

# > Master's Degree Programmes

2020/21

EN





Stefan Vorbach

Vice Rector for Academic Affairs, TU Graz

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## DEAR STUDENTS!

As a successful graduate of a technical-scientific bachelor's degree course, many doors are open to you – including those to the master's degree courses at TU Graz. In the master's programme, you will immerse yourself more deeply in your specialist area, apply the knowledge you have acquired in practice, conduct independent research and have the opportunity to gain experience abroad in various mobility programmes at one of our partner universities worldwide. We want to make it easier for you to choose the right master's programme with the help of this e-journal.

### STUDYING IN AN INTERNATIONAL ENVIRONMENT WHICH IS PRACTICALLY ORIENTED AND WELL CONNECTED

If you decide to study for a master's degree at TU Graz, you will be studying at a modern, future-oriented educational and research institution with a distinctive international profile. About a quarter of our students come from abroad, and most of our master's programmes are held in English. With its excellent research and teaching infrastructure, TU Graz guarantees an outstanding whilst practical education. Whether you are aiming for an entrepreneurial career or want to found a start-up, or study for a doctorate and embark on a scientific career, career prospects for graduates of TU Graz are promising. Not least because of our traditionally close ties with business and industry, where many of our students have even held management positions immediately after completing their studies.

### FROM SOFT SKILLS TO TEAM SPIRIT

In addition to sound scientific and technical basic knowledge and in-depth application-oriented know-how, tomorrow's engineers and technicians also need foreign-language skills, social skills and an entrepreneurial understanding. TU Graz promotes these key competencies and thus optimally prepares its students for job and career. An expression of this special TU Graz team spirit is found in the many interdisciplinary student teams of TU Graz in the most varied disciplines ([see here](#)). Thanks to their success in international competitions, the teams are known far beyond national borders, representing another opportunity for students to step into the spotlight during their studies and make new contacts.

### INTERACTIVE LEARNING AND INTERDISCIPLINARY RESEARCH

In teaching, TU Graz makes use of innovative digital teaching and learning technologies and is thus a pioneer among Austrian universities. Students learn interactively and creatively and are actively involved in shaping the teaching process. Particular care is taken by TU Graz to support students in all phases of their studies – from general advice and services, to tutorials and a wealth of promotional programmes, including process support relating to founding spin-offs and start-ups. After completing your master's degree, 14 doctoral schools and a joint doctoral programme are open to you for doctoral studies. More information is available on [tugraz.at/go/studying-and-teaching](https://tugraz.at/go/studying-and-teaching)

In addition to teaching, TU Graz is characterised by its active and interdisciplinary research community and its international research successes. Students also benefit from this, since they are often actively involved.

In this spirit, we invite you to let yourself be inspired by TU Graz's range of master's programmes. We look forward to welcoming you to our university as a master's student.

Best regards,

A handwritten signature in blue ink, which appears to read 'Stefan Vorbach'.

# > Master's Degree Programmes

To find out which master's programme you can study with your bachelor's degree, go to the website of the respective master's programme.

> [tugraz.at/go/english-masters-programmes](https://tugraz.at/go/english-masters-programmes)

	<b>Architecture</b>
DE	Architecture
	<b>Civil Engineering Sciences</b>
DE	Civil Engineering – Infrastructure
DE	Civil Engineering and Structural Engineering
EN	Geosciences <small>NAWI Graz</small>
EN	Geotechnical and Hydraulic Engineering
DE	Construction Management and Civil Engineering
	<b>Electrical and Information Engineering</b>
DE	Electrical Engineering
DE	Electrical Engineering and Audio Engineering
DE	Electrical Engineering and Business
EN	Information and Computer Engineering
DE	Space Sciences and Earth from Space <small>NAWI Graz</small>
	<b>Computer Science and Biomedical Engineering</b>
EN	Biomedical Engineering
EN	Computer Science
EN	Information and Computer Engineering
EN	Software Engineering and Management
	<b>Mechanical Engineering and Economic Sciences</b>
DE	Mechanical Engineering
EN	Production Science and Management
DE	Mechanical Engineering and Business Economics
	<b>Mathematics, Physics and Geodesy</b>
EN	Advanced Materials Science <small>NAWI Graz</small>
DE	Geodesy
DE	Geospatial Technologies <small>NAWI Graz</small>
EN	Mathematics <small>NAWI Graz</small>
EN	Physics <small>NAWI Graz</small>
EN	Technical Physics <small>NAWI Graz</small>
	<b>Technical Chemistry, Chemical and Process Engineering, Biotechnology</b>
DE	Biochemistry and Molecular Biomedical Sciences <small>NAWI Graz</small>
EN	Biorefinery Engineering
EN	Biotechnology <small>NAWI Graz</small>
EN	Chemical and Pharmaceutical Engineering <small>NAWI Graz</small>
DE	Chemistry <small>NAWI Graz</small>
EN	Environmental System Sciences / Climate Change and Environmental Technology <small>NAWI Graz</small>
DE	Molecular Microbiology <small>NAWI Graz</small>
DE	Plant Sciences <small>NAWI Graz</small>
EN	Technical Chemistry <small>NAWI Graz</small>
DE	Chemical and Process Engineering
DE	Teacher Education for Secondary Schools (General Education) – Subjects Descriptive Geometry and Computer Science

[NAWI Graz: NAWI Graz study programme](#)

EN: Master's degree programmes taught in English

DE: Master's degree programmes taught in German





## > Important steps for a successful start in Graz

Jovana Vujačić, architecture student at the TU Graz, gives prospective international students tips on the application process, accommodation, legal matters, language, financing and more.

It all begins when the idea of studying abroad occurs to you. Unfortunately, the journey often ends very quickly – when you start to think things through. So many documents have to be filled out, so many legal questions have to be considered and then there is accommodation and financing to sort out. From my personal experience I can assure you that it is not that complicated. I've been in Austria for two years now and I'm living proof of this.

***Tip 1:** And here we are at the first and all-important tip that I'd like to share with you: start planning ahead in good time. Start preparing the necessary documents as soon as you are sure that you want to study abroad. Once you are here, it will be difficult and expensive. So keep at it, don't put it off till tomorrow. And make a few more copies as a precaution.*

### YOUR JOURNEY TO TU GRAZ

You've decided to go to Graz, you've chosen your study programme, and now the application process begins. Under „Ad-

mission to English-language master's programmes" you'll find all the important information on [here](#). If you have decided to do a German-language master's programme, you'll find all the information on admission on [here](#).

***Tip 2:** Think about the following: All documents must be submitted in German. The translation may take a few weeks, so make sure you get it done as soon as possible.*

### LANGUAGE SKILLS

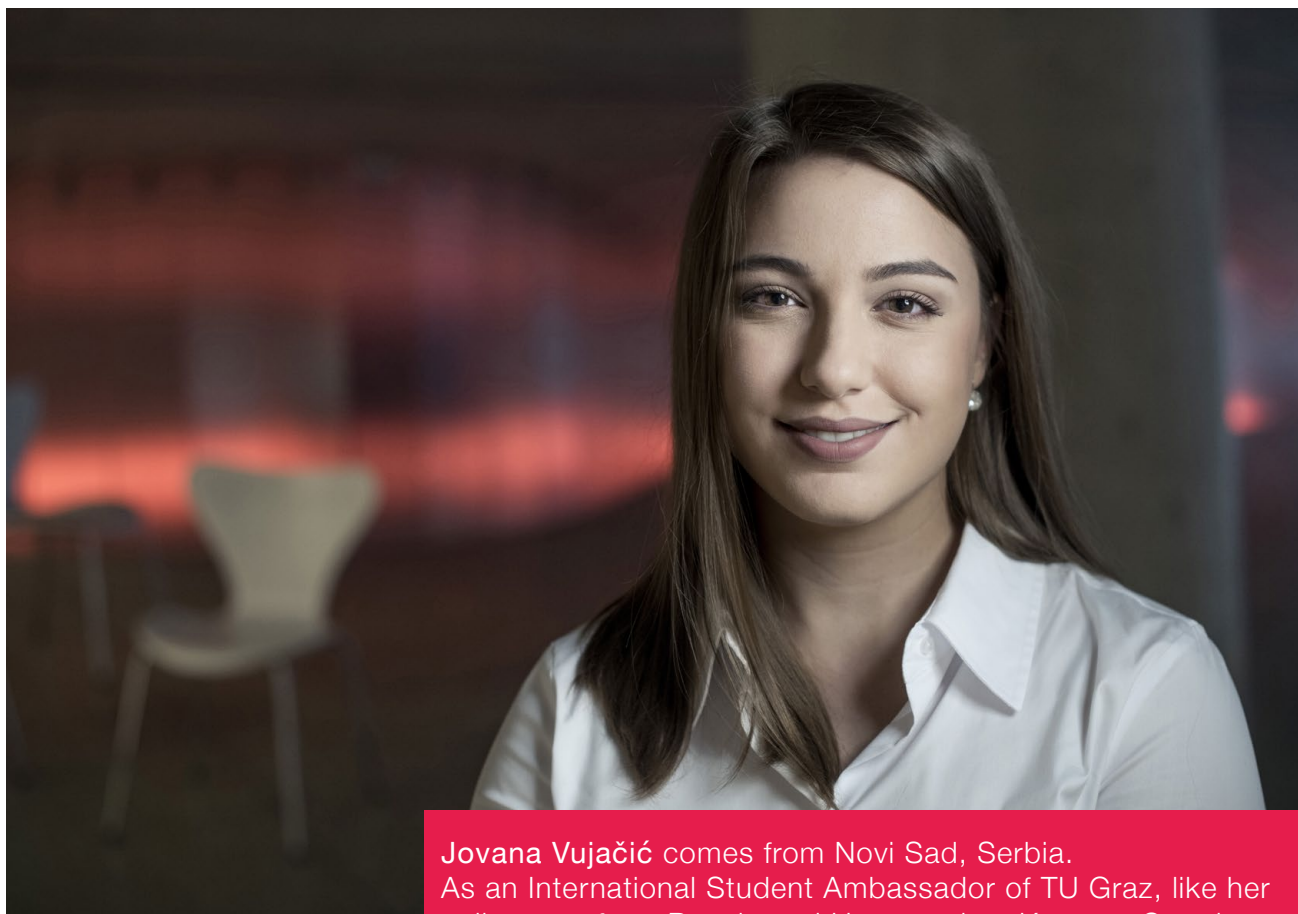
Another important aspect is the level of your language skills. If the chosen master's programme is offered in English, you must provide proof of English language skills. German language skills are not stipulated, but a course is recommended to help you find your way in everyday life. For a German-language master's programme you need German language skills at level C1.

