

SERVICE FOR STUDENTS

At the University of Paderborn, we conduct internationally recognized, cutting-edge research. This is your chance! We'll prepare you for challenging positions where you will take responsibility.

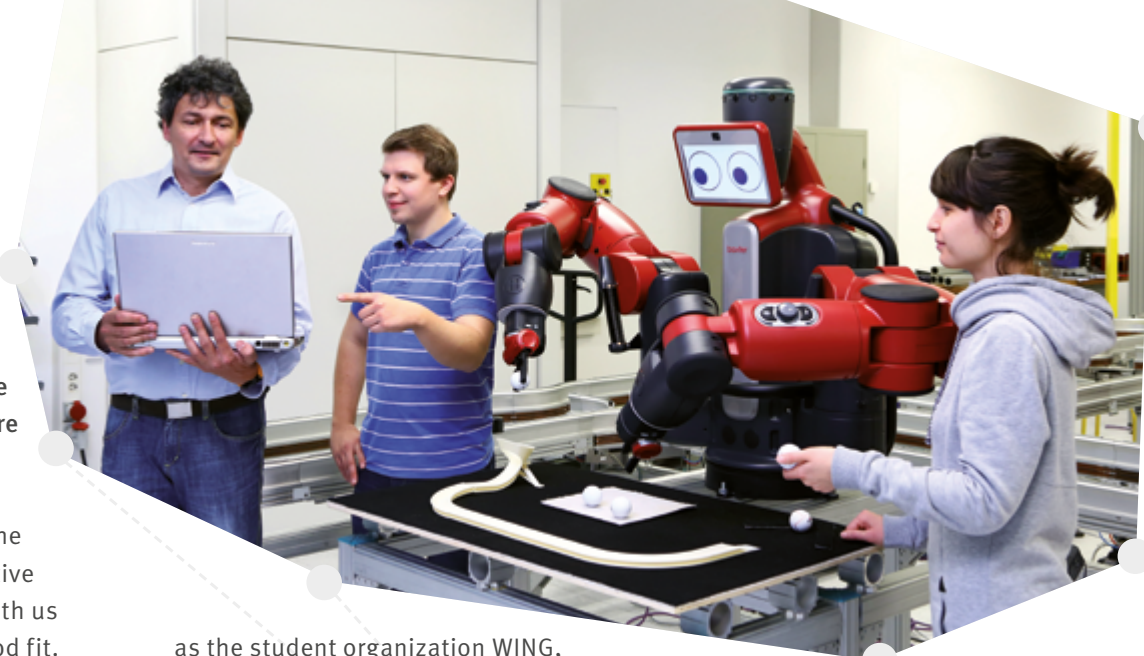
1. "Try before you buy": during the pupils' practicum for prospective engineers, you can test out both us and yourself to see if it's a good fit.
2. Female students are welcome! The University of Paderborn has set a goal of increasing the number of female students in the engineering disciplines further.
3. Thanks to our Germany-wide (and international!) system "eduroam", students from the University of Paderborn can use the internet for surfing or research for free on campus in Paderborn, at any major German university, or any participating university in the world.
4. The student representatives (German: Fachschaft) for mechanical and electrical engineering, as well

as the student organization WING, are available to support you in any issue with both advice and assistance.

5. The UPB cooperates with universities in many countries around the world. Through these cooperations, students have a variety of options for spending a semester or a year studying abroad.
6. In addition, departments and working groups offer interesting, course-related excursions and visits to interesting companies.
7. Continuous cooperation and collaboration with companies also provides students with opportunities for practica and internships.



wing.uni-paderborn.de



CONTACT

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Current information about application and registration can be found at: www.uni-paderborn.de/zv/3-3

IMPRINT

Publisher: Universität Paderborn, Fakultät für Maschinenbau
Photography: Grothus van Koten Mittelstandsmarketing,
Universität Paderborn, Fakultät für Maschinenbau
Design: goldmarie design
Last Edited: 11/2019



