HS'BI

Hochschule
Bielefeld
University of
Applied Sciences
and Arts

Gütersloh Campus

Mechatronics and Automation (work-integrated)

Bachelor

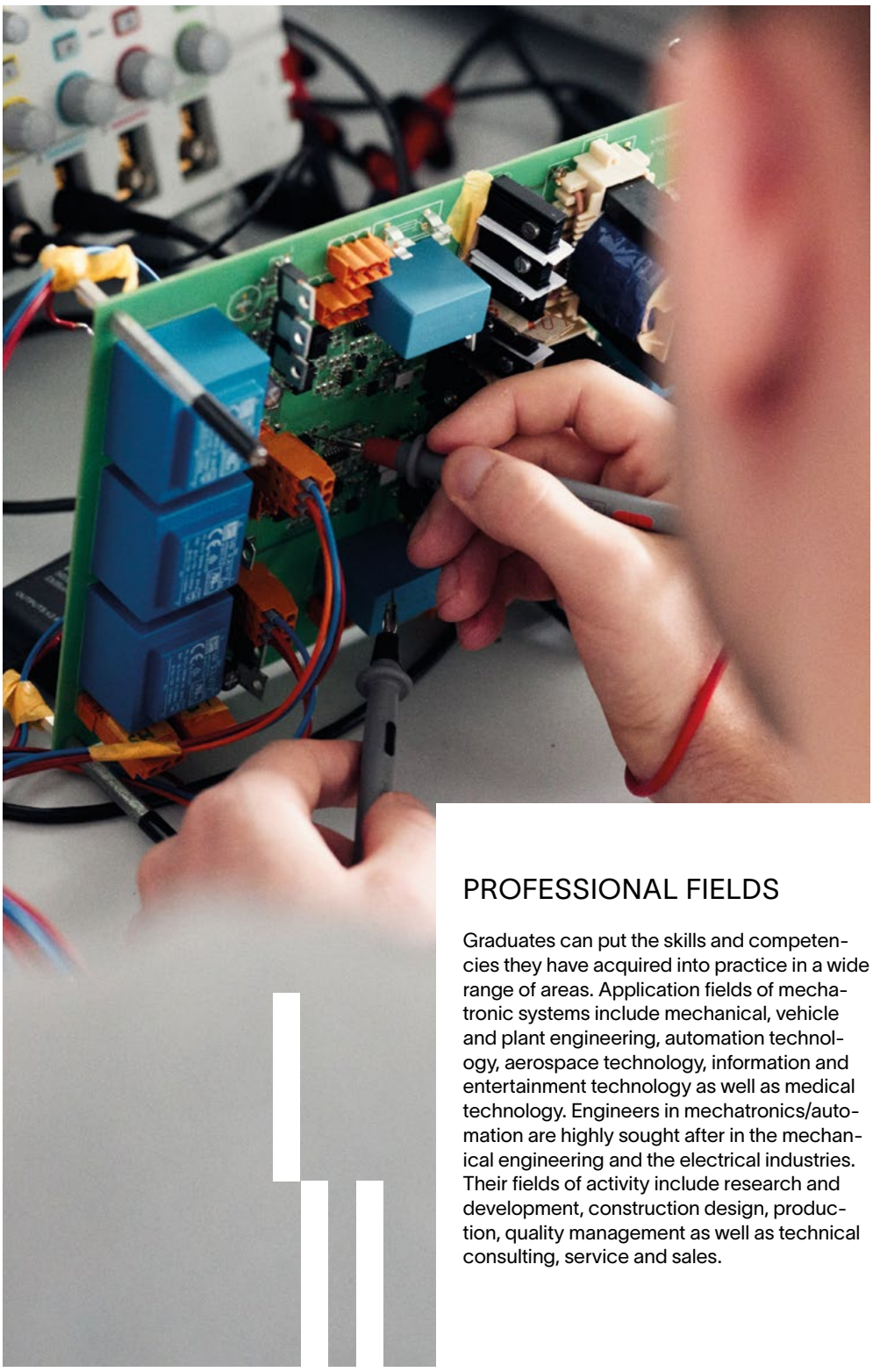
PROGRAMME OBJECTIVES

The English-taught study programme Mechatronics and Automation (MAP) addresses students of all nationalities, offering an ideal opportunity to get to know "technology made in Germany." The work-integrated programme is intended to appeal in particular to those who want an early insight into and first-hand experience of how companies work.

