Hochschule Kempten
University of Applied Sciences

Advanced Driver Assistance Systems

- Master of Science -

DESCRIPTION AND OBJECTIVES

Driver assistance systems are active safety devices in modern vehicles which aim at supporting and relieving the driver as well as providing better efficiency in terms of energy consumption. Many vehicles today are equipped with them already. New developments and technical improvement will substantially increase the importance of driver assistance systems in the future.

In a few years' time only a large array of autonomous systems intervening in driving situations will be available – developing state-of-the-art driver assistance systems will decisively influence the competitiveness of Germany's automotive sector. In view of this, qualified engineers with specialised knowledge in the area of driver assistance systems in the automotive industry will be in high demand.

The development of such systems requires interdisciplinary knowledge from the fields of electrical engineering and electronics, computer science and mechanical engineering (e.g. vehicle dynamics). Kempten University of Applied Sciences meets this requirement with this interdisciplinary Master's degree course Driver Assistance Systems.

The course comprises three semesters and will impart all tools necessary for working on complex and demanding sets of tasks in the area of driver assistance systems. Additional to the pure, high-level specialisation expertise in this area this degree course provides an ideal basis for graduates to assume leadership positions.

JOB PROSPECTS AND WORKING AREAS

Graduates of the Master's degree course Advanced Driver Assistance Systems are well prepared for research and development and for putting into service and monitoring of systems of the car manufacturing, automotive and aeronautical industries and their suppliers.

The knowledge and skills acquired in the degree course Advanced Driver Assistance Systems may also be applied outside the automotive environment – topics such as sensor systems, environment recognition systems, and fusion of sensor data are important issues particularly in the aeronautical industry, automation engineering and car manufacturing.

In view of our ageing population, assistance systems gain importance in biomedical engineering, too.

STUDY STRUCTURE

The normal study duration is three semesters. Semesters one and two consist of lectures, laboratories and practical work, semester three focuses on the Master Thesis (final project).

Studies are application and practice-oriented in approach. The study modules (classes) are designed in a way that they can be studied independently from each other. Thus you may choose to commence in either winter or summer semesters. The introductory module Driver Assistance Systems Basics is offered in both, summer and winter semesters and may be booked as an elective (additional competency) by students who take up studies in a winter semester.

Elective and optional modules will enable you to deepen your knowledge according to your individual likings or needs. You may complete your Master's thesis either in a company in cooperation with a professor of Kempten University, or in a laboratory of the university. The degree "Master of Science (M.Sc.) will provide you with the formal prerequisite for your Ph.D. studies in Germany or abroad.

Studies can be commenced in each semester.

MASTER OF SCIENCE – ADVANCED ASSISTANCE SYSTEMS

	Master's Thesis (25 cp)					Seminar (5 cp)
WS	Vehicle Dynamics 4 hpw / 5 cp*	Computer Vision 4 hpw/ 5 cp	Bus Systems 4 hpw/ 5 cp	Compulsory Elective I 4 hpw/ 5 cp	Compulsory Elective II 4 hpw/ 5 cp	Elective II 4 hpw/ 5 cp
SS	Driver Assistance Systems Basics 4 hpw/ 5 cp	Development and Testing Methods 4 hpw/ 5 cp	Real-time Systems 4 hpw/ 5 cp	Optical Sensor Systems 4 hpw/ 5 cp	Multi-Modal Sensor Networks 4 hpw/ 5 cp	Elective I 4 hpw/ 5 cp

hpw = hours per week, cp = credit points

ADMISSION REQUIREMENTS

Primary admission requirement is Bachelor's degree successfully completed with the average grade "good" or better in Electrical Engineering/Electronics, Mechanical Engineering or Computer Science, or a similar degree course at a university in Germany or abroad.

MORE INFORMATION

www.hs-kempten.de/master-fahrerassistenzsysteme

CONTACT

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IMPORTANT LINKS

(Information in English on our website)

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)

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