TU BERGAKADEMIE FREIBERG

TUBAF

The University of Resources.
Since 1765.

IUZ

STUDY IN FREIBERG

tu-freiberg.de/en

STUDY PROGRAMS

Doctoral studies are possible in all subjects represented by our professorships. For details please contact the International Centre: international@tu-freiberg.de

Degree program name in English	Degree program name in German	Ba.	Ma.	Dipl.	Language		Start
MATHEMATICS, COMPUTER SCIENCE & NATURAL SCIENCES							
Applied Computer Science	Angewandte Informatik	6	4		DE		W,S
Applied Mathematics	Angewandte Mathematik			9	DE		W,S
Applied Natural Science	Angewandte Naturwissenschaft	6	4		DE		W,S
Business Mathematics	Wirtschaftsmathematik	6	4		DE		W,S
Chemistry	Chemie	6	4	10	DE		W,S
Mathematics for Data and Resource Science			4			EN	W, S
Mathematics in Economics, Engineering and Computer Science	Mathematik in Wirtschaft, Engineering und Informatik	6			DE		W,S
Robotics	Robotik			10	DE		W,S
Sustainable and Innovative Natural Resource Management (SINReM)			4			EN	W,S
EARTH SCIENCES							
Advanced Mineral Resources Development (AMRD)			4			EN	W
Applied Geoscience			4			EN	W, S
Environmental System Science – Geoecology	Umweltsystemwissenschaften – Geoökologie	6	4		DE		W,S
Geotechnics, Mining and Geo-Energy	Geotechnik, Bergbau und Geo-Energiesysteme			10	DE		W,S
Geoinformatics	Geoinformatik		4		DE		W,S
Geoinformatics and Geophysics	Geoinformatik und Geophysik	6			DE		W,S
Geoengineering	Geoingenieurwesen			10	DE		W,S
Geology/Mineralogy	Geologie/Mineralogie	6			DE		W,S
Geomatics for Mineral Resource Management			4			EN	W
Geophysics	Geophysik		4		DE		W,S
Geosciences	Geowissenschaften		4		DE		W, S
Groundwater Management			4			EN	W
Mine Surveying and Applied Geodesy	Markscheidewesen und Angewandte Geodäsie			10	DE		W,S
Sustainable Mining and Remediation Management (MORE)			3			EN	W,S
ENGINEERING SCIENCES							
Additive Manufacturing (Technology, Material, Design)	Additive Fertigung (Technologie, Material, Design)	7	3		DE		W,S
Advanced Components: Materials for mobility	Advanced Components: Werkstoffe für die Mobilität			10	DE		W,S
Advanced Materials Analysis (AMA)			4			EN	W
Ceramic, Glass and Building Materials Technology	Keramik, Glas- und Baustofftechnik		3	10	DE		W,S
Chemical Engineering			4			EN	W
Computational Materials Science (CMS)			4			EN	W

STUDY PROGRAMS

Degree program name in English	Degree program name in German	Ba.	Ma.	Dipl.	Language		Start
Energy Engineering	Energietechnik	7	3		DE		W,S
Engineering (Specialisations: Mechanical Engineering, Process & Chemical Engineering, Energy Engineering, Environmental Engineering, Technology and Application of Non-Metallic Materials, Responsible Production and Consumption)		7			DE		W,S
Environmental Engineering	Umwelt-Engineering		3		DE		W,S
Environmental Technology	Umwelttechnik		3		DE		W,S
Foundry Technology	Gießereitechnik	7	3		DE		W,S
Industrial Engineering and Management	Wirtschaftsingenieurwesen	7	3	10	DE		W,S
Materials and Components for Vehicles	Fahrzeugbau: Werkstoffe und Komponenten		3		DE		W,S
Materials Science and Technology	Materialwissenschaft und Werkstofftechnologie	7	3	10	DE		W,S
Mechanical and Process Engineering (MPE)			4			EN	W
Mechanical Engineering	Maschinenbau		3	10	DE		*
Metallic Materials Technology (MMT)			4			EN	W,S
Nanotechnology	Nanotechnologie		4	10	DE		W,S
Process Engineering and Chemical Engineering	Verfahrenstechnik und Chemieingenieurwesen		3	10	DE		W,S
Technology and Application of Inorganic Engineering Materials (TAIEM)			4			EN	W

* Diplom degree Mechanical Engineering starts in winter semester, Master's degree starts in winter and summer semester

ECONOMICS AND INTERDISCIPLINARY STUDY PROGRAMS

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

POSTGRADUATE STUDY PROGRAMS

Business Administration	Wirtschaftswissenschaften			4	DE		W,S
Environmental Process Engineering	Umweltverfahrenstechnik			4	DE		W,S

Ba. Bachelor's degree program (the number indicates study period in semesters)
Ma. Master's degree program (the number indicates study period in semesters)
Dipl. Diplom degree program (the number indicates study period in semesters)
DE Language of instruction is German
EN Language of instruction is English
W Winter semester (1 October – 31 March)
S Summer semester (1 April – 30 September)

More information:
tu-freiberg.de/study-programs

MASTER PROGRAMS IN ENGLISH

APPLIED GEOSCIENCE

Goals: Gain thorough knowledge in one of these specialisations:

1. Computational and Mathematical Geoscience
2. Environmental Geoscience
3. Groundwater Resources
4. Tectonics and Geo-Thermochronology

Degree: Master of Science (M.Sc.)

Specifics: Evaluate problems related to geoscience, environmental impact and risk assessment studies.

