



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



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Master's degree



MSc High Performance Computing / Quantum Computing

Deggendorf Institute of Technology • Deggendorf



Overview

Degree	Master of Science (MSc)
Teaching language	<ul style="list-style-type: none">English
Languages	All lectures and exams are conducted in English; therefore, fluent English skills are crucial.
Programme duration	3 semesters
Beginning	Summer semester
Application deadline	15 November to 30 November for March entries (summer semester)
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	<p>Welcome to the futuristic world of quantum computing, the next great evolutionary leap in computer technology, where data analytics are used to boost our understanding of the universe. Quantum computing is a new computer paradigm that will accelerate complex troubleshooting from years to minutes, potentially solving challenges that conventional computers cannot handle.</p> <p>Become an expert in this field and gain knowledge that can be adapted to many different exciting areas such as the improvement of forecasts and predictions, cryptography (the science of writing and solving coded messages) or pharmacology (the science of drugs). The course is divided into four main module groups to cover all areas of quantum computing and related topics.</p>

Current information

Rankings

WURI (World's Universities with Real Impact) Ranking 2022:

- No. 8 worldwide in the category "Crisis Management"
- No. 2 worldwide in the category "Entrepreneurial Spirit"

Course Details

Course organisation

This course is located on our flagship campus in Deggendorf, where it is embedded in the faculty of Computer Science. The course consists of three semesters and concludes with the Master's thesis.

Semester one

Physics for HPC/QC
Software Engineering
HPC/QC Programming Lab
HPC/QC Technology
Advanced Mathematics for HPC/QC
FWP I (Elective subject in accordance with study coordinator)

Semester two

Computer Architectures for HPC/QC
Networks for HPC/QC
Optimisation Methods
HPC/QC Infrastructure
System Design and Application of HPC/QC Systems
Advanced Mathematics and Physics for HPC/QC

Semester three

FWP II (Elective subject in accordance with study coordinator)
Master's colloquium
Master's thesis

A Diploma supplement will be issued

Yes

International elements

- Specialist literature in other languages

Course-specific, integrated German language courses

Yes

Course-specific, integrated English language courses

Yes

Costs / Funding

Tuition fees per semester in EUR

None

Semester contribution

72 EUR student service fee per semester

[Information for international applicants and students](#)

Costs of living

Approx. 700 EUR per month

Click the following link to find a financial overview for students who are living and studying here:
[monthly expenses](#).

Funding opportunities within the university	Yes
Description of the above-mentioned funding opportunities within the university	<p>If you are an enrolled DIT student, there are several opportunities to partially finance your studies through a scholarship.</p> <p>Detailed information about funding opportunities is published here:https://th-deg.de/en/study-with-us/funding.</p>

Requirements / Registration

Academic admission requirements	<ul style="list-style-type: none">• Bachelor's degree in computer science, physics, technology or a related subject• successfully completed assessment test• English level B2
Language requirements	<p>English level B2</p> <p>Please find the language requirements for this degree course here: https://www.th-deg.de/en/apply#language-requirements.</p>
Application deadline	15 November to 30 November for March entries (summer semester)
Submit application to	<p>Please apply directly to Deggendorf Institute of Technology via our application portal. All required documents must be uploaded on the application portal. It is not necessary to send in hard copies by postal mail.</p> <p>Please find more details regarding our application process here: https://www.th-deg.de/en/apply#international</p>

Services

Possibility of finding part-time employment	There are various job opportunities in and around Deggendorf.
Accommodation	<p>A supportive environment is vital for students to feel comfortable and do well in their studies. Therefore, we go to great efforts to support our students on personal, social and academic levels.</p> <p>The International Office assists international students with all matters regarding accommodation.</p> <p>There are several dormitories and many flats available in Deggendorf.</p> <p>View our flat rental website for private accommodation and get directly into contact with landlords: https://pmit-ext.th-deg.de/wb/search.</p> <p>For further information, please contact: accommodation-dit@th-deg.de.</p>

Career advisory service

Career service workshops and seminars are held throughout the year to help students with their job applications and interview techniques. We provide the following:

- CV checks
- Workshops and seminars for job preparation
- University job fair

Furthermore, we offer the [Job Rock-It](#) programme, especially designed for international degree-seeking students. In this programme, a clever combination of seminars, workshops and lectures provides a basic understanding of the German economy and thus enables easy access to the German labour market. This programme can help students with their final theses, and it can lead to internships or even permanent positions after graduation.

Support for international students and doctoral candidates

- Welcome event
- Buddy programme
- Tutors
- Accompanying programme
- Cultural and linguistic preparation
- Visa matters
- Pick-up service

Our Partners



Faculties and Fields of Study

Are you interested in environmentalism, psychology, physiotherapy or robots? We offer all this and more at the Degendorf Institute of Technology (DIT). Watch our video to learn more about our faculties and fields of study at DIT.

» more:
<https://www.youtube.com/watch?v=qCZobPOsD8A>

Deggendorf Institute of Technology



Deggendorf Institute of Technology

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We are a multi-award-winning university of applied sciences founded in 1994 and located in stunning Bavaria. Ranked as one of the best universities of applied sciences in Germany, we strive for academic excellence and are committed to producing global graduates with international degrees at the Bachelor's and Master's level. The total student population of more than 8,500 includes 41% international students from all over the globe. The language of instruction is either English or German, depending on the degree programme. Study groups rarely include more than 50 students to ensure not only a personal atmosphere but also individual support for students to excel. All full-time degree programmes are free from tuition fees.