***Tip 3:** If you have not yet reached level C1, you can take a language course in Graz (VGUH, Vorstudienlehrgang) and obtain the C1 certificate within three semesters. During this time you can be admitted as a non-degree seeking student to TU Graz with German language skills at level A2.*

### ACCOMMODATION

You've got your letter of admission, so now it's official: you're moving to Graz! But where will you live there? Did you know that almost 300,000 people live in Graz, of whom more than 50,000





Jovana Vujačić comes from Novi Sad, Serbia. As an International Student Ambassador of TU Graz, like her colleagues from Bosnia and Herzegovina, Kosovo, Croatia, Serbia, Slovenia and Hungary, she shares her experiences with international students and all those who want to become international students. All contacts can be found on  
 > [www.tugraz.at/go/ambassador](http://www.tugraz.at/go/ambassador)

are students? They make the second largest city in Austria a real student city. There are, therefore, many possibilities to find suitable accommodation. Student residences and shared flats/apartments (WGs) are particularly popular with students. You'll find countless offers for different types of accommodation in Facebook groups and on various websites. Spend a bit of time on Google and see for yourself. Rents range from 150 to 500 euros per month.

#### LEGAL MATTERS

When you finally arrive, you'll have to deal with all the legal formalities. It sounds a bit complicated again, but it isn't. Here are the necessary individual steps:

1. Register your stay in Graz at the local registration office (Meldezettel).
2. Open a bank account in Austria.
3. Check whether your health insurance is valid in Austria. If not, take out a new one.
4. Find out whether you need a residence permit (visa) for your stay in Austria. You can find information on the website of the Austrian central service centre for European and International Mobility and cooperation programmes of the OeAD under „Residence Permit – Student“.

#### FINANCIAL MATTERS

Apart from the costs for accommodation and insurance, there are additional expenses for tuition fees and living costs. According to information from friends and fellow students, I estimate the average amount for living costs at about 60 euros per week. Further information on tuition fees, scholarships and grants can be found on the TU Graz website "Financial Matters". Get yourself an overview of the possibilities of financial support there.

*Tip 4: I also recommend that you ask around in your home country since many students can get some kind of support from local authorities. It's worth a try.*

#### TU GRAZ WELCOME CENTER – HELP BEFORE AND DURING YOUR ARRIVAL AND SOCIAL CONTACTS

*Tip 5: I strongly advise you to contact the TU Graz Welcome Center if you – before or after your arrival – need help with the organization of your stay or with legal questions. The staff there are extremely friendly and will do their best to give you a good start. The Welcome Center also organizes events where you can meet new people locally and have fun.*





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# > The Three Worlds of TU Graz

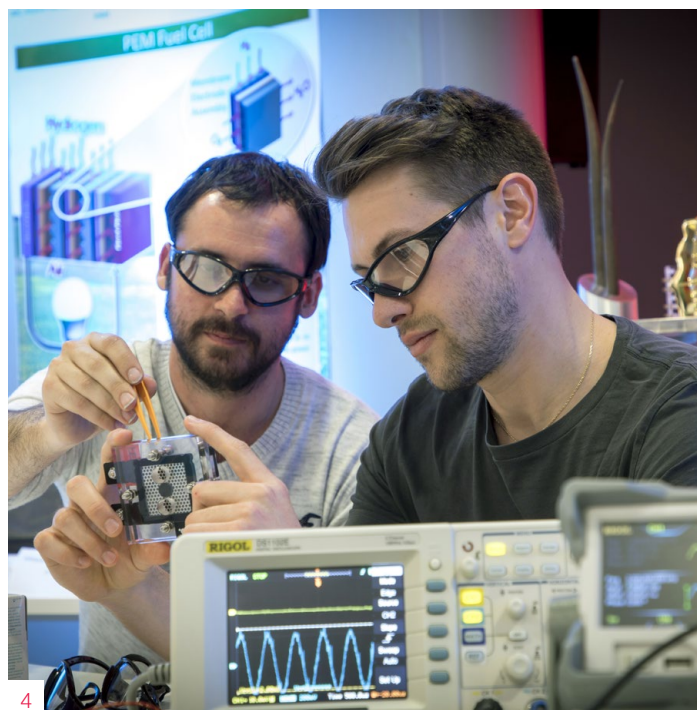
The three TU Graz campus locations are just as diverse as the programmes you are offered: The „Alte Technik“, the „Neue Technik“, and the „Inffeldgasse“ campuses. It makes sense to take a tour.

Lecture halls, specialised libraries, seminar rooms, institute rooms, and attractive places (5) to learn and chill can be found on each of the three campuses, but each of these also has its own additional, unique advantages, and favored spaces. Some examples include the TU Graz oldest building on the „Alte Technik“ campus (3), the rooftop (and adjoining terrace) of

the canteen (2) on the „Neuen Technik“ campus, the impressive research halls and laboratories (4) as well as the redesigned learning center and canteen (6) on the „Inffeldgasse“ campus. The best way to explore the campuses is to come and take a look for yourself – preferably by bicycle (1)!

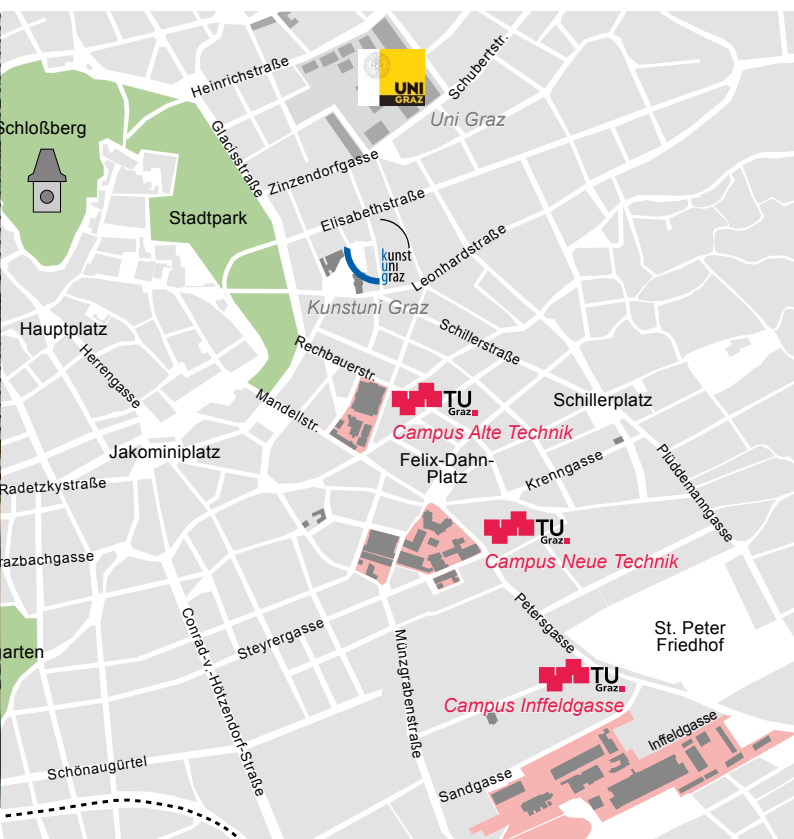


3



4





© Lünghammer – TU Graz

5



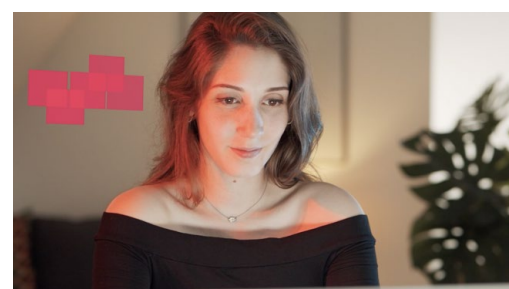
*On foot, by bike or  
“Bim” (tram):*

*From Campus Alte Technik  
it is about 27 minutes on  
foot or 7 minutes by bike  
to Campus Inffeldgasse  
via Campus Neue Tech-  
nik. Tram lines 1, 3 and 7  
go to Alte Technik, line 6  
stops at Neue Technik and  
at Inffeldgasse.*



© Lünghammer – TU Graz

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*Camilla's story @ TU Graz (video)*



# A view of Graz



1

© Region Graz – Hans Wiesenhofer



3

© Graz Tourismus – Tom Lamm



4

© Lunghammer – TU Graz

Graz is ...