STUDY THE FUTURE IN PADERBORN



BACHELOR AND MASTER INDUSTRIAL ENGINEERING AND MANAGEMENT

PROGRAM DESCRIPTION

The required foundational modules provide a solid basis for the knowledge and methods needed for your chosen concentration. Typically they are completed over the course of the first four semesters and consist of modules such as:

- Basics of Natural Sciences
- Mathematics
- Engineering Mechanics
- Metrology and Electronics
- Organizational and Political Economics
- Trade Law
- Programming
- Operational Management and Organization

Or additional subjects depending on your chosen concentration. In the subject concentrations in both the Bachelor and Master programs, you have a wide selection of subjects to choose from, in which you will then be able to both acquire increasingly detailed knowledge, as well as have a chance to apply it. In addition to a number of individual options, we offer the following technical concentrations for specializing in mechanical engineering:

- Energy and Process Technology
- Vehicle Technology
- Production Technologies

- Polymer Technologies
- Lightweight Design and Hybrid Systems
- Mechatronics
- Product Development
- Material Properties and Simulation

For specializations in electrical engineering, the following concentrations are possible:

- Automation
- Electrical Circuitry
- Energy and Environmental Science
- Information Technologies
- Cognitive Systems
- Communication Technology
- Microelectronics
- Microsystems Technology
- Optoelectronics
- Process Dynamics

Hands-on, practical projects and/or these allow students to apply and consolidate their knowledge. The economics and management modules include:

- Micro- and Macroeconomics
- Commercial/Business IT

The industrial engineering and management degree program in Paderborn has a strong technical focus in both the bachelor's and master's programs.

IF IT'S INDUSTRIAL ENGINEERING AND MANAGEMENT ...

Industrial engineering and management links engineering-related sciences with economics. This is a combination that is in high demand, both today and for the future: companies desperately need engineers who are able to think outside the box and look up from their small corner of the world, and who can combine facts about technology, products, and production systems with marketing and corporate leadership. We encourage interdisciplinary cooperation and strategic critical thinking. This makes our student capable of both understanding and speaking the languages of engineering as well as of the business world.

... THEN IT'S THE FUTURE

The program is challenging for students, as they are required to be comfortable in two different disciplines. Employers know

this, and our graduates always have a large job market to choose from. Graduates from this field are needed in particular when planning and developing products for tomorrow's markets, or when innovative production and logistic processes need to be designed.

Specialists with modern engineering training are always needed.

Typical tasks or fields include technical marketing, strategic product planning, organizational management, management of research and development, and sales and distribution. Companies come from branches such as automobile assembly plants, machine and plant design and construction, the electronics industry, or ICT firms.



WHAT QUALIFICATIONS DO YOU NEED?