Combining elements from mechanical engineering, electrical engineering and computer science, this programme enables students to enhance technical systems' performance during their development and production. In addition, they will learn how to bring complex technical systems into operation, to service and optimise them. During the work terms, students will apply their theoretical knowledge to current tasks in the company. To round off the training, strong project management skills and successful teamwork, also in international teams, are imparted.

Students enrolled in the work-integrated study programme are at the same time employed by a company in Germany or abroad throughout the entire duration of their studies, which is the peculiarity of the work-integrated programme. This allows them to grow into the company from the very beginning and to combine academic training with professional practice. The aim is to apply the knowledge learned in theory to practice and vice versa.

As the programme is taught in English, intercultural aspects are embedded into its contents and students from different cultural backgrounds work together, students are enabled to work in international company projects in an increasingly globalised world. In addition, the English-language programme is intended to prepare international students for the German labour market and to facilitate their access to it.



PROFESSIONAL FIELDS

Graduates can put the skills and competencies they have acquired into practice in a wide range of areas. Application fields of mechatronic systems include mechanical, vehicle and plant engineering, automation technology, aerospace technology, information and entertainment technology as well as medical technology. Engineers in mechatronics/automation are highly sought after in the mechanical engineering and the electrical industries. Their fields of activity include research and development, construction design, production, quality management as well as technical consulting, service and sales.

PROGRAMME CONTENT

All courses are taught in English.

1st Semester

- Basics of Business Administration
- Future Technologies & Sustainability
- Introduction to German Culture & Language/ Intercultural Communication
- Basics of Computer Science
- Mathematics I

2nd Semester

- Innovation & Project Management
- Electrical Engineering I
- Physics
- Object Oriented Programming
- Mathematics II

3rd Semester

- Digital Electronics
- Electrical Engineering II
- Engineering Mechanics – Statics and Strength of Materials
- Databases
- Mathematics III

4th Semester

- Engineering Mechanics - Kinematics and Kinetic
- Electrical Measurement Technology
- Semiconductor Devices and Circuits
- Statistics
- Work-Related Module 1

5th Semester

- Basics of Mechanical Design
- Electrical Machines
- Measuring Systems and Sensor Technology
- Industrial Automation Technology
- Work-Related Module 2

6th Semester

- Mechatronic Systems 1
- Control Technology
- Microcontroller Programming
- Power Electronics
- Work-Related Module 3

7th Semester

- Mechatronic Systems 2
- Drive Technology
- Industrial Communication
- Bachelor Thesis

