Bachelor of Engineering

Electrical Engineering and Information Technology (Dual System)

Profile

The 8-semester bachelor’s programme Electrical Engineering and Information Technology (Dual System) is an undergraduate study programme accompanied by practical professional training. It combines technical vocational training with university studies in electrical engineering and information technology. This system takes less time than the usual pattern of a separate vocational training or employment followed by university studies – without compromising neither the practical nor the theoretical parts. The partner enterprises and the relevant chambers of industry and commerce are in charge of the vocational training or employment.
The basic modules focus on broad instruction in the fundamentals of natural sciences, mathematics, electrical engineering and information technology. The specialisation modules reflect different foci and serve to deepen your subject-specific knowledge in your area of interest. Depending on your choice of specialisation, you acquire subject-specific expertise in the following fields:

**Automation Technology:** fundamentals of instrumentation, control and automation (ICA); automated processes and process plants

**Electrical Power Engineering:** fundamentals of mechanics and control engineering; energy production and distribution, electromagnetic compatibility, electrical drives and power electronics

**Microelectronics:** fundamentals of semiconductor circuits; integrated circuit design and testing; semiconductor manufacturing

**Information Technology:** fundamentals of signals and systems theory; data transmission, network security as well as conception, design and implementation of application systems in information technology; application of anything from microcontrollers to internet-based distributed environments

**Communications Technology:** fundamentals of signals and systems theory; digital signal processing and data transmission

Within a technical compulsory elective module, you can expand your skills in your area of specialisation or deepen your engineering expertise. In parallel, we teach you transferable skills in modules on English, fundamentals of business administration and in a non-technical compulsory elective module.

The programme ends with an eight-week practical project and a bachelor’s thesis.

**Please note:** The language of instruction is mainly German.

**Career Options**

Possible areas of employment are – both in small and medium-sized enterprises, in the public sector and in multinationals: distribution, project planning, project management, design, implementation, planning, logistics, production control, business organisation, quality management.
**SEMESTERS 1–5**


**SEMESTERS 6–7**


**Electrical Power Engineering**: Electrical Machines | High-Voltage Technology and EMC | Electrical Power Supply | Power Electronics and Drive Control | Control Engineering


**Communications Technology**: Embedded Systems | Data Transmission and Protocols | Signals and Systems Theory | Digital Signal Processing | Information Coding | Microwave Engineering | Circuits and Systems | CAD of Microwave Circuits | Optical Communications Technology

**English**

1 Compulsory Elective Module: Technical Contents
1 Compulsory Elective Module: Non-Technical Contents

**SEMESTER 8**

8-Week Practical Project
12-Week Bachelor’s Thesis

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

Faculty contact:
Dean’s Office at the Faculty of Electrical Engineering and Information Technology
T +49 211 4351-2300
dekanat.ei@hs-duesseldorf.de

About the programme, admission requirements and application:
ei.hs-duesseldorf.de/beit_dual-en

Get in Touch

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

Student Advisory and Counselling Service (ZSB)
studienberatung@hs-duesseldorf.de
hs-duesseldorf.de/zsb-en

International Office (IO)
international-office@hs-duesseldorf.de
hs-duesseldorf.de/io-en

Family Support Centre
familienbuero@hs-duesseldorf.de
hs-duesseldorf.de/fam-en

Office of Counselling and Disability Services (ABS)
barrierefrei@hs-duesseldorf.de
hs-duesseldorf.de/abs-en

Psychological Counselling Service (PSB)
info.psb@hs-duesseldorf.de
hs-duesseldorf.de/psb-en

HSD Invites You

Visit us! Join courses during our yearly trial week (Schnupperstudium) and attend our information events (e.g. Tag der offenen Tür, Hochschulinformationstage, Wochen der Studienorientierung).

Information on all events (in German only):
hs-duesseldorf.de/zsb_veranstaltungen