



**Hochschule Düsseldorf**  
University of Applied Sciences



**Faculty of Electrical  
Engineering and  
Information Technology**

**Master of Science**

# **Electrical Engineering and Information Technology**

## **Profile**

The science-oriented Electrical Engineering and Information Technology master's programme comprises four semesters. It develops your knowledge and skills, qualifies you for complex research and development work or doctoral studies and expands your leadership skills.

The programme builds on existing competences in electrical engineering and information technology and enables you to do intensive research in your chosen field of specialisation from the first semester onwards.

You can choose from the following fields of specialisation, which are based on the current fields of research of the participating institutes and businesses:

- Automation Technology
- Electrical Power Engineering
- Communications and Information Technology
- Microelectronics

In all areas of specialisation, we react quickly and agilely to innovations, we enable and promote intensive work on current scientific questions. Every semester, we add new future-oriented subjects to our syllabus in the form of elective modules.

The main objective of the Faculty of Electrical Engineering and Information Technology is to optimise your career prospects and to prepare you for academic work – by teaching you methodological skills and additional subject-specific knowledge.

**Please note:** Language of instruction is mainly German.

## Career Options

As a master's graduate in the field of electrical engineering and information technology, you will have excellent opportunities on the job market. There is a high demand for technical specialists in leadership and management positions in the industry and service sectors and higher public service.

In addition to the classical fields of application, master's graduates can work in research and teaching or continue their education with doctoral studies.

## Admission Requirements

Please check if you meet all requirements for admission to the study programme. Further information:

[ei.hs-duesseldorf.de/meit-en](http://ei.hs-duesseldorf.de/meit-en)

# SYLLABUS

## SEMESTERS 1-3

### TECHNICAL MODULES IN THE FIELDS OF SPECIALISATION

#### **Automation Technology:**

Image Recognition and Processing | Production Measurement and Testing Technology | Advanced Control Engineering | Industrial Networks | Cooperative and Mobile Robotics | Artificial Intelligence | Modelling and Simulation | Numerical Methods | Smart Systems | Electromagnetic Field Theory

#### **Electrical Power Engineering:**

Drive Control | Electrical Networks | Energy Conversion | Advanced Control Engineering | Modelling and Simulation | Numerical Methods | Legal Framework | Electromagnetic Field Theory | Materials

#### **Information Technology:**

Algorithms, Data Structures, Graphs | IT Security | Machine Learning | Modelling and Simulation | Numerical Methods | Rapid System Prototyping | SoC Programming | Software Engineering | Systems Theory | Electromagnetic Field Theory

#### **Mechatronics:**

Drive Control | Advanced Control Engineering | Industrial Networks | Artificial Intelligence | Modelling and Simulation | Numerical Methods | Smart Systems | Electromagnetic Field Theory | Materials

#### **Microelectronics:**

Advanced MyP Arduino | Digital Signal Processing | EMC | Solid-State Physics | Semiconductor Technology | Infrared and Laser Technology | Nanoelectronics | Computer-Aided Circuit Design | System Integration | Electromagnetic Field Theory

## SEMESTER 4

### MASTER'S THESIS

Please check the module manual (currently available 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](https://hs-duesseldorf.de/zsb_veranstaltungen)

### How to apply

[hs-duesseldorf.de/prospectivestudents/degreeseekings/application](https://hs-duesseldorf.de/prospectivestudents/degreeseekings/application)

### Information for international applicants

[hs-duesseldorf.de/degreeseeking](https://hs-duesseldorf.de/degreeseeking)

### About the programme and admission requirements

[ei.hs-duesseldorf.de/meit-en](https://ei.hs-duesseldorf.de/meit-en)

## Get in Touch

### Dean's Office at the Faculty of Electrical Engineering and Information Technology

[dekanat.ei@hs-duesseldorf.de](mailto:dekanat.ei@hs-duesseldorf.de)

### Student Advisory and Counselling Service (ZSB)

[studienberatung@hs-duesseldorf.de](mailto:studienberatung@hs-duesseldorf.de)

[hs-duesseldorf.de/zsb-en](https://hs-duesseldorf.de/zsb-en)

### Admissions Office

[zulassung@hs-duesseldorf.de](mailto:zulassung@hs-duesseldorf.de)

[hs-duesseldorf.de/zulassungsstelle](https://hs-duesseldorf.de/zulassungsstelle) (in German only)

### International Office (IO)

[international-office@hs-duesseldorf.de](mailto:international-office@hs-duesseldorf.de)

[hs-duesseldorf.de/io-en](https://hs-duesseldorf.de/io-en)

### Family Support Centre

[familienbuero@hs-duesseldorf.de](mailto:familienbuero@hs-duesseldorf.de)

[hs-duesseldorf.de/fam-en](https://hs-duesseldorf.de/fam-en)

### Disability Services (ABS)

[barrierefrei@hs-duesseldorf.de](mailto:barrierefrei@hs-duesseldorf.de)

[hs-duesseldorf.de/abs-en](https://hs-duesseldorf.de/abs-en)

### Psychological Counselling Service (PSB)

[info.psb@hs-duesseldorf.de](mailto:info.psb@hs-duesseldorf.de)

[hs-duesseldorf.de/psb-en](https://hs-duesseldorf.de/psb-en)

HSD on social media  
[facebook.de/hsduesseldorf](https://facebook.de/hsduesseldorf)  
[instagram.com/hsduesseldorf](https://instagram.com/hsduesseldorf)

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