International Programmes in Germany 2018

Automotive Systems (Master of Engineering) • Esslingen University of Applied Sciences
• Esslingen am Neckar

Degree
Master of Engineering

Course language(s)
English
A German language course starting with an intensive course at different levels is offered at the beginning of the programme in September. Students also have the opportunity to learn various other languages.

Admission semester
Winter semester only

Beginning
Annually at the beginning of September

Programme duration
18 months

Application deadline
31 March of each year
Online application (See: http://www.hs-esslingen.de/en/the-university/faculties/graduate-school/application-information.html)

Course content
The Esslingen "Master of Engineering in Automotive Systems" (ASM) aims to provide students with a specialised professional qualification in sophisticated automotive systems. Students have to choose one of the three electives: Vehicle Dynamics, Software-Based Automotive Systems or Car Electronics. Cross-cultural, interdisciplinary student projects form a practical complement to the lectures. Through these, students are given the opportunity to share not only their specialised knowledge but also their cultural backgrounds in real-life working scenarios.

First semester - Foundations:
- Mathematical Methods in Engineering
- System Design
- Simulation and Control I
Additional modules as supplement according to CONTACT
Hochschule Esslingen
Graduate School
Ute Brinkmann
Flandernstraße 101
73732 Esslingen am Neckar
Tel. +49 (0) 711-3 97 44 74
E-mail [mailto:Ute.Brinkmann@hs-esslingen.de]
Course website [http://www.graduate-school.de]
Facebook [http://www.facebook.com/EsslingenGraduateSchool]
Twitter [http://twitter.com/EsslingenGSI]
Additional modules as supplement according to educational background:

- Vehicles Technology
- Electronics, Sensors and Measurement Techniques

Second semester - Advanced courses/electives:
For all electives: Simulation and Control II
Elective "Vehicle Dynamics":
- Ride and Handling: Handling, Suspension Modelling
- Powertrain: Transmission Systems, Transmission Control and Engine Control Systems
Elective "Software-Based Automotive Systems":
- Reliable Embedded Systems: Safety and Security, Selected Topics on Real-Time Systems
Elective "Car Electronics":
- Electric and Electronic Architecture: Electronics and Communications, Prototyping and Simulation, Optical Systems and Lab Optical Systems
- Packaging and Integration: Packaging and Wiring Harness, Automotive EMC, Electronics and Communications II and Lab Car Electronics

Third semester - Master's Thesis:
In their final thesis, students demonstrate the full extent of their scientific and practical engineering knowledge of a specific subject. Master's theses can be performed individually or in a team, either at the university or, preferably, within a company. The duration is six months, including training in soft skills.

Study abroad unit(s)
The Master's thesis can be done abroad.

Internships
No internship required, but students will have the opportunity to complete a Master's thesis in the third semester (six months).

Forms of assessment
Controlled lab reports, written exams after lecture periods, final thesis to be defended, and attendance

ECTS credits
90

Diploma supplement
Yes

Course-related German language courses
Yes

Further Contacts
Prof Dipl-Ing Erich Schindler

E-mail [mailto:Erich.Schindler@hs-esslingen.de]

Submit application to

Hochschule Esslingen
Graduate School
Frau Ute Brinkmann
Flandernstraße 101
73732 Esslingen
Germany
The aim of the MEng ASM:
The Esslingen Master of Engineering reflects the needs of globally oriented companies. The programmes are designed for students who wish to become highly qualified engineers in the field of automotive systems for the development of feedback control systems and automotive electronics. To this end, the course is given in close conjunction with local industry, emphasising practical experience. In addition, students are given the chance to work in networked projects in multicultural teams.

Aim of elective “Vehicle Dynamics”:
Graduates will have the chance to work in the field of development and testing of innovative automotive functions for steering, suspension and powertrain to improve ride and handling, stability, driveability and fuel economisation.

Aim of elective “Software-Based Automotive Systems”:
Graduates will have the chance to work in the field of development, market launch, and supervision of vehicle series production of suitable and innovative car communication systems and of safe software.

Aim of elective “Car Electronics”:
Graduates will have the chance to work in the field of specification, development and testing of control units and their integration into the car, taking into account automotive boundary conditions (function, packaging, EMC).

The Master of Engineering programme in Automotive Systems (ASM) started in 2008 and is offered every year. A Master's degree can be achieved after the usual study period of three semesters (one and a half years); the language of instruction is English. The aim of this course is to reach a specialised, professional level in one of the three fields of the electives: Vehicle Dynamics, Software-Based Automotive Systems or Car Electronics in Automotive Systems.

**Digital Course Module(s)**
Moodle

**Description**
Moodle

**Digital modules are compulsory elements of the study programme**
Yes

**Tuition fees**
1,500 EUR for non-EU international applicants; no tuition fees for German and EU applicants
Enrolment fees
Each semester, students are required to pay approx. 180 EUR as an enrolment fee.

Costs of living
In order to cover personal expenses during the study programme in Esslingen, we recommend that participants budget around 750 EUR per month, for accommodation (310 EUR), living (200 EUR), health insurance (66 EUR), books (60 EUR), excursions (25 EUR) and miscellaneous expenses (100 EUR).

