DAAD

Deutscher Akademischer Austauschdienst
German Academic Exchange Service

INTERNATIONAL PROGRAMMES

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Master's degree

Master of Science in Computer Science

Paderborn University • Paderborn

Overview

Degree	Master of Science in Computer Science
Course location	Paderborn
Teaching language	English
Languages	Courses are held in English.
Full-time / part-time	full-time
Programme duration	4 semesters
Beginning	Winter and summer semester
Application deadline	Winter semester (starting in October): 31 May Summer semester (starting in April): 30 November
Tuition fees per semester in EUR	None
Combined Master's degree / PhD programme	No
Joint degree / double degree programme	No
Description/content	Based on their undergraduate experience the students earn additional formal, algorithmic, and mathematical competences as they - are enabled to describe and analyse problems with formal methods; - acquire up-to-date research results and detailed, deep knowledge from a self-chosen area within the so-called Focus Areas, which are Classical and Quantum Algorithm Design, Computer and Communication Systems, Data Science and Intelligent Systems, Security, and Software Engineering; - are enabled to develop solutions to incompletely defined problems; - can handle complex, incomplete, and even contradictory information; and

- can structure and formalise problems and solution approaches.

During the Master's study programme the students acquire competences on methods and project management, which enable them to

- design and implement computing models, systems, and processes;
- apply innovative methods;
- develop the area of computing as a scientific discipline;
- define goals and topics, infer task assignments, organise solutions, lead and represent teams; and
- assess the non-technical effects of computing systems.

Based on this programme, in the end the Master's students are able to work in high-level professional positions, as well as continue their qualification with a PhD dissertation.

Course Details

Course organisation	The programme is organised in modules, with an overall workload of 120 ECTS credit points. Course modules usually consist of a lecture together with tutorials. Students must complete nine of these modules (6 ECTS credits each) in total. These course modules belong to one or more of five focus areas: Classical and Quantum Algorithm Design, Computer and Communication Systems, Data Science and Intelligent Systems, Security, and Software Engineering. Students can decide whether to specialise in one of these areas or not to specialise and gain broad knowledge in most or all of these areas. There is no need to decide on whether or where to specialise when joining the programme. Instead, students can study along their interests and passion, deciding along the way. This means that students are almost completely free to choose any modules they are interested in. Among these modules, there are no compulsory subjects.
	In addition to the course modules, a module to acquire "Key Skills" (6 ECTS credits each) has to be taken. Students will learn how to work scientifically, write scientific publications and give presentations. Another main element of the Master's programme is the student project group (20 ECTS credits). In the project group, teams of about eight to sixteen students work together on a research-related project for one year. The final part of the programme is the preparation and writing of the Master's thesis (30 ECTS credits); the last semester is reserved for writing this thesis.
	Twelve additional credit points must be earned in general studies, with a choice of courses from a variety of fields. It is recommended that international (non-German speaking) students take German language courses as part of their general studies.
	» PDF Download
A Diploma supplement will be issued	Yes
International elements	- International guest lecturers - Specialist literature in other languages
Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	About 360 EUR per semester
Costs of living	Rent: approx. 400 EUR Health insurance: approx. 125 EUR Food: 350 EUR Leisure: approx. 150 EUR Semester fees: 60 EUR per month (approx. 360 EUR each semester) Miscellaneous: about 120 EUR Sum: approx. 1,205 EUR
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	Applicants need a Bachelor's in Computer Science or in a comparable Bachelor's programme. When submitting the application, we will check whether the Bachelor's degree fulfils this requirement. It is important that applicants have a solid background in the following areas: The Bachelor's programme should contain at least 20 credits in Software Engineering, at least 20 credits in Theoretical Computer Science, at least 15 credits in Technical Informatics and at least 15 credits in Basic Mathematics of Computer Science. The Bachelor's grade must be below 3.0 in the German system (where 1.0 is best). International applicants from non-EU countries need to provide a "GRE Revised GeneralTest" certificate or a "digital Mastertest (dMat)" certificate. The required scores are at least 157 points in "Quantitative Reasoning" and at least 4.0 points in "Analytical Writing". The required overall score for the dMat is a percentile rank of at least 50. An exception is only possible if the Bachelor's grade is very good, i.e. if converted to the German system, the Bachelor's grade needs to be below the threshold of 1.59.
Language requirements	Applicants need to prove sufficient knowledge of English, for example by TOEFL paper-based (PBT) with at least 550 points, TOEFL internet-based with at least 80 points (IBT), equivalent knowledge to the Cambridge Test – Certificate of Advanced English (CAE) grade B, British Council IELTS, Minimum Band 6.5, Duolingo with at least 105 points or PTE Academic with at least 75 points. This is required from all applicants unless they completed their Bachelor's degree in a country where English is the official language. Certificates such as medium of instruction are not sufficient.
Application deadline	Winter semester (starting in October): 31 May Summer semester (starting in April): 30 November
Submit application to	https://www.uni-assist.de/online/?lang=en

