MASTER PROGRAM

ELECTRICAL SYSTEMS ENGINEERING
1. **Professional** – We are not only interested in ensuring you successfully complete your degree: Finding a good job is just as important. Our network of companies in the region and beyond will provide you with opportunities during and after your studies.

2. **Affordable** – There are no tuition fees in Germany, even for international students. It is a state-funded system that offers a very good standard of higher education. Although a degree is easy on your finances, it is not easy on your brain: you will need to study hard!

3. **Compact** – A campus university means that you will find everything you need (library, housing, cafeteria, shopping, entertainment) within walking distance.

4. **Safe** – No one gets lost in Paderborn: this is a very safe and tolerant city. You do not need to worry about walking alone at any time of the day or night. Most people, especially young ones, can converse in English and are happy to help you.

5. **Supportive** – You’re given plenty of personalized support, starting with your application here. Every student’s situation is unique and we try to find answers for everyone.

6. **Personal** – You are never an anonymous student here. There are counsellors in the faculties and in the International Office who are on hand to help you in any way you need. Additionally, international student organizations provide study support as well as social events.

7. **Communicative** – International students are invited to attend our special German language courses. For our English language Master degree programs you do not need to speak German. However, a little knowledge of German will help making your stay here more comfortable.

8. **Comfortable** – Paderborn offers high quality student housing at reasonable prices. The International Office supports you in finding a place to live that meets your needs.

9. **Practical** – The companies located in and around Paderborn offer numerous opportunities for internships as well as practical subjects for a thesis. We will help you gain your first job experience during your studies.

10. **Fair** – All students have equal opportunities at Paderborn University. Students are expected to be independent and to manage their own course of study. You will easily receive the support you need if you come prepared and motivated.

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**10 REASONS FOR CHOOSING PADERBORN UNIVERSITY**
WHY STUDY
ELECTRICAL SYSTEMS ENGINEERING?

Being in the final phase of your Bachelor program in electrical engineering or a related field, you are working successfully in industry for some years, why not go a step further and pursue a Master degree? We invite you to take advantage of a program which builds upon your previous education and experiences, and provides the skills you need to become a highly qualified electrical engineer in the global economy.

The Master program in Electrical Systems Engineering focuses on electrical systems at an advanced level. This program deals with the analysis, construction and evaluation of electrical systems in hardware and software. It delivers a solid background in theories and methods for the design of electrical systems. Our academics carry out interesting research in diverse areas; have a look at our webpages!

Depending on your choice, the curricula of the first three terms differ. The fourth semester is entirely reserved for the Master Thesis project. The latter is often carried out in conjunction with a company internship.

• Excellent Bachelor degree in Electrical Engineering or a related field
• GRE - Revised General Test
• English language skills (at least basic proficiency required)

ENTRY REQUIREMENTS

• 2 Application deadlines:
  • Winter Semester (November 30)
  • Summer Semester (June 30)

• Program language: English
• Degree requirements: 2 years (max. 6 semesters)

KEY DATA

• In comparison to many other German cities, Paderborn is a dynamic city of about 150,000 inhabitants that charms visitors with its friendly green environment. Paderborn is one of the few cities in Germany with its friendly green environment.

COURSE CONTENTS AT A GLANCE

The Electrical Systems Engineering (ESE) program offers two specializations:

• Signal & Information Processing
• Electronics & Devices

Depending on your choice, the curricula of the first three terms differ. The fourth semester is entirely reserved for the Master Thesis project. The latter is often carried out in conjunction with a company internship.

1. SEMESTER - INTRODUCTION TO ESE

   ELECTRONICS & DEVICES
   - Electromagnetics & Fields & Waves
   - Circuit Theory
   - Basic DC & AC
   - Power Electronics
   - Analysis/Design
   - Realization/Test
   - Management of Projects
   - Topics in Systems
   - German or Other Language Course

   SIGNAL & INFORMATION PROCESSING
   - Signals & Systems
   - Simulation
   - Analysis
   - Control Theory
   - Statistical & Machine Learning
   - Advanced System Management
   - Technical Projects
   - Language Course

2. SEMESTER - FUNDAMENTALS OF ESE

   ELECTRONICS & DEVICES
   - Electromagnetics & Fields & Waves
   - Circuit Theory
   - Basic DC & AC
   - Power Electronics
   - Analysis/Design
   - Realization/Test
   - Management of Projects
   - Topics in Systems
   - German or Other Language Course

   SIGNAL & INFORMATION PROCESSING
   - Signals & Systems
   - Simulation
   - Analysis
   - Control Theory
   - Statistical & Machine Learning
   - Advanced System Management
   - Technical Projects
   - Language Course

3. SEMESTER - TO ESE

   ELECTRONICS & DEVICES
   - Electromagnetics & Fields & Waves
   - Circuit Theory
   - Basic DC & AC
   - Power Electronics
   - Analysis/Design
   - Realization/Test
   - Management of Projects
   - Topics in Systems
   - German or Other Language Course

   SIGNAL & INFORMATION PROCESSING
   - Signals & Systems
   - Simulation
   - Analysis
   - Control Theory
   - Statistical & Machine Learning
   - Advanced System Management
   - Technical Projects
   - Language Course

4. SEMESTER - MASTER THESIS

   ELECTRONICS & DEVICES
   - Electromagnetics & Fields & Waves
   - Circuit Theory
   - Basic DC & AC
   - Power Electronics
   - Analysis/Design
   - Realization/Test
   - Management of Projects
   - Topics in Systems
   - German or Other Language Course

   SIGNAL & INFORMATION PROCESSING
   - Signals & Systems
   - Simulation
   - Analysis
   - Control Theory
   - Statistical & Machine Learning
   - Advanced System Management
   - Technical Projects
   - Language Course

Career Perspectives

Being more practically oriented than a purely scientific Master degree, yet retaining much of the academic rigor, successful graduates of the program will be well-prepared, and highly sought-after, in the job market. Areas of opportunity include the electrical, electronics, automotive, and aviation industries, as well as IT, telecommunication, automation and energy engineering. Depending on your choice, the curricula of the first three terms differ. The fourth semester is entirely reserved for the Master Thesis project. The latter is often carried out in conjunction with a company internship.

• Electronics & Devices
• Signal & Information Processing

and medical technology also have demand for electrical engineering graduates. Graduates with excellent grades, who wish to continue their studies after the Master program, are perfectly placed to do so. Paderborn University is well-established as a center of research, and progression to study for a PhD within one of the many exciting and internationally active research groups is very smooth for good graduates.

THE CITY OF PADERBORN

Paderborn is a dynamic city of about 150,000 inhabitants that charms visitors with its friendly green environment. Unique is the combination of tradition and modernity: high-tech companies stand alongside medieval churches. The world’s largest Roman statue stands at Monumentses and sidewalks. The world’s largest computer museum and the seat of Charlemagne from 777 A.D. are both located in this peaceful town. Paderborn is built around its cathedral and park, which contains multiple bubbling sources of the Pader, Germany’s shortest river.

The quality of life is very high in Paderborn. Among the most renowned businesses in Paderborn and surrounding areas are: Pho- menon, EnBW, WISO, EADS, Benteler, Hella, dSPACE, Claas, Beckhoff, Siemens, Beckhoff, and Stute. Many a student has found em- ployment in these companies after an in- ternship or research project.
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