- > ... big, but not too big: nearly 300,000 people live here.
- > ... a city with many students: eight higher education institutions.
- > ... a city of celebrations: with many international festivals, great party locations and intimate clubs.
- > ... surrounded by nature and with many greenspaces: for example, with a 22-hectare city park.
- > ... perfect for exploring by bike: 130 km of bicycle paths crisscross the city.
- > ... far enough south to have a touch of Mediterranean Flair – particularly in summer.





1 Schöckl, Graz's local mountain 2 Graz Inner City with the Schlossberg 3 Bicycle city Graz  
4 Universalmuseum Joanneum 5 Inner City of Graz with city hall 6 island in the Mur

© Graz Tourismus – Harry Schiffer



Bbott: © Lurghammer – TU Graz



- > ... a city replete with artistic, cultural, and culinary treats.
- > ... a shopping paradise with numerous, independent designers.
- > ... an unforgettable mix of liveliness and comfort.

- > ... a city that loves sports: from mountain-biking to hiking, kayaking, beach volleyball, tennis, golf, squash and hockey; and in winter from curling to ice-skating and skiing – we have a huge and diverse range of offers.





© Betonkanu - TU Graz

## > Of canoes and racing cars...

Enthusiasm, motivation and ambition are in high demand among the globally successful student teams at TU Graz. Representing the numerous teams, team members Katharina Scharler (Concrete Canoe TU Graz) and Florian Roiser (TU Graz Racing Team) let us take a peek behind the scenes.

**TU Graz:** You are both part of a student team at TU Graz; how did you personally get involved?

**Scharler:** The Institute of Structural Concrete invited me to an information event about the material concrete. I visited it and met the concrete canoe team there. I was curious enough to register as a team member straight away.

**Roiser:** During my school days at HTL Steyr my passion for vehicles was very big. I heard about Formula Student there just by chance. At that time I had already realised I wanted to study at TU Graz. When I heard that there was a Formula Student team here, I immediately knew I wanted to be a part of it.

**TU Graz:** Are all the team members studying the same thing?

**Scharler:** 12 team members are civil engineering students and I myself I am an architecture student.

**Roiser:** The members in our team are students from many different fields of study. Of course, the proportion of students from the field of mechanical engineering is high, but the team wouldn't function without a certain diversity of study fields. Especially in this season, when the changeover from combustion engines to electric motors is taking place, electrical engineering students are indispensable.

**TU Graz:** Is working in a team part of your studies?

**Scharler:** Teamwork is an important part of our studies, particularly in the concrete canoe team. We design, test and build our canoes together. The workload is even rewarded with five ECTS credits or with a bachelor's project for students of Civil Engineering Sciences.

**Roiser:** The work in a student team is not an official part of the curriculum, but I personally find it a perfect complement to my studies. The team gives students the opportunity to apply in practice the theoretical knowledge they picked up during their studies and to further their education in many areas.

**TU Graz:** Has there been a special highlight at all, recently?

**Scharler:** My own personal highlight was the 2019 Concrete Canoe Regatta at Heilbronn. The competition and the festival atmosphere on the camping site, where many different universities met and mingled, was a great experience. On top of this, it was fantastic to get all the positive feedback about our canoe and watercraft. Everyone was talking about our watercraft, which was in the form of a 2000 kg bouncy castle made of concrete, with a built-in trampoline.

**Roiser:** For me, one of the greatest highlights of the recent past is the switch from internal combustion to electric drive. In addition, we can look back proudly on a very successful 17





1 Katharina Scharler (back) and Eva Nachbagauer at the Concrete Canoe Regatta in Heilbronn 2019

2 The TU Graz racing team with the Tankia 2019, the last racer with a combustion engine

years of the internal combustion engine class, and we were able to end the era by picking up a few trophies with the TANKIA 2019.

**TU Graz:** Why would you recommend other students to become part of your team?

**Scharler:** The team is completely re-formed every two years. Each and every one of the participants determines the dynamics in the regatta team. I recommend this project to all students who don't just want to sit at their desks during their studies, but also want to work with concrete with their own hands.

**Roiser:** In our team you can trace the entire life of a component. This starts with calculations, followed by the design and manufacturing phase. And at the end, the most exciting bit – testing. This takes place on the test bench for specific components or directly on the car. This is an important experience, because by looking at the whole picture you create a completely different perspective when developing.

**TU Graz:** Will you tell us the secret of your success?

**Scharler:** As in every group, different qualities such as team spirit, commitment, curiosity and good humour are required for shared success. Craftsmanship and organizational skills are of course advantageous for the development process and the production of floating concrete objects.

**Roiser:** I think the secret of our success is a mixture of ambition, hard work and team spirit. We're working on this project with a lot of passion, and at the same time we're a bit like a family, which is why we like to dedicate our free time to this project and its success.

A team of students is a group of committed students who jointly implement projects or products, solve tasks from a specific subject area or take part in national and international competitions.

#### FACT SHEET: CONCRETE CANOE TU GRAZ

Field of activity: The team develops canoes and/or watercraft made of concrete;

#### FACT SHEET: TU GRAZ RACING TEAM

Field of activity: Each year, the team conceives, designs and builds a Formula Student racing car to take part in international Formula Student racing.

#### OTHER STUDENT TEAMS INCLUDE

the **Aerospace Team Graz**, who are developing a rocket to take part in the Spaceport America Cup; **Autonomous Racing Graz (ARG)**, who are working on the vision of independent, intelligent driving; the **Game Dev Students Graz**, who are devoted to developing computer games; the **TU Graz RoboCup team GRIPS**, which makes robots for industrial use; the **High Performance Sailing-Student Team** which unites the passion of sailing with science; the **iGEM** team of NAWI Graz, which takes part in competitions in the field of synthetic biology; the **LosFUZZYs**, who have dedicated themselves to IT security; **Mirage 91**, computer games using mind control thanks to BCI technology; the field robotics team **TEDUSAR**, which develops search and rescue robots to support emergency services in disaster operations; **TERA**, whose aim is to build the world's most energy-efficient vehicle; and the **TU Graz Data Team** dealing with data science and artificial intelligence; the **TU Graz Satellites**, who participate in international satellite projects during their studies.

> [tugraz.at/go/student-teams](https://tugraz.at/go/student-teams)



© Karitzaj – TU Graz

# > Beginning the Degree Programme

## Admittance to a Master's Degree Programme



Depending upon which bachelor's degree you have and which master's degree programme you would like to apply for, there are two ways to apply for admittance to a master's degree programme at TU Graz:

- 1. Admittance without stipulations**
- 2. Admittance with stipulations**

The admission requirements and conditions for the respective master's degree programme can be found in the curriculum.

The procedures for applying for a master's degree programme differ as follows:

- Application for admittance to a master's degree programme taught in German
- Application for admittance to a master's degree programme taught in English





© Kantzaj – TU Graz

## Application for Admittance to a Master's Degree Programme Taught in German



In order to be admitted to a master's degree programme at TU Graz, each programme applicant with a post-secondary degree from an international or national institution must apply for admission by the stipulated deadlines.

Registration Office  
Rechbauerstraße 12/I  
8010 Graz

> [study@tugraz.at](mailto:study@tugraz.at)

More information:

> [www.tugraz.at/go/international-degree-programme-applicants](http://www.tugraz.at/go/international-degree-programme-applicants)

## Application for Admittance to a Master's Degree Programme Taught in English





## Application for Admittance to a Master's Degree Programme Taught in English



Depending on your undergraduate degree, you will either be admitted to the master's degree programmes taught in English with or without additional stipulations or you will have to complete the admission procedure (Aufnahmeverfahren) for the desired master's programme. For further information visit:

> [www.tugraz.at/go/english-masters-programmes](http://www.tugraz.at/go/english-masters-programmes)

The annual period to register for the admission procedure is always **from October 15 to December 15** for the following academic year.

Once you have successfully completed the admission procedure and obtained a university place, you can apply for the final admission

The admission procedure has three steps:

### 1. Uploading the application documents

Upload copies of the following application documents during the registration period:

- Copy of your passport or identity card
- Certificates of the previous degree(s) obtained and the respective Transcript of Records
- Letter of motivation
- Curriculum vitae

### 2. Ranking by the selection committee

### 3. Submitting the original documents

If you received proof of your admission at the beginning of March, please submit authenticated originals of the following documents in person or send them by mail to the TU Graz Registration Office.

