



## Automotive Engineering - Bachelor of Engineering -

### YOUR PROFESSIONAL ENVIRONMENT

Automotive engineering is a driving force not only of the German economy, and mobility of humans and goods is considered of vital importance in most societies on the globe. Humans' expectations towards the mobility systems of the future will offer exciting possibilities in the automotive industry!

Graduates from this course will be able to work in all sectors of automotive development, testing and production. Together with its globally networked support industry, the automotive sector offers diverse and challenging working areas. Automotive engineers' competencies are mainly based on mechanical engineering - therefore design and development tasks in typical settings of mechanical engineering and production technology will be attractive fields of activity for you in this respect. In addition, studies take into account the increasing demand in mechatronics issues, which will unlock the entire area of automation technology for you as well.

Automotive engineers perform interdisciplinary work in the following areas:

- Automotive design and development
- Vehicle testing and testing technology
- Project management and planning
- Quality management

### JOB PROSPECTS

Mobility systems are more than ever subject to political frame conditions. As alternative drive systems are gaining importance, some export markets demand electric mobility solutions by law already. Nevertheless, conventional drives will be used for a longer period of time especially in the area of commercial vehicles. This means that the diversity of mobility systems will grow and the demand for engineers in automotive development and production with it.

Graduating from Automotive Engineering will ensure excellent work prospects in the automotive industry. Owing to proven basic study modules of more general engineering training you will also be fit for work in classical working areas of mechanical engineering.

### PERSONAL REQUIREMENTS

For studying Automotive Engineering, a high level of enthusiasm for technology, mechanical and mechatronic processes is required as well as an interest in mathematics and physics.

### HOW THE STUDIES ARE ORGANISED

The Basic Studies Period (semesters 1 and 2) mainly focuses on fundamentals from technology and the natural sciences.

The Advanced Studies Period (semesters 3 to 7) comprises a work placement semester in semester 5. In semester 3 and 4 you will acquire advanced core competences in automotive engineering. Study modules on automotive mechatronics will follow in semester 6 and 7. Customize your studies according to your own preferences or the demands of the job market by selecting modules from a comprehensive catalogue of elective modules, deepening your competences in either advanced driver assistance systems and networked mobility or automotive production with state-of-the-art materials and production plants.

You will cap off your studies with a Bachelor's thesis under the supervision of one of our full-time professors. Your thesis can be done either in a company or at the university. It will provide an opportunity to gather more in-depth knowledge in your specialisation and to possibly initiate contact to your future employer.

Upon successful graduation our University will award the academic degree Bachelor of Engineering (B.Eng.).

## **PRACTICE-ORIENTED TRAINING IN COMPANIES**

In the work placement semester 5 you will be familiarized with the work of an engineer by hands-on experience in a company. The placements range from vehicle development, design, production to testing.

If you seek further qualification you can choose from several Master's degree courses at Kempten University of Applied Sciences.

## **LIST OF STUDY MODULES**

### **Basic Studies Period (Semesters 1 and 2)**

- Mathematics for Engineers
- Physics
- Information Technology for Engineers
- Technical Mechanics and Strength of Materials
- Materials Science
- Design and Machine Elements 1
- Automotive Engineering Basics
- Introduction to Electrical Engineering

### **Main Studies Period (Semesters 3 to 7)**

- Manufacturing Methods
- Automotive Concepts and Systems
- Computer-Aided Engineering
- Design and Machine Elements 2
- Chassis Technology, incl. laboratory
- Mathematics and Simulation of Dynamic Systems
- Automotive Dynamics and Road Trial
- Control Engineering
- Thermodynamics
- Machine Dynamics
- Advanced Driver Assistance Systems
- Measurement
- Combustion Engines
- Electrical Engineering, Electrical Drives and Electronics
- Automotive Control
- Compulsory Course Electives (16 ECTS)
- Automotive Engineering Project (7 ECTS)
- Work Placement Semester
- Bachelor Thesis and Bachelor Seminar

## **CONTACT**

International Relations Coordinators

Prof Dr Ing Thomas Garber  
[thomas.garber\(at\)hs-kempten.de](mailto:thomas.garber(at)hs-kempten.de)  
Phone +49 831 2523-221

International Office

Tel: +49 831 2523-340 or -117  
E-mail: [international\(at\)hs-kempten.de](mailto:international(at)hs-kempten.de)

## **IMPORTANT LINKS**

(Information in English on our website)

[www.hs-kempten.de](http://www.hs-kempten.de) > INTERNATIONAL > click English flag (in the top left-hand corner)

[Information for international exchange students](#)  
(> INTERNATIONAL > EXCHANGE STUDENTS / INCOMING)

[Study programmes – short description in English](#)  
(> INTERNATIONAL > DOWNLOADS > Study Programmes)

[Guests and Visitors at Kempten University](#)  
(> INTERNATIONAL > GUESTS AND VISITORS)

## **KEMPTEN UNIVERSITY OF APPLIED SCIENCES**

Bahnhofstraße 61  
87435 KEMPTEN (Allgäu)  
GERMANY  
Tel: +49 831 2523-0  
Fax: +49 831 2523-104  
[post\(at\)hs-kempten.de](mailto:post(at)hs-kempten.de)

**PLEASE NOTE** that, although this description is written in English, the study course is taught in German.