WORK-INTEGRATED STUDY PROGRAMME

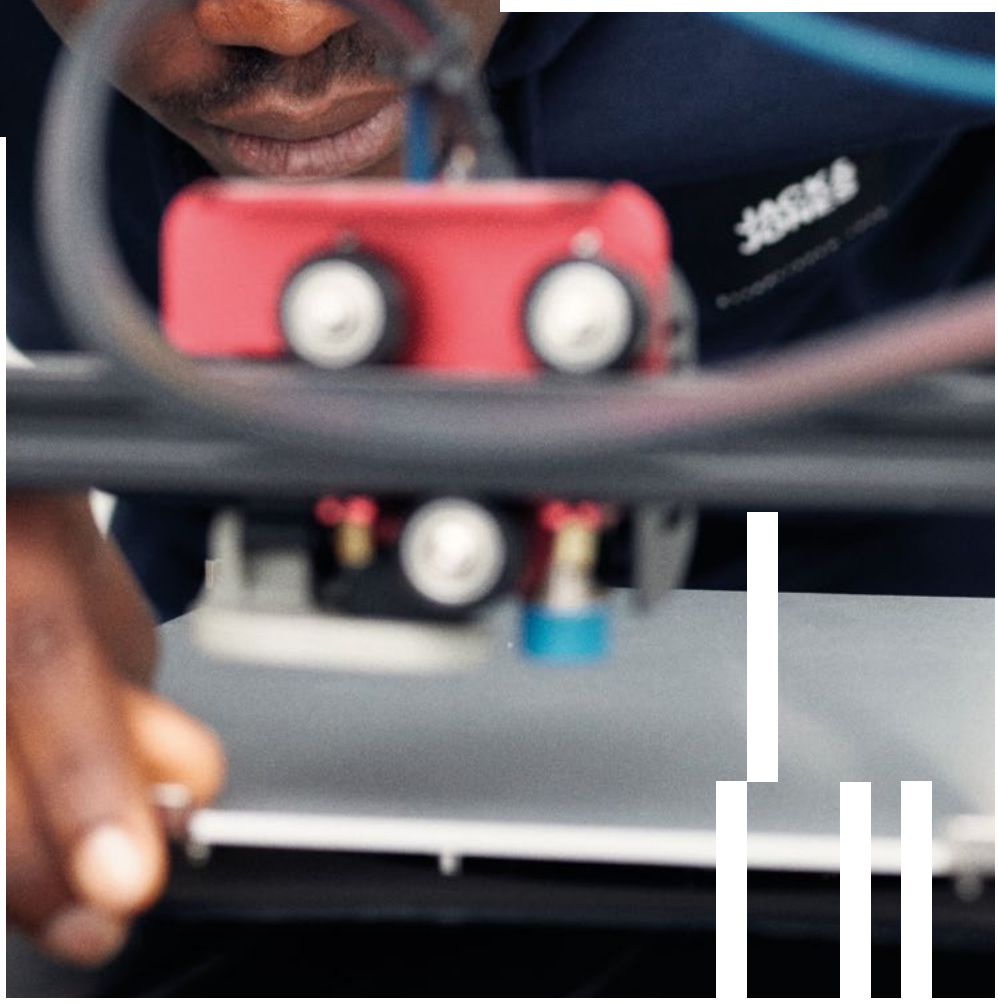
In the work-integrated study programme, students are employed by a company throughout the entire duration of the programme. Being part of the company from the very beginning equips students not only with academic training but also with professional practice. Theoretical knowledge is put into practice and vice versa. Students become familiar with their respective company's culture and achieve a high degree of efficiency in their job.

Please find information on current offers and application processes in the company portal.
↗ www.hsbi.de/guetersloh/unternehmensportal

PROGRAMME ORGANIZATION

Students enrolled in the work-integrated study programme Mechatronics and Automation are at the same time employed by a company, which is the peculiarity of the work-integrated programme. Each semester consists of an academic term and a work term. The academic term comprises lectures, seminars and laboratory courses at the university.

The subsequent work term takes place in the respective company for which the student is working. During that period, theoretical knowledge obtained at the university can be applied to day-to-day business at the company. During the work-related projects (4th and 5th semesters) students examine specific subjects and elaborate and submit their findings in form of a scientific term paper. The work-related project during the 6th semester is not graded. The relevant work experience integrated into the programme is beneficial for both the student and the company and can provide a solid foundation for a possible permanent position in the company after having achieved the bachelor's degree.



FACTS

Admission Requirements
— Proof of a practical placement with a cooperating company over the entire duration of studies
— Abitur, Fachhochschulreife or an equivalent school leaving certificate or educational background that qualifies for higher education.
— B2 level in English

Application / Start of Studies
The application deadline is July 15.
Start of study: winter semester

For more Requirements on Admission and Application:

Duration of Study
7 Semester (180 credit points)

Degree
Bachelor of Engineering

Cost
The current contribution amount
↗ www.hsbi.de/kosten

Place of Study
Hochschule Bielefeld – University of Applied Sciences and Arts (HSBI)
Faculty of Engineering and Mathematics
Gütersloh Campus
— Gleis 13, Haus III
Langer Weg 9 a
33332 Gütersloh
— Flöttmanngebäude
Schulstraße 10
33330 Gütersloh
↗ www.hsbi.de/guetersloh

CONTACT

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General Questions on Studies Student Advising and Counselling
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Questions about the Degree Program
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Questions on Applications / Admission
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↗ www.hsbi.de/internationales

Information about internship offers and how to apply to the companies can be found on the company portal.
Further information and current events can be found at
↗ www.hsbi.de/praxisintegriertes-studium/studieninteressierte