International Programmes in Germany 2017

INCLUDES ONLINE ELEMENTS

Electrical Engineering and Information Technology - International Master of Science • Darmstadt University of Applied Sciences • Darmstadt

Degree

Master of Science

Joint Degree/Double Degree

Double degree programmes with:

- Ecole d'Ingénieur en Génie des Systèmes Industriels (EIGSI), La Rochelle, France
- VIT University, Vellore, India
- Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia
- Institut Teknologi Bandung, Bandung, Indonesia

Course language(s)

Courses will be held in English only.
Mandatory German classes are offered to enable students to work in German companies.
German language skills (A2) are recommended but optional before starting the programme.

Admission semester

Winter semester only

Beginning

1 September

Programme duration

Four semesters (two years)

Application deadline

31 March for the following winter semester
No intake in the summer semester

Course content

All students will attend courses in System

h_da HOCHSCHULE DARMSTADT UNIVERSITY OF APPLIED SCIENCES [http://www.eit.h-da.de/mse]

h_da HOCHSCHULE DARMSTADT UNIVERSITY OF APPLIED SCIENCES fbeit FACULTY OF ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY [http://www.eit.h-da.de/mse]

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Course website [http://www.eit.h-da.de/mse] »

Submit application to
Application is done via the university's web portal only. An application through uni-assist is not required. For details, please check: http://www.eit.h-da.de/mse [http://www.eit.h-da.de/mse]

Design/Engineering Processes and Project Management. The rest of the curriculum depends on the chosen major.

Automation Major

The main goal of the course is to expand the students' theoretical and practical knowledge in different fields of modern and advanced automation technology as well as application-oriented computer science. The Master's degree course also addresses modern control engineering and robotics. The programme is structured in a way to foster analytical thinking and real-life experiences through laboratory assignments.

In addition to the compulsory modules for all majors, there are four compulsory modules for the major automation:

- Advanced Automation
- Advanced Information Technology
- Advanced Feedback Control
- Advanced Robotics

Communications Major

The communications major programme offers in-depth background encompassing state-of-the-art communication techniques. The programme builds the students' ability to participate in research and implements projects dealing with modulation and coding schemes. It also expands the students' knowledge on microwave components and systems as well as theory and applications of discrete time signals.

The programme is highly research-oriented and has been designed not only to offer factual knowledge but also to give students various chances to apply what they have learned in the lectures during laboratories.

In addition to the compulsory modules for all majors, there are four compulsory modules for the communication major:

- Advanced Modulation and Coding
- Information Networks
- Digital Signal Processing
- Microwave Components and Systems

Embedded Electronics and Microelectronics Major:

This Master's programme has been designed in a way that captures the essence of the rapidly developing fields of embedded microelectronics. It builds the students' ability to deal with complex embedded systems in hardware and software, and to implement hardware algorithms and systems onto digital hardware platforms. The programme also expands the students' knowledge of microelectronics systems and signal processing components as well as state-of-the-art embedded software architecture, including automotive technology and multi-core concepts.

The Master's course is structured in a way that

students can take what they have learned in the lectures and apply this knowledge in laboratories.

In addition to the compulsory modules for all majors, there are four compulsory modules for the embedded and microelectronics major:

- Complex Digital Architecture
- Advanced Embedded Systems
- Microelectronic Systems
- Design and Test of Microelectronic Systems

Power Engineering Major

The power engineering major programme is structured to train students in modern electrical power engineering and renewable energy. During this course, students will learn to cope with real-life problems in industry by understanding the correlation between theoretical aspects and practical boundaries. The Master's degree programme also provides students with knowledge about planning and operating modern power systems. Students will be introduced to devices and circuits for controlling and converting electrical power as well as power electronics.

The programme has been designed to offer various chances to apply what has been learned in the lectures during laboratories.

In addition to the compulsory modules for all of the majors, there are four compulsory modules for the power engineering major:

- Advanced High Voltage Technology and Theory of Electric Fields
- Power Systems and Control Technology
- Control of Electrical Drives & E-Mobility
- Power Electronics and Switching Power Supply

Educational organisation

The course consists of two semesters with lectures/labs (six modules, 7.5 CP per module) and German classes as well as two semesters in industry (industrial project and Master's thesis).

Semester one: academic theory courses (lectures and labs)
Semester two: academic theory courses (lectures and labs)
Semester three: industrial internship
Semester four: Master's thesis

Study abroad unit(s)

Double degree programmes with:

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- Institut Teknologi Bandung, Bandung, Indonesia

Internships

With a strong emphasis on practical laboratory work, we ensure that you gain solid experience to start a successful career in a highly qualified job in the high-tech engineering industry in Germany or abroad. Many renowned companies cooperate closely with the H-DA. Therefore, an important step during the programme is the mandatory internship of six months during the third semester. The student will work at a leading German or international company during their internship. The internship acts as a door opener for the Master's thesis, which is also performed in R&D intensive industry.