Job opportunities
A limited number of student jobs are available. Currently we have no career service but this is planned for the future. There are many job opportunities for good students but this depends on the economic situation.

Language requirements
It is recommended to have a basic knowledge of German (level A1 finished) by 1 September (it would be advantageous to have achieved it by 31 March); German level A2 has to be completed by the end of the second semester.
An English language test is required (not for applicants who come from English-speaking countries or who graduated from English-speaking Bachelor’s programmes): TOEFL, 530 paper-based, 197 computer-based, 71 Internet-based or IELTS test (minimum 6.0 points); Cambridge Certificate (FCE, CAE, CPE) is accepted, as well as Unicert II.

Academic requirements
Applicants should hold a Bachelor’s degree equivalent to the elective chosen:
- Bachelor of Automotive Engineering, Mechanical Engineering or equivalent for the elective Vehicle Dynamics
- Bachelor of Mechatronics, Electrical Engineering or equivalent for the elective Car Electronics (at least 20 CP in Electronics/ Electrical Engineering)
- Bachelor of Information Technology, Electrical Engineering or equivalent for Software-Based Automotive Systems
- two letters of recommendation
- letter of motivation, one page

Where to apply
Please see:
Arrival support
Assistance with integration is provided through the student services of the Graduate School. We offer an integration week including local tours, a campus tour, information sessions on health insurance, accommodation, transport, bank accounts, etc.

Services and support for international students
- Administrative and organisational support, study programme advice
- Support in finding accommodation
- Offer of German language courses at different levels
- Cultural excursions
- Social support, health insurance, visa issues, etc.
- Possibility of learning various languages
- Offer of a seminar "How to apply for a Master's thesis"

Accommodation
The cost of accommodation is approx. 310 EUR per month in a dormitory. Assistance is provided upon arrival. Application for accommodation is only possible after the student has been accepted.

Course website
www.graduate-school.de [http://www.graduate-school.de]

About the university
The University of Applied Sciences Esslingen, with its focuses on engineering studies, business studies and social sciences, covers a wide range of subjects. In October 2006, two historical universities were merged: the former "Königliche Bauwerkschule, Abteilung Maschinenbau" (Royal School of Construction, Faculty of Mechanical Engineering), which had been relocated to Esslingen from Stuttgart in 1914, and the "Soziale Frauentenschule des Schwäbischen Frauenvereins" (Social Women's School of the Swabian Women's Association), founded in 1917. Both schools were elevated to the status of University of Applied Sciences in 1972. Currently, around 6,000 students are enrolled in 11 faculties. They take courses on three campuses: the city centre campus lies in the heart of Esslingen;
hilltop campus stands on a hill overlooking the city; and the Göppingen campus is situated 32 km away from Esslingen.

As a lively university, the University of Applied Sciences Esslingen is continually adapting to meet the demands of current practice in all its fields of work. Because of this, the business studies and industry-oriented degree programmes foster intensive contact with many important companies in the south-west of Germany and make use of a network which has been continually extended over the past 50 years. In the densely populated region of Baden-Württemberg, there are also a large number of state-run and independent providers of health and social care. For the degree programmes in health and social care and care sciences at the university, they offer excellent and extensively used opportunities for cooperative work in the areas of training, study and research. The central philosophy of the University of Applied Sciences Esslingen is to offer degree programmes which are practice-based but also oriented towards the future. Manageable student numbers enable intensive study and cooperative relationships between staff and students. Practical semesters, project work, group work and practically oriented, scientific degree theses are all aimed towards successfully preparing the students for an academically sound, professional career.

Its excellent reputation and the quality of the scientific and professionally grounded training have ensured that the University of Applied Sciences Esslingen is regularly placed among the top universities in various university ranking schemes. The University of Applied Sciences Esslingen endeavours to provide favourable work and study conditions for young parents. In an audit carried out by the "Beruf- und Familie GmbH" (a non-profit organisation concerned with promoting family-oriented personnel and student policies) it was certified as a "family-friendly university".

The Graduate School was founded in 1999. International Master's programmes are organised here. A comprehensive service for students from all parts of the world is guaranteed by the Graduate School.

**Total number of students**
6,000

**Total percentage of international students**
8 %

**About the city**
A history of culture and technology
The history of Esslingen dates back to the year 777, when the town was first mentioned in an official document. Esslingen developed into an important market town and in the 13th century was officially recognised by the Holy Roman Empire as a "Free City
recognised by the Holy Roman Empire as a "Free City of the Empire". In the Middle Ages, the great trade route from Holland to Venice crossed the River Neckar at Esslingen, and proved a source of great wealth for the medieval town. Consequently, Esslingen developed into a major trading centre and was especially famous for its wine. A walk through the heart of the old town, one of the best-preserved of its kind in Germany, bears witness to Esslingen's 1,200 year history. Esslingen is however more than just a romantic old town set in the middle of the vineyards of the Neckar Valley. Around 1830, it was the most industrialised city in the kingdom of Württemberg and, to this day, Esslingen has remained a major centre for all kinds of engineering and related industries. The region around Esslingen is home to some of the most famous corporations in the world of business. This mixture of industry, trade and culture is what gives Esslingen its special flair and atmosphere and forms the foundation on which the University of Applied Sciences has flourished.

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