSITY

- Founded in 1765, it is regarded as the oldest mining university in the world
- Size: 3,655 students (winter semester 2021/2022)
- TU Bergakademie Freiberg is one of the world's leading universities in the fields of mining, geosciences and materials science.
- In the QS World Ranking in the category Engineering – Mineral & Mining it is currently in 16<sup>th</sup> place.
- **No tuition fees** for all degree programmes (except for MDRS)
- More than 150 exchange agreements with foreign universities
- **41 % international students**
- TUBAF hosts the **terra mineralia**, one of the world's most beautiful mineral collections
- University owns an underground mine for study and research
- The **chemical elements Germanium and Indium** were discovered in Freiberg
- The famous scientist and explorer **Alexander von Humboldt** studied in Freiberg



## THE CITY OF FREIBERG

- About 41,000 inhabitants
- Founded in the 12<sup>th</sup> century, the city developed rapidly, thanks to the discovery of **silver ore**
- A leading centre of **semiconductor industry**
- The **charming medieval city centre** with original architecture attracts many tourists
- Home to the oldest municipal theatre, to a multiplex cinema, several bowling alleys and a pub mile frequented by students
- All four seasons are well represented in Freiberg:
  - In the heat of the summer months, several outdoor **swimming** pools and natural lakes offer a cool-down after a hard day's work.
  - In winter, the hills surrounding Freiberg are ideal for **hiking, skiing** and **snowboarding**.

AT A GLANCE



# APPLICATION



## APPLICATION FOR ADMISSION

### 1. Bachelor's or Diplom programme

You must apply for a Bachelor or Diplom programme via [www.uni-assist.de](http://www.uni-assist.de). The application fee is 75 €.

### 2. Master's programme

To apply for a Master's programme, please read the information: [tu-freiberg.de/en/international/apply-master](http://tu-freiberg.de/en/international/apply-master)

There is no application fee. You must submit several application documents to the Admissions Office, e.g.:

- Certified copies of educational certificates (high school, Bachelor degree incl. Transcript of Records)
- English/German language proficiency certificate(s)
- If required: officially certified/attested translations of all application documents into German or English
- As well as further documents, depending on the desired degree programme (see [tu-freiberg.de/study-programmes](http://tu-freiberg.de/study-programmes))

## APPLICATION DEADLINES

For most of our English-language Master's programmes, you have to apply by 15 April. Exceptions are possible, so please check the application deadline for your desired programme on our website [tu-freiberg.de/study-programmes](http://tu-freiberg.de/study-programmes).

Application deadlines for German-language degree programmes:

**Application deadlines in case German language intensive course or preparatory course (Studienkolleg) is required:**

- 30 April for the following winter semester
- 31 October for the following summer semester

**Application deadlines in case German language course/preparatory course is not required:**

- 15 July for the following winter semester
- 15 January for the following summer semester

For further information please visit the website of TU Bergakademie: [tu-freiberg.de/en/international/application](http://tu-freiberg.de/en/international/application)

"Thanks to the Language Tandem Programme I met Bruno and I've been able to learn a lot about Brazilian culture and Portuguese language."

Karl Eckert from USA



"Karl is an American with German roots. He works in Freiberg. We meet once a week and he is helping me to improve my German, teaching me nice things about the USA and about German culture. It really is a great opportunity for me."

Bruno Alemão Monteiro from Brazil, Exchange student in Geoecology



"I took a swim course in Freiberg and improved my skills. Thanks to the university sports centre, I paid only 17 euros for the whole semester."

Jaffrey Hudson from India, Master Computational Materials Science

"I like the study conditions in Freiberg. I can always make an appointment with a professor. Most likely, he will be available."

Carole Tsegouog from Cameroon, Master Mechanical Engineering



## SERVICES OF THE INTERNATIONAL CENTRE – INTERNATIONAL OFFICE

The International Office focuses the University's international activities. It is responsible for international relations, study abroad programmes and support services for international students.

*"We warmly welcome all new international students. We appreciate your motivation and enthusiasm to study abroad and are aware of the difficulties that you may encounter especially at the beginning of your stay. We offer support when you need it. New international students can get a buddy assigned. He or she will help you during the initial phase. We assist you in finding accommodation in Freiberg. We want you to feel good here because only then you are able to study efficiently and achieve your goals."*

Ingrid Lange, Director of the International Office

We offer:

- Help during the application process
- A Buddy Programme in cooperation with volunteer students
- Help in finding accommodation
- Welcome Point & Orientation Days in German and English at the beginning of each semester
- During studies: supportive language programmes
- Support to study abroad at partner universities



## SERVICES OF THE INTERNATIONAL CENTRE – LANGUAGES

The International Centre – Languages offers intensive German courses that prepare for studying in the German language. The courses cover the levels B2 and C1 and are designed for the DSH examination ("Deutsche Sprachprüfung für den Hochschulzugang"). Each intensive courses has a duration of circa 8 weeks and is subject to a fee in the amount of €1250.

- Intensive course B2
- Intensive course C1 incl. preparation for the exam DSH

For more information on German preparatory courses including fees please visit our website at [tu-freiberg.de/en/international/german-courses](https://tu-freiberg.de/en/international/german-courses).

German language courses during the semester are free of charge for enrolled students. Available levels range from A1 to B2, the duration is 1 semester with 4 hours of instruction per week.

## SERVICES



## CONTACT

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