Services

Possibility of finding part-	There are many opportunities for students to find employment, either as one of the university's

time employment	many student assistants or in one of many positions outside the university. The computer science department cooperates closely with the Software Innovation Campus Paderborn, with excellent contact to companies in the area that are looking for qualified students to join their workforce. We also closely cooperate with the Fraunhofer Institute for Mechatronic Systems Design. which also offers great opportunities to find a research-related job or Master's thesis in cooperation with practical experiences. Many smaller and larger high-tech companies from various fields call Paderborn and the surrounding region their home. These companies are also offering part-time jobs to good students, in particular with expertise in computer science.
Accommodation	University dormitory Dormitories of the "Studentenwerk Paderborn" (affiliated with Paderborn University): http://www.studentenwerk-pb.de/en/housing/ Application form for a residence in a "Studentenwerk" dormitory: https://tl1host.eu/SWPB/#admission
Career advisory service	The career service of the university offers job-oriented workshops, trainings, and field trips to companies. Furthermore, there are also programmes from the international office with the objective of enabling students to get work experience during their studies and to prepare them for the transition into the job market in Germany.
Support for international students and doctoral candidates	- Welcome event - Tutors - Specialist counselling - Buddy programme
General services and support for international students and doctoral candidates	The study service of the computer science department offers a monthly livestream on YouTube where prospective students can ask questions. This is particularly helpful for students whose application has been accepted as they can ask specific questions related to the Master's programme. The university's international office helps with more general questions and is available through e-mail. During the week before lectures start, new students can and should take part in the welcome days, during which the study programmes and plenty of other things are explained. This is also a good opportunity to personally get into contact with other students as well as some of the teaching staff. A peer mentor helps easing the transition into life and studying at Paderborn University.

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Katherin Jose
BSc

I, Katherin, from India, am studying in the Master's degree programme in Computer Science at Paderborn University. It is very flexible, allowing me to choose a focus area based on my passion. Supportive faculty and abundant study spaces contribute to academic success. The university promotes holistic growth through leisure activities, fostering memorable experiences. Paderborn offers diverse opportunities and a supportive community for an outstanding academic education in a serene environment.

Study Abroad in Paderborn

In the Study Abroad in Paderborn video series, professors, academic staff, PhD candidates, and students explain everything you need to know about studying abroad in Germany and specifically in Paderborn.

» more:
https://www.youtube.com/watch?v=6EJr-qmZ2GA&list=PLgDIYPioG-BDCv2IXE7A8xhQAzVkDU0az

Paderborn University

Paderborn University, main campus

© Universität Paderborn, Johannes Pauly

Paderborn University is a campus university within walking distance of the city centre. A large number of student residences are located on campus. The campus provides a wide range of services and facilities, including an excellent "Mensa" (canteen), sports facilities, and a small theatre.

UNIVERSITÄT PADERBORN

📍 University location

Despite its very modern service- and entertainment-oriented appeal, Paderborn also offers opportunities for the historically inclined, including a 700-year-old cathedral overlooking the city centre. Paderborn is known to be a very safe place. It also offers lots of attractions for students to enjoy themselves. The most famous among them is the annual "Libori" funfair, but you might also enjoy the quieter Christmas market in December.

Contact

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Computer Science

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🌐 Course website: https://cs.uni-paderborn.de/en/studies/degree-programs/computer-science

▶ https://www.youtube.com/user/FakultaetEIM

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International Programmes in Germany - Database

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Federal Ministry of Education and Research