

ADMISSION REQUIREMENTS

The prerequisites for being granted admission to the Master's program in Computer Engineering are a Bachelor's degree in Computer Engineering from Paderborn University or a similar Bachelor's degree from another college or university, proven English language proficiency, and, for international applicants, a GRE Revised General Test.

As Computer Engineering focuses on topics at the interface between Electrical Engineering and Computer Science, it is important that you have a solid background in both disciplines. When you submit your application we will check whether your Bachelor studies fulfill this requirement. As a rule of thumb your Bachelor studies should include at least 20 credits in Mathematics, at least 30 credits in Computer Science and at least 30 credits in Electrical Engineering.

International students can prove sufficient knowledge of English by, for example, TOEFL iBT 100 points, TOEFL paper & pencil 600 points, Cambridge Certificate of Advanced English (CAE) or British Council IELTS, minimum band 7.0. In the GRE Revised General Test, we expect as a general rule at least 157 points in „Quantitative Reasoning“ and at least 4.0 points in „Analytical Writing“.

As an international applicant you have to apply via the uni-assist online portal, which allows you to submit your application electronically. The uni-assist web site lists Paderborn University under „Universities (Master)“ and heading „North Rhine-Westphalia“. Before registering, please check whether you meet the admission requirements. The application deadline is 31st May for starting classes with October, and 30th November for starting classes with April.

KEY FACTS

Master Computer Engineering

Degree:	Master of Science (M.Sc.)
Duration:	2 years (4 semesters)
Begin of classes:	October (winter term) and April (summer term)
Application deadline:	May 31th and November 30th

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MASTER OF SCIENCE

STUDY
COMPUTER ENGINEERING

 **PADERBORN UNIVERSITY**
The University for the Information Society

www.eim.upb.de/ce/en

WELCOME TO THE WORLD OF COMPUTER ENGINEERING

Computer Engineering is a modern engineering science at the intersection of Computer Science and Electrical Engineering, combining two disciplines to work on solutions for future computer systems. Computer engineers deal with the analysis, the design and the evaluation of computer systems including hardware and software as well as with the application of computers to technical systems. Products from Computer Engineering can be met everywhere: The autopilot on the plane and the brake assist system in the car in the area of mobility, or the multimedia entertainment system at home or while traveling, or medical devices such as modern high-tech prostheses. These are just a few examples of developments of Computer Engineering, which affect our daily life.

Our Master's program in Computer Engineering provides graduates with the necessary in-depth understanding of modern computing technologies and is an excellent starting point for a career in the exciting field of information technology. Come and get to know us, our departments, the university and the city of Paderborn! We look forward to welcoming you!

WHY STUDY COMPUTER ENGINEERING AT PADERBORN UNIVERSITY?

Our Master's program in Computer Engineering is offered in cooperation between the department of Computer Science and the department of Electrical Engineering and Information Technology. Both departments have a strong international reputation and are among the best research institutions in Germany, regularly receiving top ranks. Both departments are highly successful in attracting research grants and in cooperating with industry partners, which allows for scientifically and practically relevant topics in the study course. Students find many opportunities to work on future-oriented and industry-related projects. We also offer an excellent education environment with the most modern technical infrastructure and laboratories, as well as an excellent support of students, with small groups in exercises and labs.



THE MASTER'S PROGRAM: CONTENT AND STRUCTURE

Our Master's program in Computer Engineering covers the fundamentals of software and hardware with a focus on the design of computer systems and their application in technical systems. Besides completing mandatory modules in Computer Science and Electrical Engineering, students specialize in one of the following focus areas:

- **Embedded Systems**
- **Nano- and Microelectronics**
- **Computer Systems**
- **Communication and Networks**
- **Signal, Image and Speech Processing**
- **Control and Automation**

The program also includes a two-semester project group, where teams of about six to twelve students work on an advanced research and development project. Practicing professional and social skills is an important aspect of the project group. Another module introduces to scientific work style and prepares students through research-oriented seminar work for their Master's thesis. The Master's thesis takes a full semester and is related to the chosen focus area.

The program takes 2 years (4 semesters) and is fully taught in English. Graduates obtain the degree of a Master of Science in Computer Engineering.

MASTER COMPUTER ENGINEERING – OVERVIEW

Master	Mandatory module CS „Advanced Computer Architecture“	6 ECTS
	Mandatory module CS „Networked Embedded Systems“	6 ECTS
	Mandatory module EE „Circuit and System Design“	6 ECTS
	Mandatory module EE „Statistical Signal Processing“	6 ECTS
	Elective modules in the chosen focus area	24 ECTS
	Further elective modules	18 ECTS
	Project group	18 ECTS
	Module scientific workstyle	6 ECTS
Master's Thesis	30 ECTS	

ECTS = European Credit Transfer System

CS = Computer Science

EE = Electrical Engineering

CAREER OPTIONS

Through the excellent education at the Paderborn University, Computer Engineering graduates have many career options. Computer engineers hold specialist and manager positions in research and development, project planning and manufacturing, measurement and test engineering, service and sales, management, and also education and training. The interdisciplinary qualification acquired at the intersection of Computer Science and Electrical Engineering is in large demand in especially these areas:

- **Computer systems**
- **Communication systems, e.g., mobile communication**
- **Nano/Microelectronics**
- **Embedded systems, e.g., automotive, aerospace, medical**
- **Microsystems**
- **Manufacturing and process automation**
- **Robotics**

COSTS

We do not charge any tuition fees!

Costs include a mandatory social fee and living expenses. The social fee is 260 Euro per term and includes the Semester-ticket, which gives you free access to regional public transport such as buses and trains. Living expenses include expenses for accommodation and subsistence, and are approx. 730 Euro per month.

PADERBON UNIVERSITY – INTELLIGENTLY NETWORKED

Paderborn University, founded in 1972, has developed into an internationally respected center of research and higher education. With just under 20,000 students – including 10% international students – and almost 240 professors, we offer modern degree programs tailored to the job market and an individualized, student-centric approach. We are located in the green heart of Germany: Hamburg, Brussels and Frankfurt are not far away. Germany has a long-standing academic tradition: its higher education is highly valued in society and is respected worldwide. This has resulted in a high level of funding for research and teaching with multiple distinguished institutions and foundations providing grants. In Paderborn, our understanding of university is based upon excellent quality of research and teaching embedded in and supported by local, regional and international networks. We make it our priority to be intelligently networked:

- **with industry, resulting in multiple fruitful cooperations and applied research projects**
- **across disciplines, meaning our institutes are interdisciplinary by nature**
- **in the region, where we work with education and industry partners towards shared goals**
- **and in the community, where the engagement of our students and staff fosters an increasingly diverse cultural scene.**