- Graduation certificate of the completed bachelor's or diploma degree programme
- Transcript of Records for the completed degree programme with information about the examination subjects, grades, and credits
- English language certificate
- Non-EU citizens should supply additional proof that they are qualified to enter the university: confirmation from an accredited university in the country in which the bachelor's or diploma programme has been completed, confirmation of the right to be directly admitted to the master's programme for the current academic year, as well as a
- Copy of the passport (only the page with personal information)

Registration Office  
Reichbauerstraße 12/I  
8010 Graz

> [study@tugraz.at](mailto:study@tugraz.at)

More information:

> [tugraz.at/go/admission-procedure](http://tugraz.at/go/admission-procedure)



## Two Unis, One Goal, and Many Advantages for Students

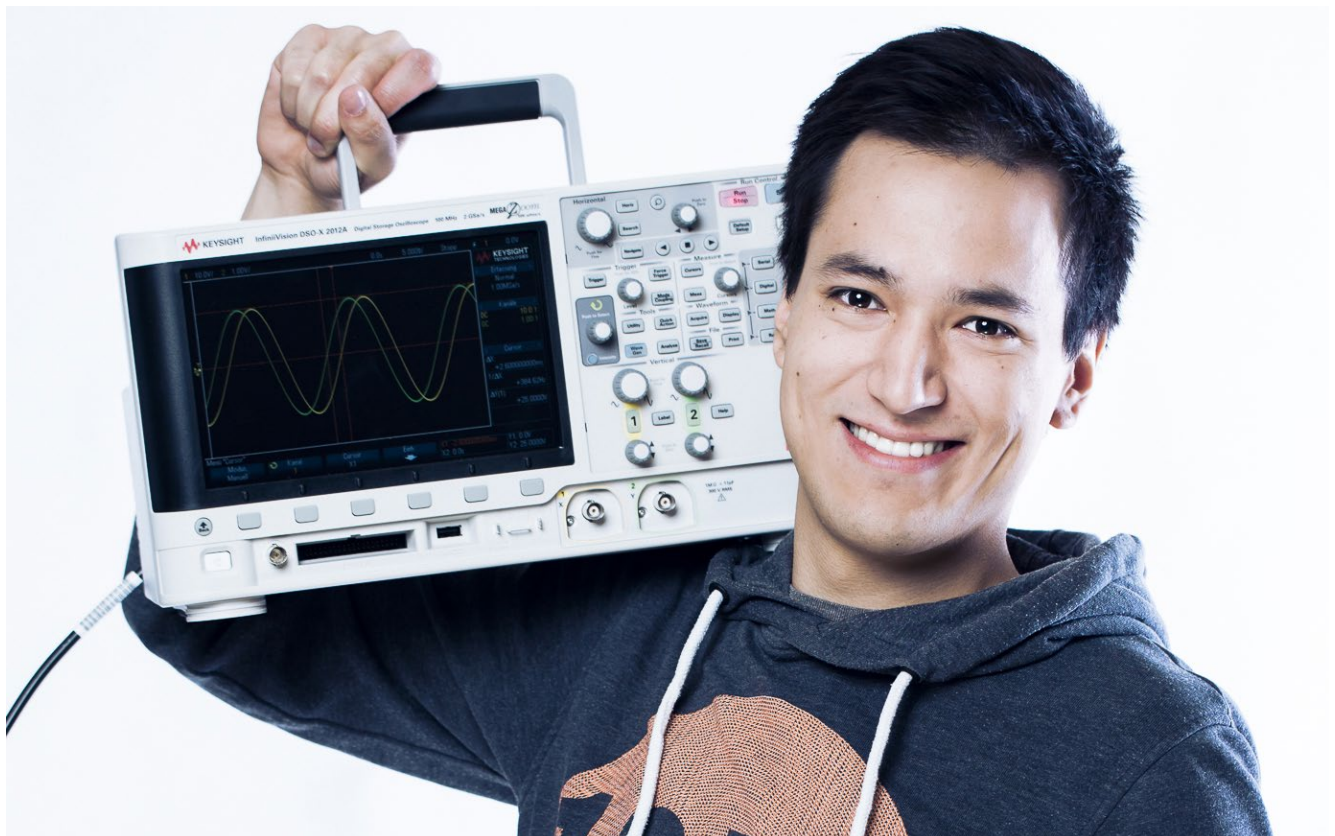
This can only be found in Graz: In 2004, TU Graz and University of Graz agreed to jointly offer scientific degree and certificate programmes under the name NAWI Graz. All degree programmes in scientific fields of study, including chemistry, mathematics, and physics are offered jointly.

Nearly 5,200 students have taken advantage of this offer and are studying at the two universities.

And this means:

- More opportunities to specialise
- Higher quality in the training received
- More laboratory spaces
- More flexibility in the choice of degree and certificate programmes

> [www.nawigraz.at/en](http://www.nawigraz.at/en)



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### FINANCIAL ASPECTS

Students must pay the Austrian National Union of Students (ÖH) fee and, if required, the tuition fees each semester in order to remain registered for the degree programme at TU Graz.

All TU Graz students pay the Austrian National Union of Students fee, which is currently about 20 euros.

The tuition fee is paid by degree-seeking students at TU Graz who have exceeded the accepted period of study (including two buffer semesters) and by third-country nationals from the first semester of their studies (with certain exceptions).

Students can seek financial support in Austria. You may apply for the following financial assistance:

> [tugraz.at/go/financial-matters](https://tugraz.at/go/financial-matters)

### WELCOME CENTER

The TU Graz Welcome Center provides diverse types of support for all degree-seeking students from abroad prior to their arrival in Graz, during their stay, and before they leave Graz. For example, students may have questions about:

- Visas and residence permits
- Housing and how to search for accommodation
- Life in Graz
- Networking and integration (events)

International Office – Welcome Center  
Mandellstraße 15/II

8010 Graz

[welcomecenter@tugraz.at](mailto:welcomecenter@tugraz.at)

phone: +43 316 873 4920

> [www.tugraz.at/welcomecenter](https://www.tugraz.at/welcomecenter)

### ACADEMIC ADVISORY SERVICES OFFERED BY TU GRAZ

Are you unsure which master's degree programme might be best for you? Perhaps you cannot quite decide, because you are unable to predict your future perspectives after graduating from the degree programme? You can address all these questions to staff at the TU Graz Academic Advisory Services:

[studienberatung@tugraz.at](mailto:studienberatung@tugraz.at)

phone: +43 316 873 6078

### REGISTRATION OFFICE

Have you now selected a degree programme, but still have questions about the application procedure, registration, and admission or about the tuition fees? The team at the Registration Office is glad to help:

Registration Office

Rechbauerstraße 12/I

8010 Graz

[study@tugraz.at](mailto:study@tugraz.at)

### GUIDANCE THAT CAN BE OBTAINED FROM THE NATIONAL UNION OF STUDENTS AT TU GRAZ

„From students for (potential) students“: this could be the motto of the HTU. The National Union of Students at TU Graz (HTU) offers you guidance and information both prior to beginning and during your degree programme at TU Graz.

National Union of Students at TU Graz

Rechbauerstraße 12

8010 Graz

phone: +43 316 873 5111

[info@htu.tugraz.at](mailto:info@htu.tugraz.at)

> [www.htu.tugraz.at](https://www.htu.tugraz.at)



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# > Services for Students

## GRANTS

TU Graz and its cooperation partners support students with a range of grants. If you achieve outstanding results in your studies, write an excellent thesis or are planning a study trip abroad, then you can apply!

> [tugraz.at/go/scholarships](https://tugraz.at/go/scholarships)

## LIBRARY AND ARCHIVES

The University Library and Archives provide an information centre, study centre, and a modern service department at TU Graz. They are open to the public and provide assistance for researchers at TU Graz and all people interested in natural sciences and technology. You can research, read, study, and work together at various different locations.

> [tugraz.at/go/library](https://tugraz.at/go/library)

## E-LEARNING

TU Graz is actively pursuing new paths in teaching and learning and has adopted a strategy to achieve the flexibility and accessibility that will be needed in the university of tomorrow. Online teaching and learning are being expanded step-by-step. This involves not only providing new technological platforms but also supporting the teachers in adapting their didactic methodology to the new media and supporting the relevant media competence of both staff and students.

> [tugraz.at/go/ilt-en](https://tugraz.at/go/ilt-en)

## IT-SERVICES FOR STUDENTS

E-mail service, access to networks, computer workstations, course notes, software for research and teaching, colocation centre, supercomputing – these are only some of the services that IT Services offers.

> [tu4u.tugraz.at/en/students](https://tu4u.tugraz.at/en/students)

## TU4U: THE TU GRAZ INTRANET

The TU Graz intranet allows students to access specific information related to their degree programme around the clock. The contents are clearly organised by topic; students can search for information quickly and easily.

> [tu4u.tugraz.at/en/students](https://tu4u.tugraz.at/en/students)

## DOCTORAL SCHOOLS

An environment of stimulating scientific discussions, scientific and engineering training of the highest standard, internationally-respected research projects; these things await you as a doctoral student at TU Graz.

At TU Graz, you can obtain a doctorate in natural sciences (Doktor der Naturwissenschaften) or a doctorate in technical sciences (Doktor der technischen Wissenschaften). The doctoral programmes are organised in 14 Doctoral Schools.

