



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



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# Master's degree



## Mathematics

University of Potsdam • Potsdam



## Overview

Degree	Master of Science
Teaching language	<ul style="list-style-type: none"><li>• English</li><li>• German</li></ul>
Languages	Courses are mostly held in English (90%), and some courses are taught in German (10%).
Mode of study	Less than 50% online
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	15 August for the winter semester 15 February for the summer semester
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No

### Description/content

### Programme focus

The abstract beauty of modern day mathematics is only matched by its remarkable efficiency in applications in nearly every area of current science. These applications reach from physics, computer science, neuroscience, and medicine to financial models and ecology. A degree in mathematics represents the knowledge and skills to apply mathematical concepts to real world models and, furthermore, to develop and explore the underlying theory.

Studying mathematics at the University of Potsdam takes place in a familiar and friendly atmosphere for both lectures and tutorial sessions. This privileged set-up offers many opportunities for interactions with professors and students. Thanks to an individualised mentoring programme, students may refer to a faculty member who serves as a guide and provides useful

advice throughout the studies.

### Programme objectives

Students acquire a deep and readily applicable knowledge of mathematical methods and theories. Moreover, students gain the ability to approach problems in an analytical and structured way. The Master's degree programme substantially extends the knowledge and skills which were laid as a foundation in a Bachelor's degree.

Students choose individual specialisation topics through which they get acquainted with current research areas.

In order to support the interdisciplinary nature of mathematics, students can choose one supplementary subject such as physics, computer science, economics, business administration, cognitive science, life sciences with a focus on animal physiology, or bioinformatics.

The Master's degree programme offers a wide range of courses among the fields of algebra, analysis, applied geometry and topology, applied mathematics, data assimilation, geomagnetism, geometry, graph theory, mathematical modelling and system biology, mathematical physics, mathematical statistics, numerical mathematics, partial differential equations, probability theory, and uncertainty quantification.

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## Course Details

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### Course organisation

The aim of the curriculum is to offer a broad education as well as an individualised specialisation. This can be realised by choosing from a variety of courses in the two major profiles:

1. Structures in Mathematics Inspired by Physics
2. Mathematical Modelling and Data Analysis

These profiles provide a consistent list of base and advanced modules that are taught on a regular basis. Each individual curriculum can be composed of modules from one profile or both. In addition, there are further modules to choose from, which are not part of these profiles but offer complementing foundational content or research-based specialisations. Furthermore, students have the possibility to attend courses at the universities of Berlin and count the courses towards this programme.

For assistance in planning their curricula, you can approach the student advisory service and their mentors, or you can attend the welcome event.

You can find a detailed description of the programme [here](#).

Profile: [Structures in Mathematics Inspired by Physics](#)

The fundamental science of physics has an abundance of unanswered mathematical questions, spanning the range from general relativity to quantum mechanics and quantum field theory. These questions have sparked fascinating new developments in many branches of mathematics, such as analysis, geometry and probability theory. In the Structures in Mathematics Inspired by Physics specialisation, students will learn the basics and apply them to today's most active research fields.

The basic concepts are taught in courses offered each year in the branches of Differential Geometry, Functional Analysis, Partial Differential Equations, and Probability Theory. In advanced courses towards the end of the programme, students can further specialise in two or more of these branches. Lectures and seminars on current research topics, some held jointly with the Albert Einstein Institute for Gravitational Physics, offer a glimpse into current research.

Profile: [Mathematical Modelling and Data Analysis](#)

This profile provides a comprehensive theoretical basis and practical competencies to master mathematical modelling, simulation, data assimilation, and data analysis in an interdisciplinary setting.

While acquiring fundamental mathematical skills, students will also focus on mathematics as a unifying scientific language. This allows them to formulate and communicate complex knowledge and hypotheses and to compare theoretical results and numerical simulations with experimental data. This closely ties together mathematical theory and practice. Thus, the Master's profile will enable close cooperation with applied fields that are established research strengths of the University of Potsdam. These include Cognitive Sciences, Computer Science, Geosciences, Life Sciences, Pharmacology, and (Bio)physics among others.

<b>A Diploma supplement will be issued</b>	Yes
<b>Course-specific, integrated German language courses</b>	No
<b>Course-specific, integrated English language courses</b>	No

## Online learning

<b>Pace of course</b>	Instructor-led (Specific due dates for lectures/assignments/exams)
<b>Phase(s) of attendance in Germany (applies to the entire programme)</b>	Yes, compulsory
<b>Types of online learning elements</b>	<ul style="list-style-type: none"> <li>• Flipped Classroom</li> </ul>

## Costs / Funding

<b>Tuition fees per semester in EUR</b>	None
<b>Semester contribution</b>	No tuition is charged for studying at the University of Potsdam (with the exception of a few continuing education courses). There is only an administrative fee, which currently amounts to 316 EUR. This semester contribution includes a semester ticket entitling you to free use of public transport all over Brandenburg and Berlin.
<b>Costs of living</b>	Living in Germany is rather cheap compared to other countries in Northern and Western Europe. Monthly living expenditures of students at the University of Potsdam vary between 870 and 1,200 EUR, largely depending on accommodation. A more detailed list of the average monthly expenditures of our students can be found <a href="#">here</a> .
<b>Funding opportunities within the university</b>	No

## Requirements / Registration

**Academic admission requirements**

The admission requirements include a Bachelor's degree in Mathematics or a comparable degree with substantial "Pure Mathematics" coursework.

