

## Entry requirements in a nutshell

- Undergraduate university degree in mathematics
- English language proficiency at level B2 CEFR
- Application deadlines:  
15 December for entry in April (summer semester), or  
31 May for entry in October (winter semester)

For further information on the entry requirements, the application process and documents to submit visit:  
[www.uni-passau.de/en/msc-compmaths](http://www.uni-passau.de/en/msc-compmaths)

## Further information and contact details

### Programme page on the web

[www.uni-passau.de/en/msc-compmaths](http://www.uni-passau.de/en/msc-compmaths)

### Faculty of Computer Science and Mathematics

Primary contact for prospective international students  
[masters@fim.uni-passau.de](mailto:masters@fim.uni-passau.de)

### Academic Advice Service

General advice on studying at the University of Passau  
[www.uni-passau.de/en/academic-advice](http://www.uni-passau.de/en/academic-advice)  
[advice@uni-passau.de](mailto:advice@uni-passau.de)

### International Office/iStudi Coach

Assistance with the immigration formalities and getting settled in Passau  
[www.uni-passau.de/en/international](http://www.uni-passau.de/en/international)  
[www.uni-passau.de/en/iStudi](http://www.uni-passau.de/en/iStudi)

### Student Registration Office

How to apply for the degree programme  
[www.uni-passau.de/en/apply](http://www.uni-passau.de/en/apply)

## Master of Science in Computational Mathematics



English-taught degree programme



Cover picture:  
[Colourbox.de](http://Colourbox.de)/Carlos Castilla



## Computational Mathematics

Are you a problem solver? Do you enjoy finding patterns and discovering new solutions to complex problems? If so, (computational) mathematics might be the perfect field for you! It combines the power of mathematics with the speed and precision of computers to solve real-world problems in fields such as engineering, (medical) data science and logistics.

Moreover, with the rise of artificial intelligence (AI), computational mathematics is more important than ever. Mathematics of AI, a subfield of computational mathematics, uses numerical methods and algorithms to solve AI-related problems, such as deep learning and neural networks. By studying computational mathematics, you'll learn how to develop, implement and analyse the algorithms and models that drive today's most advanced technologies.

Join the ranks of mathematicians and make a difference in the world with computational methods!

## Features

- Maths meets AI
- Focus on mathematical foundations
- Fully English-taught degree programme
- Numerous partnerships with universities abroad

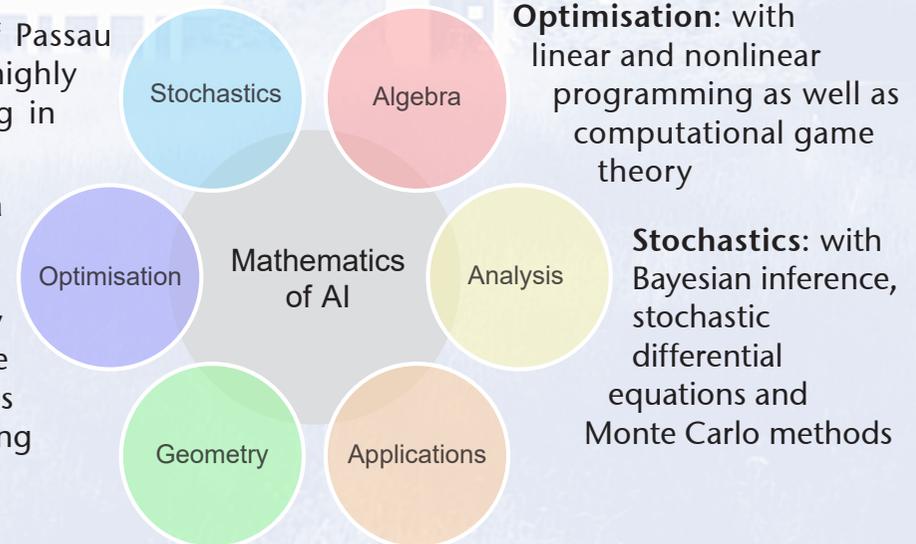


## Passau is the right place

Looking for a vibrant and dynamic academic environment? The University of Passau is the right place! Located in the heart of Bavaria, Passau is a city that embraces innovation and new technologies.

As a result, the University of Passau is at the vanguard of highly topical research and teaching in computational mathematics.

With a world-class faculty and a commitment to staying at the forefront in new mathematical developments, the University of Passau is the perfect place to launch your career in this exciting and rapidly growing field.



## Programme syllabus

The core modules consist of two mathematics seminars and the presentation of your master's thesis.

The compulsory elective modules are divided into module groups focusing on:

**Algebra:** with cryptography as well as computational algebra and logic

**Analysis:** with compressed sensing, mathematical foundations of machine learning, approximation theory and information based complexity

**Applications:** with signal and image analysis, mathematical modeling as well as (stochastic) simulations

**Geometry:** with expander and random graph theory as well as convex geometry

**Optimisation:** with linear and nonlinear programming as well as computational game theory

**Stochastics:** with Bayesian inference, stochastic differential equations and Monte Carlo methods