## TU GRAZ – INTERNATIONAL

There are many reasons to conduct a stay abroad during the degree programme. One reason is to gain better chances on the labour market. Or perhaps you are just curious about other countries, cultures, and languages? Whatever motivates you, the possibilities are endless: whether you'd like to spend a semester abroad, conduct an internship, or even pursue your entire degree programme abroad - the world is your oyster!

> [tugraz.at/go/international-en](https://tugraz.at/go/international-en)





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EVERYTHING YOU NEED FOR A SUCCESSFUL START AT TU GRAZ

# INTERNATIONAL WELCOME DAYS

FOR DEGREE-SEEKING STUDENTS OF TU GRAZ  
End of September 2021

> [www.tugraz.at/go/welcome-international](http://www.tugraz.at/go/welcome-international)  
[welcomecenter@tugraz.at](mailto:welcomecenter@tugraz.at)

## WOMEN AND TECHNOLOGY

To increase the number of women in science and technology, many projects for school pupils and students are offered at TU Graz. For female PhD students TU Graz offers a strategic career management programme. Potential topics are time management, work-life balance, balancing various aspects of work e.g. thesis, teaching, and administrative duties. Reflecting on career opportunities after the thesis – either in economy or academics – is also part of the programme. Graz University of Technology provides a day care centre – the nanoversity – for children of staff and students.

> [tugraz.at/go/equal-opportunity](http://tugraz.at/go/equal-opportunity)

## ACCESSIBLE LEARNING

Having a disability or a chronic disease will not stand in the way of you completing a degree at TU Graz! TU Graz takes into account students' individual needs, providing them with advice and support, and working to remove barriers.

The Service Point for Accessible Learning at TU Graz works to increase the number of accessible entrances to buildings, helps in the design of accessible courses, creates accessible jobs and study places, and counteracts social prejudices by providing information as well as getting involved in networks and cooperative ventures.

> [tugraz.at/go/accessible-learning](http://tugraz.at/go/accessible-learning)

## OPEN HOUSE

It's not always easy to choose the best professional or career path. The open house event offers guidance and is hosted by University of Graz, TU Graz, and University of Music and Performing Arts.

Date: the first Thursday after Easter

> [tugraz.at/go/open-day](http://tugraz.at/go/open-day)

## CAREER FAIRS

Information gathered from experts may help you make decisions during your studies. At career fairs, TU Graz provides you with support in the form of concise information about careers, degree programmes, and continuing education. Dates can be found on the website:

> [www.bestinfo.at](http://www.bestinfo.at)

## LIFE LONG LEARNING

Training that brings you up to date with the latest developments in science, commerce, and technology, internationally-renowned lecturers, innovative teaching methods, an in-depth insight into the world of work: This is what characterises the continuing education programme at TU Graz. Whether it's a master's programme, university course or seminar – take advantage of the life long learning options at TU Graz!

> [tugraz.at/go/lll-en](http://tugraz.at/go/lll-en)

## CAREER INFO-SERVICE

More than 1,000 students complete various technical and scientific degree programmes at TU Graz each year. The Career Info-Service manages the official TU Graz recruiting platform and provides companies and institutions with many opportunities to contact specific members of their target groups and hire them as employees.

> [career.tugraz.at](http://career.tugraz.at)

## ALUMNI AND CONTACT NETWORK

Stay in contact! Do you want to share experiences with other alumni? Stay up to date with developments in research and teaching at TU Graz? Receive information on academic training and cooperation ventures? Be invited to events, lectures, and graduate meet-ups? The alumni and contact network at TU Graz offers all this and more.

> [alumni.tugraz.at](http://alumni.tugraz.at)

# > Master's Degree Programmes overview



## Architecture



## Architecture

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Architects shape cities and landscapes and influence the living spaces of millions of people with their work. Not only are the central topics such as design, construction, building history as well as presentation and communication part of the training, but also being able to move skilfully in a complex social environment as a graduate. The master's programme in Architecture therefore serves primarily to develop the students' personal means of expression. Students can make use of the numerous renowned architectural offices in Graz to gain practical experience and make important contacts. After completing their studies, they will be able to develop designs for new buildings or conversions, to coordinate construction projects independently and to handle economic, ecological and cultural resources responsibly – whether in architectural offices, in the construction industry or the creative sector.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

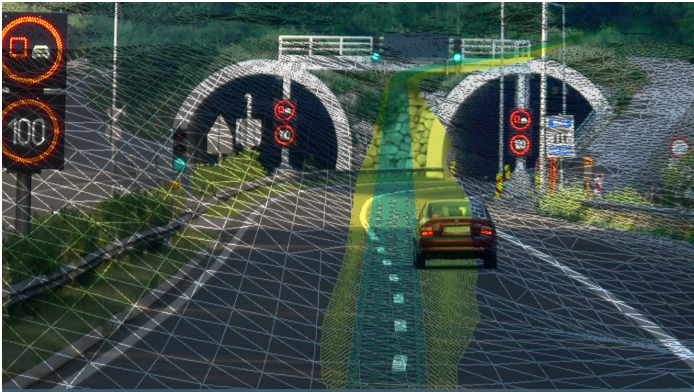
Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-architecture](https://tugraz.at/go/master-architecture)





## Civil Engineering – Infrastructure

© Fellendorf/Neuhold – TU Graz

Do you want to develop sustainable infrastructure concepts that can withstand future challenges, such as urbanisation and climate change? Or find innovative ways to integrate road and rail into the new living spaces and ensure urban water supply and sanitation? In the master's programme in Civil Engineering – Infrastructure you will deal with exactly that: the planning, construction, operation and evaluation of infrastructures along their entire life cycle. You will learn to include ecological, economic and social aspects in your research and to understand systemic interrelationships. This is helped by the great practical emphasis during the training. Students complete a hydrology fieldwork internship, draw up plans for cable cars or grapple with so-called life-cycle management for railway infrastructure. Those who love theory can also deal with the optimisation of sewer or road networks using artificial intelligence on the computer.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-ce-infrastructure](https://tugraz.at/go/master-ce-infrastructure)



## Civil Engineering and Structural Engineering

© TU Graz/ISB

Are you fascinated by how buildings take shape – from planning to construction? Then lay the foundation for a promising career as a civil engineer with the master's programme in Civil Engineering and Structural Engineering. After completing your studies, you are not only able to calculate constructions in building and bridge construction, but are also familiar with the special features of various materials such as concrete, steel and wood and their areas of application. You are also an expert in the use of modern calculation programs and design tools. Another major topic is interdisciplinary research into innovative and sustainable construction methods, including the development of structures made of ultra-high strength concrete, carbon concrete or 3D concrete printing. Due to the high practical relevance of the programme, research results find regular application in international projects.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-ce-structural-eng](https://tugraz.at/go/master-ce-structural-eng)





© Lunghammer – TU Graz

Whether in the mountains, in the desert or on coasts, planet Earth with its geological diversity and developmental history is at the centre of the geosciences. Do you love nature and the countless facets of our planet? Do you not only want to experience theories in the lecture hall, but also apply them directly in nature and technology? In the master's programme in Geosciences you will deal with the variety of processes in the Earth's interior and on its surface, including aspects of sustainable use and technical applications. You will immerse yourself in the history of the origin of our planet and learn how biological and geochemical evolution affects the relationships between organisms and their environment. You will deepen your geoscientific expertise through practical skills in five basic and applied fields: geology, palaeontology and stratigraphy, petrology and geochemistry, mineralogy and hydrogeochemistry, hydrogeology and engineering geology. In the latest analytical and experimental research infrastructure of TU Graz and in extensive field trips and visits to industrial companies, you will put the processes you have learned into practice.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-geosciences](https://tugraz.at/go/master-geosciences)



© Schubert – TU Graz

Whether in water, rock or soil, tomorrow's construction projects are based on innovative planning and responsible use of geosystems and resources. This master's programme is a unique combination of geotechnics and hydraulic engineering. You will gain sound knowledge in the fields of geology, soil mechanics, numerical calculation methods, tunnel construction and constructive hydraulic engineering. A special focus is on current research into future challenges, such as natural hazards, adaptation to climate change or sustainable construction methods. In extensive exercises in the field and in state-of-the-art laboratory facilities, you can put concepts developed during your studies into practice. The know-how from the two fields of geotechnics and hydraulic engineering enables you to plan construction projects responsibly and sustainably and to harmonize nature and technology.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-geotechnical-hydraulic-engineering](https://tugraz.at/go/master-geotechnical-hydraulic-engineering)



## Construction Management and Civil Engineering

© Industrieblick – fotolia

The future is built on graduates of the master's programme in Construction Management and Civil Engineering. They know about both business planning and the technical implementation of structures in structural and civil engineering. This is ensured, for example, by their specialist knowledge in construction process planning and logistics as well as a broad range of disciplinary specialisations, including cost planning, financing and building contract management. During the programme, research is carried out on agile modelling and digitalisation in the construction industry, among other things. The use of neural networks in the context of artificial intelligence in the construction industry is also the subject of lectures. The focus is always on interdisciplinary learning, in which a knowledge of law and the environment as well as skills in the field of resource-saving planning, construction and operation are imparted in addition to construction management, organisational and business management knowledge.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-cm-ce](https://tugraz.at/go/master-cm-ce)