ECTS credits

120

Funding of the joint degree / double degree

DAAD (German Academic Exchange Service)

Course-related German language courses

Yes

Course objectives

With a strong emphasis on applied sciences, we ensure that our students gain the solid technical knowledge and intercultural skills to start a successful career in the high-tech engineering industry.

Digital Course Module(s)

Wikis

Description

Most courses are accompanied with Moodle modules, containing course material, exercises, and exam preparations.

Digital modules are compulsory elements of the study programme

Yes

Tuition fees

This postgraduate course is supported both

academically and financially by the German Ministry of Education, Science, Research, and Technology; thus, there are no tuition fees for students. There is a one-time application fee.

Enrolment fees

Around 280 EUR per semester

Costs of living

Around 850 EUR per month

Job opportunities

Jobs (as a "Werkstudent") are available in various companies in the Rhine-Main region, although availability depends on prior experience and accomplishments. The university has a Career Center to support you in finding a job. The internship and Master's thesis (semesters three and four) are conducted in industry and are paid.

Language requirements

Very good knowledge of English

- TOEFL internet-based score 88 or better
- IELTS minimum band score 6.5 or better

Academic requirements

BEng/BSc in Electrical Engineering

Where to apply

Application is done via the university's web portal only. An application through uni-assist is not required. For details, please check: http://www.eit.h-da.de/mse [http://www.eit.h-da.de/mse]

Arrival support

Senior students will support you in preparing your trip to Darmstadt University of Applied Sciences (H-DA). They will also pick you up at the airport and accompany you to the university and your apartment. All required formalities like health insurance, enrolment, etc., will be organised by the faculty upon your arrival. A detailed brochure guiding your start in your new home country, Darmstadt, and the university will be provided to every new student.

Services and support for international students

Having more than 10 years of experience in international programmes, our aim is to facilitate the integration of our students by offering the following

additional services:

- intercultural workshops about Germany's culture
- trips to Mainz, Heidelberg, and Bonn to learn about Germany's history
- intensive German classes reaching at least A2 level
- technical bridging classes to prepare yourself for the challenging lectures ahead
- support from our Career Center

Accommodation

In Germany, dormitories are off campus. As we know that it is very challenging to organise a room from a foreign country, we have reserved a sufficient number of rooms in private student dormitories and help our international students by establishing the contact between them and the housing agencies.
There are different student residences available, most of them in Darmstadt-Eberstadt.
The rental period is at least 12 months. All rooms are furnished with a bed, wardrobe, desk, and chair. Kitchen and bathrooms are shared with other students on the same floor. All student residences have internet access.

Course website

www.eit.h-da.de/mse [http://www.eit.h-da.de/mse]

About the university

With its approx. 15,500 students and 40 degree programmes, H-DA is one of the largest universities of applied sciences in Germany.
Its teaching and research capacity ranges from engineering sciences, natural sciences and mathematics, and information sciences and informatics to economics and society, architecture, the media, and design.
Quality characteristics of the university include good student mentoring and a clear practical orientation during the programmes of study.
Various independent studies have regularly confirmed the good reputation of its graduates.

Total number of students

15,500

Total percentage of international students

18 %

About the city

Darmstadt is a "City of Science": this designation, granted in 1997 with a certificate by the Hessian Ministry of the Interior, recognises the national and

international importance of the city in the areas of science and research. Three Fraunhofer institutes have their home in Darmstadt: IGD, LBF and SIT. Darmstadt is a capital of European space technology due to its two central institutions: Eumetsat - the meteorological centre of Europe - and ESA/Esoc - the European Space Operations Centre.
Darmstadt's globally operating companies such as Merck, Software AG, Wella, Goldwell/KPSS, Evonik-Röhm, Schenck-Process or Schenck-RoTec have distinctive departments of research and development at their disposal.
The renowned GSI Helmholtz Centre of Heavy Ion Research performs research in physics and related natural science disciplines. Many elements were discovered here for the first time, such as "Darmstadtium" - element 110 of the periodic table of elements - named after the home town of GSI. The element is also commemorated in the name of the Science & Congress Centre.
The city has an exceptionally fortunate location in the centre of Europe. It lies just half an hour away from the international Rhine-Main airport in Frankfurt. As a medium-sized city with more than 140,000 inhabitants, it offers 120,000 jobs - a remarkably favourable ratio. The city is the economic and cultural centre of the southern Rhine-Main area. In education, leisure, culture, shopping or sports, many visitors find Darmstadt to be a friendly city in the Rhine-Main-Neckar area.