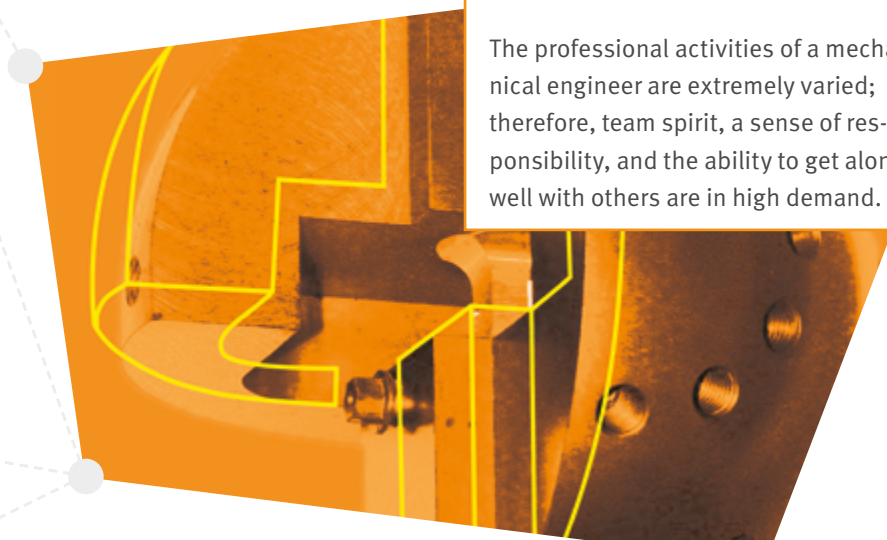
REQUIREMENTS FOR ADMISSION

- a German general qualification for German universities (German: Abitur), or a subject-specific university qualification (fachgebundenen Hochschulreife) or
- a German qualification specifically for a university of applied sciences (Fachhochschulreife), together with certification of having completed the general education requirements of German, English (or another foreign language) and mathematics, as well as the subject-specific confirmation of suitability (fachliche Eignung) or

- a legally recognized equivalent qualification (for international certificates: please turn to the International Office at the University of Paderborn at www.uni-paderborn.de/en/studium/international-office) or
- a professional certification which fulfils the corresponding university regulations

The **most important requirement** to successfully study industrial engineering and management is an interest in economics and technology, as well as a solid background in math and physics.

The professional activities of a mechanical engineer are extremely varied; therefore, team spirit, a sense of responsibility, and the ability to get along well with others are in high demand.



IT GOES LIKE THIS

PRACTICUM/INTERNSHIP

Students are required to obtain at least 6 weeks of practical experience. We recommend that students complete this experience before beginning their studies if at all possible. If a student is not able to complete all 6 weeks before starting, he/she must do so in the first half of their bachelor's program. You can find more information on this in the "Practicum/Internship Regulations" (Praktikumsordnungen).

BACHELOR'S DEGREE PROGRAM

This program focuses on foundational courses in economics and engineering, complemented by practical courses, labs, and seminars. It typically lasts for 6 semesters.

Duration: 6 semesters
Start: Winter Semester

MASTER'S DEGREE PROGRAM

The master's program gives students the ability to analyze technical, business-focused/management, and interdisciplinary challenges and to generate solutions. The focus is on theory-based specialist lectures and consolidation courses. It is designed to take 4 semesters.

Duration: 4 semesters
Start: Winter or Summer Semester

DEGREES OFFERED

- Bachelor of Science (B.Sc.)
- Master of Science (M.Sc.)
- Doctorate (Dr.-Ing.)
- Habilitation (German post-doctorate degree)



IN THAT CASE: PADERBORN

PROFESSIONAL PROFILE

Graduates have a vast spectrum of professional options, ranging from major collaboration or leading the design and structuring of industrial value-add and -creation processes, all the way to assuming a leadership position in an industrial environment.

YOUR CHANCE

The faculties for Electrical Engineering and for Mechanical Engineering are educating the next generation of engineering. The research conducted at the University of Paderborn is internationally recognized as being cutting-edge, and the results from that research are then integrated directly back into academics. We will prepare you for challenging positions requiring personal responsibility.

DIVERSE SPECIALIZATIONS

Based on the knowledge that you acquire in the first phase of your studies, you will be able to make an educated decision about which specialization you would like to pursue. Beyond that, you will also have a chance to become involved in institutes such as the Direct Manufacturing Research Center, the Heinz Nixdorf Institute, the Center for

Competence in Sustainable Energy Technology, or the UPBracing Team.

YOU ARE GERMANY'S FUTURE!

You are carrying out research and hands-on learning in fields such as:

- **Lightweight design**
- **Energy Sector**
- **Innovation Management**
- **Germany's "Industry 4.0"**

These are topics that will determine your – and Germany's – future in the coming decades.

PADERBORN

Paderborn is located in Eastern Westphalia (Ostwestfalen). Here, at a distance from the hectic atmosphere of big cities, worldwide market leaders rub elbows with cutting-edge researchers. Well-established, forward-thinking, and innovative family business have their headquarters here. With the federally recognized cluster "Intelligent Technical Systems", OWL has firmly established itself, both domestically and internationally, as one of the top regions in Germany.