## Electrical Engineering

© Frankl – TU Graz

Among other things, electrical engineers are helping to shape the energy revolution; they occupy themselves with digitalisation in social and business areas, such as the smart home and 5G; and they develop information and communication technologies, for example for the automotive industry. Students deepen their technical and scientific know-how during the master's programme and choose one of four specialisations: automation engineering and mechatronics, energy technology, information and communication technology or microelectronics and circuit technology. Even before graduating, they also work with their colleagues on electrical engineering applications that have a relevant practical relevance and conduct joint research on innovations in the field.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-electrical-engineering](https://tugraz.at/go/master-electrical-engineering)



– Electrical and Information Engineering



## Electrical Engineering and Audio Engineering

© Lunghammer – TU Graz

Do you want to develop innovative products to support people in their hearing or speaking? Or do you want to learn the common working techniques for 3D audio production and create new tools for it? In the master's programme in Electrical Engineering and Audio Engineering, you can do both these things and much more. This inter-university study programme of TU Graz and the University of Music and Performing Arts is unique in Europe and provides an unusual union of science and art. Thanks to the following four areas of specialisation in embedded audio, acoustics and recording technology, signal processing and voice communication, and computer music and multimedia, graduates are in great demand on the international job market. You can work in the development of hardware and software for consumer electronics, radio and television, in the automotive industry, in planning for room acoustics and urban areas, in speech analysis and speech synthesis in the field of communication as well as in the technical and artistic field of sound space design.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-electrical-audio-eng](https://tugraz.at/go/master-electrical-audio-eng)



## Electrical Engineering and Business

© Lunghammer – TU Graz

Would you like to drive innovation in renewable energy and design the electrical systems of the future? How about doing research on new technologies that will change the way we communicate and exchange information with each other? In the master's programme in Electrical Engineering and Business you will have the opportunity to deal with future-relevant topics during your training and to plan and implement electrical engineering projects in commercially viable ways. Students choose one of four areas of specialisation from automation technology and mechatronics, energy technology, information and communication technology or microelectronics and circuit technology. They can become sought-after specialists in the electric power industry, the communication services sector, software development companies and in plant and apparatus engineering.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-electrical-eng-business](https://tugraz.at/go/master-electrical-eng-business)



## Space Sciences and Earth from Space

© Lunghammer – TU Graz

This is a master's programme that offers a universe of possibilities. Get to know the physics of our solar system and the role of planet Earth in it. Students benefit from the close cooperation of TU Graz with the University of Graz, the Space Research Institute of the Austrian Academy of Sciences and Joanneum Research, and work together with renowned researchers on current projects in space science and technology. During their training, they participate in the design and construction of modules for small satellites and are involved in the development of nanosatellites for the observation of stars or the Earth as well as ground stations for satellite missions. Depending on their interests, students choose a specialisation from solar system physics, satellite systems, earth system from space, and thus become authentic specialists in their subject – perhaps even future fixed stars in space science.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-space-sciences-en](https://tugraz.at/go/master-space-sciences-en)



## Biomedical Engineering

© Lunghammer – TU Graz

The medicine of the future faces a huge challenge. With an ageing population, new solutions are needed to ensure safe, efficient and cost-effective healthcare. Do you want to develop solutions for the medicine of the future and conduct research, keeping your finger on the pulse of the times? In this interdisciplinary master's programme in Biomedical Engineering, you will deepen your skills in order to develop innovative solutions for healthcare. In practice-oriented projects you will improve diagnostic and therapeutic approaches and implement them technically. In doing so, you can rely on the excellent research infrastructure of Graz University of Technology. You will also design ways to make your innovations economically available. Specialise in one of five focus areas: biomechanics, biomedical instrumentation and sensors, biomedical imaging and sensing, computational neuroscience or health care engineering. These will soon be complemented by a new field in bioinformatics and computational medicine.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-biomedical-engineering](https://tugraz.at/go/master-biomedical-engineering)





### In planning for the academic year 2021/22:

The English-language master's programme in Computational Social Systems, which in cooperation with the University of Graz offers an interdisciplinary education at the interface between computer science, economics, sociology, psychology and law.



Would you like to pro-actively help develop the digital world in areas such as information security, robotics or artificial intelligence? Computer science is a key technology of the future, and the more people help shape it, the better. With the English-language master's programme in computer science, you will receive a foundation-oriented education with distinctive methodological and algorithmic components. In this master's programme, you will learn concepts, instruments and methods of systematic and automated information processing. You will acquire the ability to integrate findings from natural science and technology into computer science and apply both formal mathematical and engineering methods. The aim of the programme is to prepare you in the best possible way for the challenges of the dynamically developing discipline of computer science.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-computer-science](https://tugraz.at/go/master-computer-science)





© Lunghammer – TU Graz

Do you want to build safe processors for the future, develop adaptive drones with the help of „machine vision“ or actively shape the world of autonomous driving? In the master's programme Information and Computer Engineering you will acquire the ability to independently design, implement and operate complex hardware and software systems. You will receive a broad and detailed knowledge in a choice of several fields, where both software and hardware are emphasised. You will learn essential theories, principles and methods of information processing and information technology and thus train as an „IT generalist“.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-information-computer-engineering](https://tugraz.at/go/master-information-computer-engineering)



© Lunghammer – TU Graz

Would you like to develop innovative IT solutions that make people's lives easier? – where your technical knowledge is used as well as your soft skills? In the English-language master's programme in Software Engineering and Management, you will successfully combine practical computer science with business competence. This master's programme emphasises the use of software tools and the content of information systems – namely, information and knowledge. You will deal with the foundations and technologies for the production and development of complex software systems. Creative problem-solving is vital using the latest methods and tools. The focus is on the entire software development cycle. You will learn to identify requirements for IT solutions, implement these solutions, put them into operation on time and develop them further. Due to the programme's strong practical orientation involving the knowledge and application of numerous management tools, you will be up to this challenging task.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

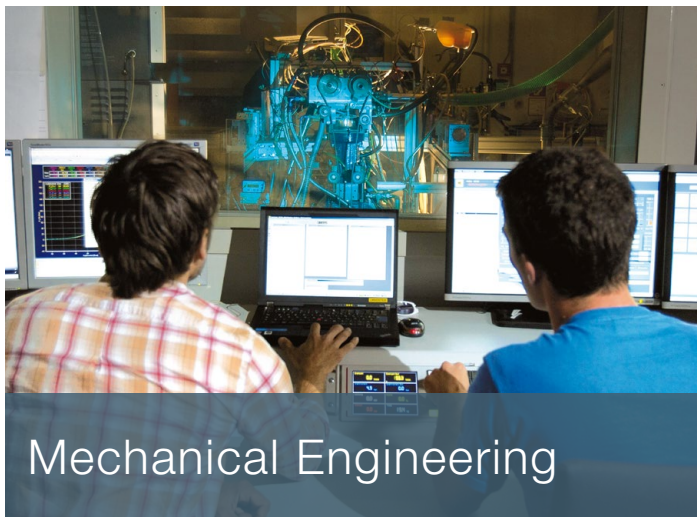
Language of instruction: English

Alle weiteren Informationen zu diesem Masterstudium wie Aufnahmebedingungen, Schwerpunkte, Vernetzung, Berufsperspektiven und Semesterplan finden Sie auf:

> [tugraz.at/go/master-software-engineering-management](https://tugraz.at/go/master-software-engineering-management)



– Mechanical Engineering and Economic Sciences



© Bergmann – TU Graz

Would you like to carry out research on hydrogen as an alternative energy source or test the use of robot technology in industrial processes? Or perhaps you would rather use your know-how in the automotive industry? In the master's programme in Mechanical Engineering you can acquire skills in the fields of thermodynamics, fluid dynamics, strength of materials, mechanical engineering and business informatics, and deepen your knowledge in two elective special fields, for example computational engineering and product development of mechatronic systems. You will familiarise yourself with innovative technologies and work with novel materials and manufacturing processes. In this way you'll already be part of future-oriented research during your studies and will be able to initiate and implement your own projects.

**QUICK FACTS:**

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-mechanical-engineering](https://tugraz.at/go/master-mechanical-engineering)



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Are you a person with vision, who is not held back by traditional boundaries? Do you work passionately to achieve your goals? The master's programme in Production Science and Management combines technology and economics in a unique way. In addition to production science, you will deal with forward-looking topics such as entrepreneurship, agile and sustainable management, digitized manufacturing, market-oriented product design and innovative ideas, such as the maker movement. In this international programme you will acquire technical and economic knowledge in the field of production technologies and production management and learn to apply scientifically sound methods and concepts in a practical way. In addition, there is a lively exchange of knowledge and experience with leading personalities from the world of business during your studies, giving you a deep insight into the practical side.

