Hochschule Düsseldorf
University of Applied Sciences

Faculty of Electrical Engineering and Information Technology

Bachelor of Engineering

Electrical Engineering and Information Technology

Profile

This bachelor's programme qualifies you as an engineer in electrical engineering and information technology. The syllabus is divided into modules. The basic modules of the first three semesters teach you the fundamentals of natural sciences and mathematics as well as electrical engineering and information technology. From the fourth semester onwards, you can choose modules for advanced studies within your chosen area of specialisation.

You can choose one of the following areas of specialisation:
– Automation Technology
– Electrical Power Engineering

– Information Technology
– Mechatronics
– Microelectronics
We react quickly and agilely to innovations and adapt module contents in all areas of specialisation accordingly. Every semester, we add new future-oriented subjects to our syllabus in the form of elective modules.

In the modules Technical English and Fundamentals of Business Administration as well as in non-technical elective modules, we teach you relevant key qualifications in addition to the purely technical content.

Besides lectures and exercises, the syllabus includes extensive practical elements, such as practical trainings, that take place from the very first semester onward. In state-of-the-art laboratories, you learn to work in teams responsibly and to independently realise projects in small groups. On field trips and during the practical phase of several months, you get in touch with businesses in the region and may already find your future place of employment.

At the end of the study programme, you write a scientific bachelor's thesis. You can continue your studies at HSD with the four-semester postgraduate Electrical Engineering and Information Technology master's programme.

Please note: Language of instruction is mainly German.

Career Options

The main objective of the Faculty of Electrical Engineering and Information Technology is to provide you with a solid and high-quality education, to challenge you intellectually and to broaden your horizons. We prepare you in a goal-oriented manner to become a leading engineer with solid technical expertise and practical know-how in the German and international job markets.

IT and electrical engineers have excellent job opportunities as the demand for specialists continues to be high in businesses. If you are looking for employment as a junior engineer, you will find numerous high-paying entry-level job offers.

Admission Requirements

Please check if you meet all requirements for admission to the study programme. Further information: hs-duesseldorf.de/beit-en

SYLLABUS

SEMESTERS 1–3

BASIC TECHNICAL MODULES

Fundamentals of Electrical Engineering | Fundamentals of Computer Science | Mathematics | Fundamentals of Natural Sciences | Components | Circuit Engineering

SEMESTERS 4–5:

TECHNICAL SPECIALISATION MODULES

Automation Technology: Actuator Engineering | Functional Safety and Model-Based Development | Communications Systems | Artificial Intelligence and Data Science | Process Control Engineering | Computers in Automation Systems | Control Engineering | Robotics | Sensor Systems and Signal Processing

Electrical Power Engineering: Electrical Power Supply | Electrical Machines | Electromagnetic Compatibility | High-Voltage Technology | Power Electronics | Control Engineering | Technical Mechanics

Information Technology: Digital Information Processing | Embedded Systems | Fundamentals of the Internet | IT Security | Artificial Intelligence and Data Science | Machine Learning | Signals and Systems Theory | Software Engineering

Mechatronics: Electrical Machines | Functional Safety and Model-Based Development | Communications Systems | Power Electronics | Computers in Automation Systems | Control Engineering | Sensor Systems and Signal Processing | Technical Mechanics

Microelectronics: Assembly and Packaging Technology | Design of Integrated Circuits | Semiconductor Manufacturing | Fundamentals of Semiconductors | Microelectronics | Microelectronic Sensors | Signals and Systems

FURTHER MODULES IN THE PROGRAMME:

Business Administration | Technical English | Technical Elective Modules | Non-Technical Elective Modules

SEMESTER 6

PRACTICAL PHASE AND BACHELOR'S THESIS

Please check the module manual (currently in German only) for detailed information on the contents of the study programme.

Further Information

Events for prospective students (in German only)
hs-duesseldorf.de/zsb_veranstaltungen

How to apply
hs-duesseldorf.de/application

Information for international applicants
hs-duesseldorf.de/degreeseeking

About the programme and admission requirements
hs-duesseldorf.de/beit-en

HSD on social media
facebook.de/hsduesseldorf
instagram.com/hsduesseldorf

Get in Touch

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hs-duesseldorf.de/zsb-en

Admissions Office
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hs-duesseldorf.de/zulassungsstelle (in German only)

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barrierefrei@hs-duesseldorf.de
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