Explore our [fields of study](#)!

Let us inspire you:

- [See the advantages of studying at DIT.](#)
- [Read through the International Prospectus.](#)

Intensive support:

A supportive environment is vital for students to feel comfortable and do well in their studies. We go to great efforts to support our students on personal, social and academic levels. International students who wish to experience the Bavarian lifestyle in a family can join the "Host Family Programme". "International Tutors" provide social support for international students, while "Study Buddies" help students to understand challenging lecture content. The International Office supports with accommodation, visas, health insurance, scholarships, etc. in addition to organising an orientation week and intercultural training for all incoming internationals.

- [Find out more about student support.](#)

International experience:

Our [200 partner universities worldwide](#) provide enrolled students with opportunities to gain experience and earn credits towards their degrees through foreign exchange semesters, or in some cases, through double-degree studies abroad.

Practical experience:

All undergraduate studies include a compulsory internship, giving students the opportunity to practice their hands-on skills. Postgraduate students have the opportunity to work on practical research and development projects on our own [technology campuses](#). We cooperate with more than 500 companies, including global players such as BMW, MAN, Continental and Siemens, where students can gain invaluable work experience. The university's [career service](#) organises a range of practical workshops and seminars to prepare students for the job market, meaning our graduates are particularly successful in the job market; 87% enter into permanent employment directly after graduation.

Student lifestyle:

We consider a [good lifestyle](#) to be an important factor for the well-being of our students. They are supported with many facilities, such as a range of student clubs, an extensive sports programme, a big band, a campus cinema, an international week including an international food fair, and social activities or day trips organised by the Erasmus Student Network. Our annual [campus open day and summer open-air music festival](#) are firm favourites among our staff and student community.

University location

Our three teaching campuses are located in Bavaria in Southern Germany, close to the city of Munich, the Austrian border and the Alps. Our main flagship campus is located in charming [Deggendorf](#) and is the base for most students. The [European Campus Rottal-Inn](#) (ECRI) is a dynamic and multicultural study environment where all classes are exclusively in English. The Cham campus is a cosy international hub for AI and mechatronic students.

[View the campuses](#)

Deggendorf Campus:

The [Deggendorf campus](#) is our largest campus, and it has recently undergone a vast extension to accommodate the expanding university community. It has a modern, central courtyard with a hovering deck over water where staff and students relax while having lunch, socialising, revising or just lounging. All lecture rooms, science labs, facilities and service centres are based on and around campus, creating an excellent studying environment.

The beautiful town of Deggendorf has a population of 40,000 and is located on the banks of the Danube river at the foot of the Bavarian Forest. Munich International Airport is one hour's drive away and can easily be accessed by public transport. Our students enjoy vibrant social lives, as Deggendorf has plenty to offer: restaurants, cafés and pubs, plus many cultural festivals and events. It has an excellent network of bike trails, leisure cruise ships on the river and a surrounding hilly landscape that provides a stunning natural backdrop to enjoy countless recreational activities.

Newly built, self-contained student apartment blocks are within close walking or biking proximity to campus, the town centre and all local amenities.

European Campus Rottal-Inn:

At the [European Rottal-Inn campus](#), all Bachelor's and Master's degree programmes are conducted exclusively in English, creating a dynamic study environment with a diverse and international student community.

The campus is nestled in the town of Pfarrkirchen among rolling, picturesque hills between the Danube and Inn rivers, close to the Austrian border. Pfarrkirchen has become culturally renowned in the area due to its exceptional art exhibitions, museum nights, festivals and events throughout the year. In summer, the old town festival tempts thousands of visitors with its multicultural culinary and musical events. All year round, students enjoy the relaxed Bavarian atmosphere in local cafés, restaurants and markets in the traditional town square. The surrounding beautiful Rott Valley has a range of appealing leisure activities, being well-known for its spas, golf courses, equestrian sports and extensive bike network.

Cham campus:

The Cham campus is our newest and most compact campus, with almost 350 students, 75% being international students. Its Master's programmes are taught completely in English, and students benefit from intensive personal supervision in small study groups. The campus has a close relationship with regional and national companies in the field of mechatronics, so students learn in both an applied and scientific way.

Only a ten-minute walk from the town centre of Cham, the campus offers a unique atmosphere. Situated directly on the Regen River, students complete their studies in a relaxed and scenic country environment.

There are plenty of leisure facilities within walking distance of the campus: a leisure park with various sports facilities, a swimming pool with access to the river, a cinema, a climbing hall, shops and restaurants. It's a great place to live and study!

Contact

Deggendorf Institute of Technology
Faculty of Computer Science

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✉ welcome@th-deg.de

🌐 Course website: <https://www.th-deg.de/qc-m>

📘 <https://www.facebook.com/HochschuleDeggendorf>

🐦 https://twitter.com/th_deggendorf

🌐 <https://www.linkedin.com/school/technische-hochschule-deggendorf/>

📷 https://www.instagram.com/th_deggendorf/

📺 <https://www.youtube.com/user/THDeggendorf>

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International Programmes in Germany - Database

www.daad.de/international-programmes
www.daad.de/sommerkurse

Editor

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Disclaimer

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