**QUICK FACTS:**

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-production-science-management](https://tugraz.at/go/master-production-science-management)



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Do you want to help develop the car of the future, and make sure it becomes a real best seller? Do you want to understand industrial production in its entirety, for example in order to ensure innovations in the field of plant engineering? In the interdisciplinary master's programme in Mechanical Engineering and Business Economics you can deepen your technical know-how as well as your business knowledge and expand it with core competencies in the areas of product development, production and marketing. As a graduate, you will be able to adequately assess the potential of technological developments in a rapidly changing global market and, if necessary, to carry out optimisation processes along the entire value chain. This holistic approach is more than ever in demand on the job market: whether in automotive engineering, plant construction, management consultancy or in operational areas such as controlling, technical sales/marketing, operations management or corporate management and development.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-me-be](https://tugraz.at/go/master-me-be)



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Whether in aerospace, the pharmaceutical industry or in the development of the latest smartphone, a key factor in many technical challenges is the materials used. Materials science forms a bridge between technology and the natural sciences and is applied to products of everyday life as well as in future areas. In this interdisciplinary, English-language, NAWI Graz master's programme in Advanced Materials Science you will learn about a wide variety of materials and their properties. The aim of the programme is to understand, improve and develop new materials. You will expand your knowledge from a science and technology-based bachelor's programme and acquire not only the foundations of physics and chemistry but also engineering skills. In laboratory practicals and supervised exercises you will deal with the basics of metallic and ceramic materials, as well as with semiconductor process engineering and nanotechnology and biobased materials.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-advanced-materials-science](https://tugraz.at/go/master-advanced-materials-science)



– Mathematics, Physics and Geodesy



© Lunghammer – TU Graz



© Anton Balazh – fotolia

Geodesists measure the world. But not only that. They develop monitoring systems that assess the condition of buildings, observe climate change and related natural hazard events. In the field of engineering geodesy, they focus on dynamic bridge monitoring – for instance, pedestrian bridges in Graz – using a wide range of measurement techniques. Direct practical relevance is one of the essential features of the master's programme in Geodesy, and students can specialise in at least two subject areas during their studies. In any case, however, they are able to collect and interpret geo-data using aerial and satellite images, to design new measurement procedures and to use navigation technologies. This means that they are also among the most sought-after specialists in agriculture, for example for chain-driven machines, or in disaster situations when robots are used – not only nationally, but worldwide.

**QUICK FACTS:**

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-geodesy](https://tugraz.at/go/master-geodesy)

Looking into the future is a science in its own right: that of geospatial technologies. Explore how the environment, mountains and cities will change and make predictions about how we will shape our future habitats. To this end, students use processes for the acquisition, analysis and presentation of spatial information. They develop methods and software for the evaluation of the data or manage geo-data for services such as Google Earth. In doing so, they draw on a sound knowledge of geography as well as geodesy and include both technical and application-related aspects. This is the advantage of the NAWI cooperation between the University of Graz and Graz University of Technology, which work together on the master's programme in Geospatial Technologies. In modern work spaces with the best infrastructure, students dedicate themselves to the core areas of geoinformatics, remote sensing, photogrammetry and location-based services and are thus guaranteed to be well equipped for their professional lives.

**QUICK FACTS:**

Duration of study: 4 semesters

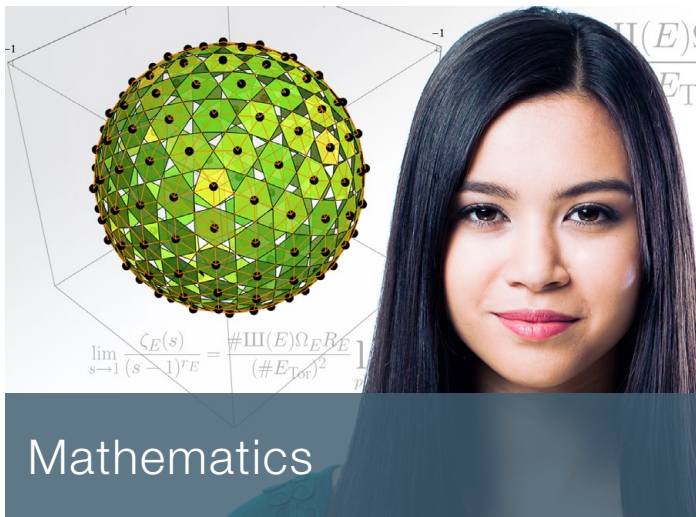
ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-geospatial-en](https://tugraz.at/go/master-geospatial-en)



© Kanitzaj – TU Graz

Whether in data encryption or risk management in the finance and insurance sectors, many modern technologies are no longer conceivable without mature mathematical methods. Do you love intellectual challenges? In the master's programme in mathematics, you will expand your mathematical skills in order to participate in these innovative applications. In this programme you can expect to gain in-depth insights into the fields of analysis, algebra, stochastics, numerical mathematics and discrete mathematics. Thanks to this intensive examination, you can grasp the increasing complexity in the natural sciences, life sciences, economics and engineering and solve complex problems. Whether in theory or in practice-oriented projects – with your creativity, mathematical thinking and problem-solving skills, no intellectual challenge is too great for you.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-mathematics](https://tugraz.at/go/master-mathematics)



© Lunghammer – NAWI Graz

Physics forms the basis of human knowledge about the world. It explores our planet and the universe and describes reality in its most basic form – the laws of nature. Do you want to delve even deeper into physics research? In the master's programme in Physics you will face the central challenges of physics in science, business and industry. You will deepen your knowledge of physics and mathematics and contribute to solving universal problems of current research in physics. You will apply experimental, theoretical and computer-oriented methods of physics. The master's programme in Physics not only serves as a sound basic education, but also gives you the opportunity to specialise in one of five main fields: astrophysics, atmospheric physics and climate, experimental physics, space physics and aeronomy as well as theoretical and computational physics.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

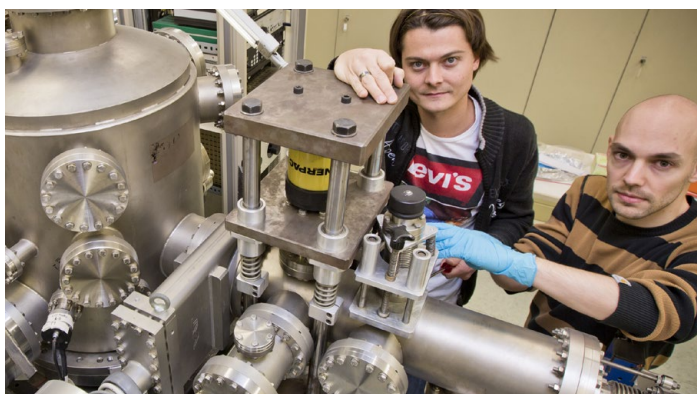
Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-physics](https://tugraz.at/go/master-physics)



## Mathematics, Physics and Geodesy



### Technical Physics

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Whether sustainable energy production, innovative environmental technologies or digital developments, intensive research is being conducted into the major challenges of our time. The focus of this research is physics. Do you want to participate in these innovations and solve scientific and technical problems? The master's programme in Technical Physics offers you a modern physics education close to research and business. You will learn to describe complex systems of reality using mathematical models, to reproduce them in simulations and to verify the results by experiments using the cutting-edge research infrastructure available to you at TU Graz. Are you interested in international and interdisciplinary research? As a student of Technical Physics you will have the opportunity to do research at research institutions such as CERN or the Max Planck Institute or to work on practice-oriented projects with well-known high-tech companies.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-technical-physics](https://tugraz.at/go/master-technical-physics)

## Technical Chemistry, Chemical and Process Engineering, Biotechnology



### Biochemistry and Molecular Biomedicine

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Do you want to study the human organism on a molecular level and work in a scientific field that will become increasingly important in the future? In the master's programme in Biochemistry and Molecular Biomedicine – a NAWI cooperation between the University of Graz and Graz University of Technology – you will deepen your knowledge in special areas of medical biochemistry and metabolic physiology, molecular, cell and structural biology as well as biophysics. You'll be part of ground-breaking research projects that are attracting international attention. Students grapple with lipid metabolism, and mechanistic and molecular enzymology, for example. In the field of bioinformatics, the focus is on sequence analyses, protein structure predictions and modern genome analysis. This means that graduates are optimally prepared for the professional world, where they are particularly sought after in applied research in medicine and the pharmaceutical industry.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-biochemistry](https://tugraz.at/go/master-biochemistry)



## Biorefinery Engineering

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Exploring the potential of nature and shaping a more sustainable future – that is the goal of Biorefinery Engineering. You will convert biogenic resources into energy or products while ensuring that this is done economically and with a high level of ecological responsibility. Whether in the chemical industry, the food industry, the paper industry or the bioplastics industry, the bio-based industry sector is looking for groundbreaking and sustainable innovations along the entire value creation chain. In the master's programme in Biorefinery Engineering you will learn how to use renewable resources for innovative processes and materials in industry. In this course of study, unique in Europe, you will conduct research with close links to practical application and with the support of international teaching staff. You will develop future-oriented processes to convert biogenic raw materials into energy or other materials. You will combine know-how from process engineering, chemistry, biotechnology and economics.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-biorefinery-engineering](https://tugraz.at/go/master-biorefinery-engineering)