**Language requirements**

For the Master's programme, you will also need English language skills at a B1 level of the Common European Reference Framework for Languages if you are not a native English speaker. This condition is considered fulfilled for students (German or not German) possessing a higher education entrance qualification with English as a foreign language. Exceptions are possible on a case-by-case basis.

**Application deadline**

15 August for the winter semester

15 February for the summer semester

**Submit application to**

Please submit your application online and by postal mail to uni-assist:

Universität Potsdam  
c/o uni-assist e.V.  
11507 Berlin  
Germany

## Services

**Possibility of finding part-time employment**

Job opportunities for students alongside their studies are numerous. Depending on personal and professional skills, students can find jobs in the service sector (e.g. in restaurants, supermarkets, cinemas, museums, theatres, etc.) or work as student assistants at the University of Potsdam or at one of the many non-university research institutions located in the area. The German capital, Berlin, is located just around the corner, and students can also find jobs there. Please see [this website](#) for further information.

**Accommodation**

There are several student dormitories in Potsdam. These are administered exclusively by Potsdam's Association for Student Affairs ("Studentenwerk Potsdam"). You can apply for a room in one of these dormitories if you are under the age of 30. If you are a Master's student, you can only apply if the degree at the University of Potsdam is your first Master's programme. Additionally, there are also a few private dormitories in Potsdam, to which these conditions do not apply. However, many students prefer to find an apartment in Potsdam or Berlin, which they often share with fellow students. The housing market is tight, so please start looking for an accommodation as early as possible.

For information on how to register for a dorm room or find accommodation elsewhere, please click [this link](#).

**Career advisory service**

The Career Service of the University of Potsdam supports students and graduates who want to actively shape their careers. The aim is to ensure comprehensive career orientation and to provide opportunities for the development of professional skills. The Career Service offers workshops, seminars, and individual counselling. There are information pages on a wide range of occupational fields as well as a database of internships and jobs. Many of the services are also available in English.

**Support for international students and doctoral candidates**

- Welcome event
- Buddy programme
- Tutors
- Specialist counselling

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# University of Potsdam

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Founded in 1991, the University of Potsdam (UP) is a modern and dynamic institution thoroughly focused on innovative teaching and research. In the 2022 Young University Ranking compiled by Times Higher Education (THE), the UP earned the spot at the top and was ranked #1 in Germany and #28 worldwide.

Situated in the multicultural area of Berlin-Brandenburg, the UP attracts more than 20,000 students from 127 countries. We offer a broad range of degree programmes in various fields, including a large number of [English-language Master's degree programmes](#). Moreover, you can choose from a number of specialised programmes, such as short-term summer courses or a preparatory year.

Students at the University of Potsdam benefit from our co-operations with more than 40 internationally renowned research institutes in the region, such as the Potsdam Institute for Climate Impact Research or the Leibniz Institute for Astrophysics. In fact, Potsdam is the city with the highest density of scientists and academics per capita in Germany.

With its many charming castles, surrounding woodland and lakes, Potsdam is the perfect choice for studying in an inspiring and history-soaked environment.



## University location

A city of royal residences and enchanting park landscapes, the centre of the German enlightenment, a hotspot of international film production: Potsdam is all of this – and much more.

Potsdam can boast 17 royal palaces and grand buildings. It all started when the enlightened King Frederick the Great dreamt up the Sanssouci Palace and its magnificent park in 1745. Today Potsdam's palaces and parks form one of Germany's biggest UNESCO World Heritage Sites.

But living in Potsdam is not only about connecting with its historical heritage; there is also a rich cultural scene to discover. In the town centre, one can find lots of inspiring theatres, concert halls and museums. Potsdam is also home to one of the world's oldest film studios, Studio Babelsberg. Famous films like Nosferatu, Metropolis, Inglorious Basterds or The Grand Budapest Hotel were filmed here.

The city also has a lot in store for nature addicts. Situated alongside the Havel River and surrounded by lakes and greenery, Potsdam is the perfect spot for long strolls, running, swimming and paddling outdoors. One can easily explore the city and its surroundings by bike.

As a young and medium-sized city, Potsdam offers good conditions for families, providing lots of childcare and family support facilities. Moreover, it provides a very safe living environment.

If you're someone who enjoys big cities, then just hop on the next train and within only 30 minutes, you'll reach Germany's bustling capital of Berlin.

# Contact

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Institute of Mathematics

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🌐 Course website: <https://www.math.uni-potsdam.de/en/study/prospective-students/master>

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

🐦 <https://twitter.com/unipotsdam>

🌐 <https://www.linkedin.com/school/university-of-potsdam/>

📷 <https://www.instagram.com/unipotsdam/>

Last update 30.06.2024 21:20:49

# International Programmes in Germany - Database

[www.daad.de/international-programmes](http://www.daad.de/international-programmes)  
[www.daad.de/sommerkurse](http://www.daad.de/sommerkurse)

## Editor

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## GATE-Germany

Consortium for International Higher Education Marketing  
[www.gate-germany.de](http://www.gate-germany.de)

## Disclaimer

The data used for this database was collected and analysed in good faith and with due diligence. The DAAD and the Content5 AG accept no liability for the correctness of the data contained in the "International Programmes in Germany" and "Language and Short Courses in Germany".

The publication is funded by the German Federal Ministry of Education and Research and by contributions of the participating German institutions of higher education.



Federal Ministry  
of Education  
and Research