Tution fee: None

Pre-requisite: GMAT 570 points or GRE 305 points minimum

Start: Winter semester (1 October), start in summer semester requires an individual curriculum

Duration: 4 semesters

ADVANCED MINERAL RESOURCES 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's program 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 China, Iran, Portugal, Mongolia and Spain.

Tuition fee: yes, at partner universities

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

Use the QR-codes for complete information.

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

Pre-requisite: German B1 required

Tuition fee: None

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 revitalisation 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), start in summer semester requires an individual curriculum

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

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

MECHANICAL AND PROCESS ENGINEERING (MPE)

Goals: This degree program 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: 4 semesters

SUSTAINABLE AND INNOVATIVE NATURAL RESOURCE MANAGEMENT (SINReM)

Goals: The program focuses on innovative and sustainable production, recovery and management of primary and secondary resources. Scientific-technological fields are combined with economic, environmental and entrepreneurial aspects and circular economy. In the the second year students choose from one of these specialisations: Sustainable Processes, Georesource Exploration, Resource Recovery and Sustainable Materials, Circular Societies and Sustainable entrepreneurship.

Degree: Master of Science (M.Sc.)

Specifics: SINReM is organised by Ghent University in Belgium, TU Bergakademie Freiberg and Uppsala University in Sweden. The graduate obtains a joint diploma from three universities.

Tuition fee: 6,000 euro/year for students from the EU and EEA; 12,000 euros/year for non-European students; scholarships available

Start: 1 September at Ghent University

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

Pre-requisite: GMAT 570 points or GRE 305 points minimum

Start: Winter semester (1 October)

Duration: 4 semesters

MATHEMATICS FOR DATA AND RESOURCE SCIENCE

Goals: Successful graduates of the Master's program 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 program

Tuition fee: None

Start: Winter semester (1 October)

Duration: 4 semesters

CHEMICAL ENGINEERING (MCE)

Goals: This course deals with all processes in which substances are changed in their composition, type or properties by mechanical, thermal, chemical or biological processes. It includes modules that have been carefully selected to ensure that the graduate will be qualified to take on responsible positions in industry or academia, e. g. by training practical skills in hands-on laboratory or pilot plant work.

Degree: Master of Science (M.Sc.)

Teaching language: English

Specifics: R&D, Project Planning, Operation and Maintenance of Process Engineering Equipment and Systems

Tuition fee: None

Start: Winter semester (1 October)

Application deadline: 15 April

Duration: 4 semesters

AT A GLANCE

THE CITY OF FREIBERG

- About 42,000 inhabitants
- Founded in the 12th 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.**

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 prove the availability of 11,208 € for one year (934 per month).

AVERAGE COSTS PER MONTH IN FREIBERG

Rent and utilites	200–380 €
Supply of electricity	35–40 €
Food, home necessities, laundry, etc.	300 €
Public health insurance	120 €
Phone & mobile internet	20 €

IMPORTANT FEES IN FREIBERG

Public TV & radio license fee per month (obligatory):	18.36 €
Semester fee (each 6 months):	94 €
Residence permit for one year:	100 €

EXAMPLES OF OTHER EXPENSES IN FREIBERG

City bus ticket	2.70 €
Train ticket to Dresden (one way):	12.50 €
Visit to the cinema	7–9 €

UNIVERSITY

ABOUT TUBAF

- Founded in 1765, it is regarded as the oldest mining university in the world
- Size: 3,471 students (winter semester 2022/2023)
- 41.4 % international students (winter semester 2022/2023)
- 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 12th place.
- No tuition fees for most degree programs
- More than 150 exchange agreements with foreign universities
- TUBAF hosts the terra mineralia, one of the world's most beautiful mineral collections
- TUBAF 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
- Modern library with multifunctional space for students to interact and learn new skills

UNIVERSITY SPORTS CENTER

- Ideally situated on the green outskirts of Freiberg
- An approximately 2.5 hectare multi-sport facility with a stadium, athletics facility, beach and tennis courts, two sports halls
- A weight and cardio room exclusively for TU members for individual use
- Over 80 trainers supervise around 80–100 sports and health courses every week.
- Low prices for students: 15–50€ per course per semester
- Interactive competitions and events

UNIVERSITY CAREER CENTER

- Supports students on the way to their dream job
- Tailor-made offers, individual advice, preparation for job interviews and a strong network with companies
- A wide range of seminars, lectures, career events, job portal and application portfolio checks
- Training of soft skills and talent testing

APPLICATION

APPLICATION FOR ADMISSION

1. Bachelor's or Diplom program

You must apply for a Bachelor's or Diplom program via www.uni-assist.de. The application fee is 75 €.

2. Master's program

To apply for a Master's program, please read the information: tu-freiberg.de/en/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 program (see tu-freiberg.de/en/application)

APPLICATION DEADLINES

For most of our English-language Master's programs, 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-programs

Application deadlines for German-language degree programs:

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

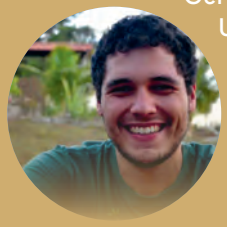
- **30 April** for the following winter semester
- **31 October** for the following summer semester

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

"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 Alemao 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

SERVICES OF THE INTERNATIONAL CENTRE – INTERNATIONAL OFFICE

The International Office focuses on 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 Program 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: free of charge language courses
- 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 German language. The courses cover the levels B2 and C1 and are designed for the DSH examination ("Deutsche Sprachprüfung für den Hochschulzugang"). Each intensive course has a duration of around 8 weeks and is subject to a fee in the amount of €1.250.

- 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/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. Among other courses, English, French, Spanish, Norwegian and Chinese are offered.

CONTACT

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