## Biotechnology

© Grumet – BioTechMed

The key technology of the century – this is how experts describe the field of biotechnology. Do you want to know how biosystems can be used for applications in industry, agriculture or medicine? In this interdisciplinary master's programme in Biotechnology, you will immerse yourself in the technological development of biosystems and learn how biotechnological applications and processes are developed. In TU Graz's outstanding laboratory infrastructure you will deepen your working and analytic techniques in the fields of microbiology, molecular biology, biochemistry, genetic engineering, enzymes and fermentation technology. Under the guidance of internationally renowned teaching staff from biotechnology, molecular biology and chemistry, you will conduct research in innovative biotechnological applications. You can expect a unique combination of interdisciplinary focus areas and exciting laboratory internships that will enable you to actively participate in the future of biotechnology.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: „Diplom-Ingenieurin“ or „Diplom-Ingenieur“ (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-biotechnology](https://tugraz.at/go/master-biotechnology)





## Chemical and Pharmaceutical Engineering

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From concept and design to implementation in the laboratory and production for the pharmaceutical and chemical manufacturing industry, in the master's programme in Chemical and Pharmaceutical Engineering you will experience a unique combination of chemistry, pharmacy and process engineering. In this interdisciplinary master's programme you will conduct research side by side with internationally renowned lecturers in state-of-the-art laboratory facilities. Based on the principles and methods of engineering sciences, you will be dealing with chemical and pharmaceutical process engineering. For a further specialization you can choose between two areas of concentration: chemical engineering and pharmaceutical engineering. As a graduate of the master's programme in Chemical and Pharmaceutical Engineering, a career in the chemical industry, the food industry, the pharmaceutical industry or in research institutes and universities awaits you.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-cpe](https://tugraz.at/go/master-cpe)



## Chemistry

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Does experimenting with innovations in the field of chemistry interest you? Would you like to be involved in the development of new substances and materials for a wide range of applications in industry and research or in developments in the field of sustainability and recycling? How about managing research projects in industry and business yourself in the future? The master's programme in Chemistry – a NAWI cooperation between the University of Graz and Graz University of Technology – prepares you optimally for this in research-oriented courses and with the help of cutting-edge research infrastructure. Deepen your knowledge in materials research, the synthesis of active ingredients, battery research and the use of bio-based raw materials and learn to take into account safety and environmental aspects as well as fundamental aspects of the field for society as a whole. Gain important experience for your future work in an environment of international research activities.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-chemistry](https://tugraz.at/go/master-chemistry)



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Climate change is advancing around the globe. It challenges both the environment and society as temperatures rise, glaciers melt and ecosystems change. Do you want to master these challenges and act as a change maker? In this interdisciplinary master's programme, you will deepen your expertise in different areas of environmental system sciences, with a focus on climate change and environmental technology. You will learn from experts with their finger on the pulse how the systems of climate and environment are connected and which innovative technologies and strategies can be used to advance climate and environmental protection. They not only deal with systems science, but also with the latest methods of chemical and physical analysis, sustainable environmental management and the legal foundations in the environmental field.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: **English**

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-ess](https://tugraz.at/go/master-ess)



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Is perceiving the smallest details hard-wired in your genes? In the master's programme in Molecular Microbiology – a NAWI cooperation between the University of Graz and Graz University of Technology – you will acquire a sound knowledge of the fields of microbiology, cell biology, genetics and infection biology, with particular emphasis on molecular cell biology, infection biology and microbiome research. As part of their education, students have the opportunity to work on current research projects in topics such as ageing, apoptosis and lipid metabolism. They also have access to excellently equipped laboratories for practical exercises. In this way, students learn to independently plan and carry out micro- and molecular biological experiments such as the conditional shutdown of genes in yeast genetics or protein sequence analysis, and to evaluate and analyse data. This means that graduates in (basic) research, for example in the pharmaceutical industry, are best placed for the future – often in a management position.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-mol-microbiology](https://tugraz.at/go/master-mol-microbiology)





## Plant Sciences

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Would you like to use your green fingers to help shape the future of agricultural science while protecting nature? As a plant scientist, you will contribute to the responsible use of natural resources and understand the interrelationships in our environment. The practice-oriented programme content – a NAWI cooperation between the University of Graz and Graz University of Technology – ranges from molecular biology to ecosystem research. The focus is on biodiversity and habitat, physiology and cell biology as well as biotic interaction. In practical courses you will learn to apply the latest techniques and current methods, including the various types of microscopy such as electron, scanning and transmission microscopy.

### QUICK FACTS:

Duration of study: 4 semesters

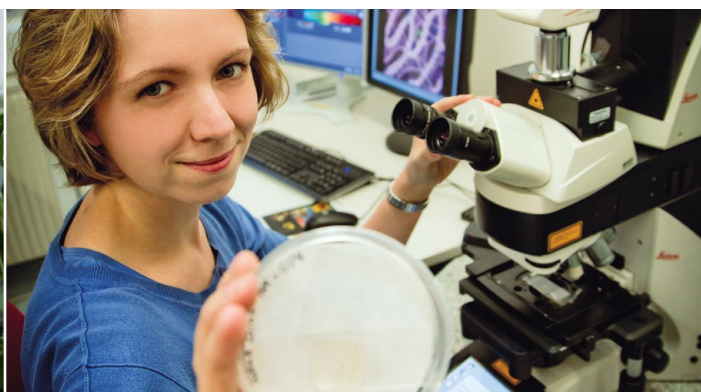
ECTS credit points: 120

Academic degree: Master of Science (MSc)

Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-plant-sciences](https://tugraz.at/go/master-plant-sciences)



## Technical Chemistry

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Do you want to apply chemistry in industry and research? In the master's programme in Technical Chemistry, you will learn to apply your chemical and technical knowledge in a practical and interdisciplinary way. You will immerse yourself in the world of physical, organic and inorganic chemistry and technology. This will enable you to optimize chemical processes in industry, improve materials and further develop energy sources. The modular structure of the programme allows students to set individual specialisations – for example in the field of renewable resources, macromolecular chemistry and plastics technology or in the field of inorganic substances and electrochemistry. At the same time, with the master's programme in technical chemistry you are always at the cutting edge of research. In our state-of-the-art laboratory environment, you will experiment with pioneering technologies to advance science and industry using innovative chemical processes.

### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

Academic degree: "Diplom-Ingenieurin" or "Diplom-Ingenieur" (Dipl.-Ing. oder DI), equivalent to the Master of Science (MSc)

Language of instruction: English

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-technical-chemistry](https://tugraz.at/go/master-technical-chemistry)



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Are you interested in the sustainable production of materials? Or in how the production of active pharmaceutical ingredients can be optimised? The master's degree programme in Chemical and Process Engineering offers you the opportunity to deepen the knowledge you gained in your bachelor's degree programme – depending on your preferences. There are two specialist areas to choose from: plant and process engineering or bio-based materials and fibre technology. Further specialisations in these areas are also possible, such as pharmaceutical process engineering, environmental technology and biorefining or economics. As a graduate, you'll be extremely well placed to apply your know-how in a wide variety of areas – whether in apparatus engineering, the chemical or pharmaceutical industry, the plastics or foodstuffs industry, the pulp and paper industry, metallurgy or fuel cell technology. Chemical and process engineers at TU Graz always take ecological, economic and legal aspects into account.

#### QUICK FACTS:

Duration of study: 4 semesters

ECTS credit points: 120

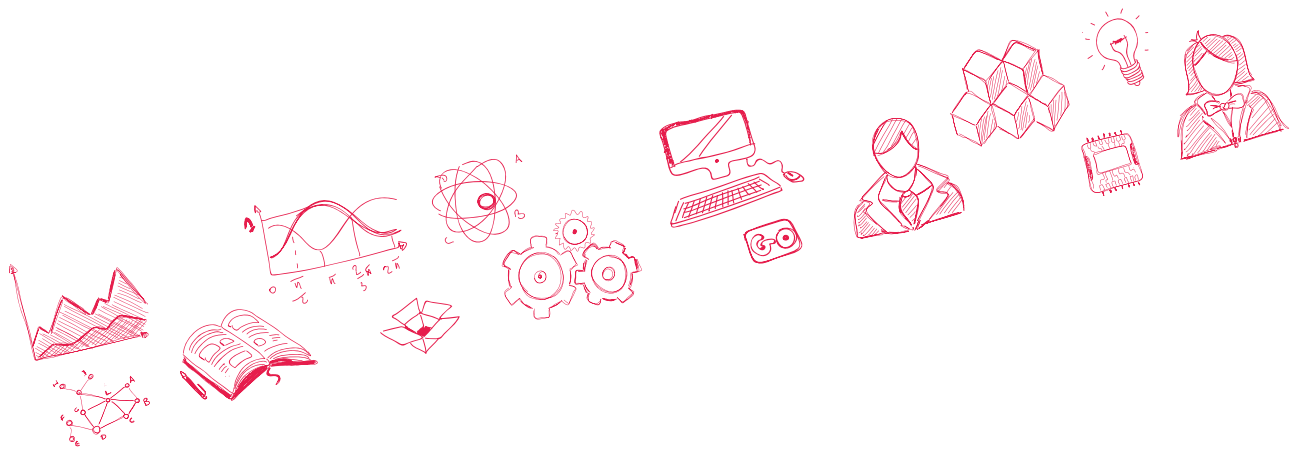
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Language of instruction: German

All further information about this master's degree programme such as admission, focus areas, collaborations and networks, career prospects and semester plan can be found at:

> [tugraz.at/go/master-chemical-pe](https://tugraz.at/go/master-chemical-pe)





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