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Automotive Systems • Esslingen University of Applied Sciences • Esslingen am Neckar .................. 2
# Overview

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<th><strong>Degree</strong></th>
<th>Master of Engineering</th>
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<tr>
<td><strong>Teaching language</strong></td>
<td>• English</td>
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<tr>
<td><strong>Languages</strong></td>
<td>English</td>
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<tr>
<td></td>
<td>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. The Master’s thesis will be written in English.</td>
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<tr>
<td><strong>Programme duration</strong></td>
<td>3 semesters</td>
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<td><strong>Application deadline</strong></td>
<td>31 March for the following winter semester</td>
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<td><strong>Tuition fees per semester in EUR</strong></td>
<td>1,500</td>
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<td><strong>Additional information on tuition fees</strong></td>
<td>1,500 EUR – no tuition fees for EU applicants</td>
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<td><strong>Combined Master’s degree / PhD programme</strong></td>
<td>No</td>
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<td><strong>Joint degree / double degree programme</strong></td>
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<td><strong>Description/content</strong></td>
<td>The aim of the MEng ASM:</td>
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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 on 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 automotive boundary conditions into account (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 earned 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.

Course Details

Course organisation

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

Types of assessment
Assessments:
- written exams
- lab assignments and reports
- project work
- presentations

A Diploma supplement will be issued
Yes

International elements
- International guest lecturers
- Language training provided

Course-specific, integrated German language courses
Yes

Course-specific, integrated English language courses
No

Costs / Funding

Tuition fees per semester in EUR
1,500

Additional information on tuition fees
1,500 EUR – no tuition fees for EU applicants

Semester contribution
195 EUR per semester

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 (approx. 310 EUR), living expenses, health insurance, books, excursions, and miscellaneous expenses.

Funding opportunities within the university
Yes

Description of the above-mentioned funding opportunities within the university
"Deutschlandstipendium", but only for a few students: https://www.hs-esslingen.de/studium/beratung-und-unterstuetzung/praxis-beruf-karriere/stellensuche-unternehmenskontakte/deutschlandstipendium/
# Requirements / Registration

## Academic admission requirements

<table>
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<th>ADMISSION REQUIREMENTS</th>
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<td>• Major Vehicle Dynamics: Bachelor of Automotive Engineering, Mechanical Engineering, or equivalent</td>
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<tr>
<td>• Major Car Electronics: Bachelor of Mechatronics, Electrical Engineering, or equivalent</td>
</tr>
<tr>
<td>• Major Software Based Automotive Systems: Bachelor of Information Technology, Electrical Engineering, or equivalent</td>
</tr>
<tr>
<td>• Two confidential letters of recommendation</td>
</tr>
<tr>
<td>• Letter of motivation</td>
</tr>
<tr>
<td>• English language test (Please see our website for details.)</td>
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<tr>
<td>• 20 CP in Electrical Engineering / Electronics for the major “Car electronics”</td>
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</table>

## Language requirements

**English Language Requirements**

We require one of the following tests:

- international TOEFL score of at least 550 paper-based, 213 computer-based, 71 Internet-based (our code: 1680)
- an academic IELTS score of at least 6.5
- UNICert II; OPT test 75 points
- Cambridge Certificate (CAE or CPE)

We do not accept the institutional TOEFL.

Native English speakers and applicants who completed their undergraduate degrees in English (certification from university) are exempt from the English language test.

**Applicants from India do not need to submit proof of English language proficiency.**

## Application deadline

31 March for the following winter semester

## Submit application to

Graduate School  
University of Applied Sciences  
Flandernstr. 101  
73732 Esslingen  
Germany

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## Services

### Possibility of finding part-time employment

Students can apply for part-time jobs in the automotive industry around Esslingen. We recommend not to work more than eight to ten hours a week. From time to time, jobs are available in the labs of the University of Applied Sciences of Esslingen.

### Accommodation

The Graduate School offers a place in one of the dormitories for each admitted student. We have four different dormitories around the university – two near the hilltop campus, one close to the city campus, and one in the city of Esslingen.

For more information: https://www.hs-esslingen.de/en/graduate-school/applicants/general-information/city-and-residences/
“Today, I know that Master’s graduates from Esslingen are on equal footing with graduates from reputed universities. The academic quality of the international programme paired with the intercultural experience will enrich your life.”

Career advisory service

Career services are available at the University of Applied Sciences Esslingen: https://www.hs-esslingen.de/studium/beratung-und-unterstuetzung/praxis-beruf-karriere/stellensuche-unternehmenskontakte/

Specific specialist or non-specialist support for international students and doctoral candidates

- Cultural and linguistic preparation
- Visa matters

Micha Haussmann
MEng

MEng in Automotive Systems

The film gives insight into our labs and lectures as well as the university campus and the city. It also introduces professors and students.

» more: https://www.hs-esslingen.de/en/graduate-school/alumni/general-information/videos/

Esslingen University of Applied Sciences
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 Frauenschule 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 5,700 students are enrolled in 11 faculties. They take courses on three campuses: the city centre campus lies in the heart of Esslingen; the 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 south-western Germany and make use of a network that has been continually extended over the last 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 that 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 scientific degree theses with a practical orientation are all aimed towards successfully preparing the students for an academically sound, professional career.

Its excellent reputation and the quality of the scientifically 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), the university 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.
medieval town. Consequently, Esslingen developed into a major trade 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 engineering-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 forms the atmosphere in which the University of Applied Sciences has flourished.

Contact

Esslingen University of Applied Sciences
Graduate School

Ute Brinkmann
Flandernstr. 101
73732 Esslingen am Neckar

✉ Ute.Brinkmann@hs-esslingen.de
Course website: https://www.hs-esslingen.de/en/graduate-school/applicants/courses/automotive-systems-m-eng/

Prof Mathias Oberhauser
Tel. +49 7113973342
✉ Email

https://www.facebook.com/EsslingenGraduateSchool
https://twitter.com/EsslingenGS
https://www.linkedin.com/groups/4376448/profile
https://www.instagram.com/esslingengraduateschool/

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