



The future of intelligent systems lies at the intersection of physical machines and artificial minds - bridging mechatronics and AI isn't optional, it's essential.

CAREER PERSPECTIVES

Due to the growing automation degree in the industry, the demand for well-qualified engineers for the control of machines, application of industrial robots and the development of new mechatronic systems will increase further.

As the "region of world-market leaders", the Heilbronn-Franken area is proud to provide a highly dynamic and attractive environment with excellent opportunities for your career entry and advancement. Thanks to their broad technical knowledge and wide practical experience, our graduates can choose from many different job opportunities, both in the region and worldwide.

COURSE CONTENT

In the Intelligent Mechatronic Systems degree program, you will learn to:

- > Structure, analyze, and specify complex mechatronic systems
- Gain practical experience with components of mechatronic systems, such as sensors, actuators, and communication technologies
- Acquire expert knowledge in the areas of Artificial Intelligence, control systems, and the Industrial Internet of Things
- Develop complementary skills in industrial workflows, systems thinking, and teamwork

COURSE FOCUS

During the first two semesters you will learn all the necessary basics in the fields of mathematics, computer science, physics, electrical and mechanical engineering. Even though the programme language is English, you have the opportunity to improve your German language skills with an obligatory intensive German course.

In the advanced study period, students specialize according to their preferences and strengths and further deepen their knowledge in e.g. Machine Learning, Mechatronics or Automotive.

You will conclude your studies with a Bachelor's thesis, which is often conducted in the strong local, world-wide oriented industry.

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COURSE OF STUDY (FULL TIME)

BASIC STUDIES
1ST AND 2ND SEMESTER

MAIN STUDIES
3RD AND 4TH SEMESTER

PRACTICAL SEMESTER

6TH AND 7TH SEMESTER

MAIN STUDIES
6TH AND 7TH SEMESTER

Career entry

Basis Study

- > Mathematics
- > Physics
- > Computer Science
- > Electrical engineering
- > Engineering Mechanics
- > Materials
- › German Language and Academic Skills

Main Study

- Specialized Knowledge in the Degree Program
- > Engineering Design & Manufacturing
- > Control Systems, Metrology and Sensors
- Microcontroller and Software Engineering
- Data Science and Artificial Intelligence
- > Project Lab and Electives

Internship Semester

- Hands-on experience in an industrial company
- > Real-world engineering tasks
- > Engineering-level working conditions
- > Interaction with experienced engineers
- > Paid opportunity
- > Optional international placement

Advanced Studies

- > Seminar Project
- Reinforcement Learning and Computer Vision
- > Industrial Internet of Things
- > Electives
- > Bachelor Thesis

ADMISSION REQUIREMENTS

 General or subject-specific university entrance qualification or entrance qualification for universities of applied sciences

or

 Equivalent professional qualification including a certificate of academic advising

LANGUAGE SKILLS

High proficiency in English must be proven with a language test (e.g. TOEFL, IELTS, Cambridge, AACSB or Oxford Test)

START OF PROGRAMME

Winter semester

Closing date for applications:

> Last week of September

PLEASE NOTE

Applicants with international certificates must first have these documents recognized by "Studienkolleg Konstanz" or "uni-assist."

APPLICATION

You can find all information you need for your application at hs-heilbronn.de/bachelor-application

ADVICE

Course-related Advisory Service

E-mail: ims@hs-heilbronn.de hs-heilbronn.de/en/ims

Central study programme administration

The team of the Central Student Advisory Service is at your disposal for orientation and initial counseling.

Tel.: +49 7131 504-6693 E-Mail: zentralestudienberatung @hs-heilbronn.de

CONTACT

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