

# study facts



## Optimise your academic success

A mix of small groups, individual support and manifold learning formats offers ideal study conditions and prepares you most effectively for your career.



## Professional experience as part of your studies

A practical semester and projects with real clients help you to establish contacts in the professional world at an early stage.



## Benefit from the practical experience of our teaching staff

They come from the professional world, impart up-to-date knowledge and prepare you for the demands of the industry.



## State University

Our study programmes are accredited and therefore quality-assured. As a state university we do not charge tuition fees.



## Outstanding Place of Learning

According to UNESCO, h\_da is an 'Outstanding Place of Learning for Sustainable Development'.

## Study Programme Mechatronics

Faculty of Mechanical and Plastics Engineering  
Schöfferstraße 3, Building C 12  
64295 Darmstadt  
Phone +49 6151 533-5650  
sekretariat.fbmk@h-da.de

## Dual Study Programme

Mechatronics can also be pursued as a dual study programme:  
[h-da.de/dual](https://h-da.de/dual)



## Study Programme+

The study programme is also offered as Mechatronics+ (9 semesters), allowing more time, individual skills training and personal support.  
[fbmk.h-da.de/mechatronik-bachelor/plus](https://fbmk.h-da.de/mechatronik-bachelor/plus)

## Counselling & Advice

The first point of contact for most questions about studying is the Student Service Center, or SSC for short. In addition to study counselling and information on the details of the application procedure, the SSC also offers advice on the organisation or financing of your studies.

## Student Service Center

Schöfferstraße 3, Building C 23  
64295 Darmstadt  
Phone +49 6151 533-5555  
[studienberatung@h-da.de](mailto:studienberatung@h-da.de)  
[h-da.de/studienberatung](https://h-da.de/studienberatung)

## BAföG Student Grant & Student Accommodation

[studierendenwerkdarmstadt.de](https://studierendenwerkdarmstadt.de)

## Study Abroad

[international.h-da.de](https://international.h-da.de)

## All information about the study programme:

[fbmk.h-da.de/mechatronik-bachelor](https://fbmk.h-da.de/mechatronik-bachelor)



**h\_da**  
hochschule  
darmstadt



also offered  
as a dual  
programme

# Mechatronics

Bachelor of Science

## More on studying at h\_da:

[h-da.de/praktischunschlagbar](https://h-da.de/praktischunschlagbar)



member of  
**eut+**  
EUROPEAN UNIVERSITY  
OF TECHNOLOGY

### Course Outline

The world of mechatronics encompasses many areas, such as 3D printing, driver assistance systems, Industry 4.0 and autonomous robots. The common thread is the development of intelligent networked systems with mechanical and electronic components.

The bachelor's programme in Mechatronics lies at the interface of mechanical and electrical engineering, as well as computer science. It enables students to understand, design and implement complex systems according to requirements. Over seven semesters, students acquire comprehensive basic engineering knowledge, which they put to practical use in project work and laboratory phases from the first semester onwards. Specialisation is offered in the fields of drive technology, automation and robotics. Furthermore, language skills and team qualifications are taught.

Optional preliminary courses and the Study Programme+ facilitate entry. The first year of study is closely inter-linked with the Mechanical Engineering and Polymer Engineering study programmes, so that a change is possible. The EUT+ university alliance and established non-European partnerships offer a wide variety of study abroad opportunities.

**We have already taken on h\_da students twice for their practical phase – they were well-prepared for HiL testing and test automation. Both wrote their theses with us and are now part of our team. The close cooperation with h\_da ensures that we attract highly-trained young talent.“**

**Markus Steitz**  
Test&Validation, tracetronic GmbH, Dresden



### Entry Requirements

- no admission restrictions (no NC)
- start of studies in the winter semester

The entry requirements include qualifications, such as:

- general higher education entrance qualification (allgemeine Hochschulreife)
- subject-specific higher education entrance qualification valid in Hesse (fachgebundene Hochschulreife)
- technical college entrance qualification valid in Hesse (Fachhochschulreife)
- vocational qualifications: [h-da.de/studium-ohne-abi](https://h-da.de/studium-ohne-abi)

Applications with a foreign certificate need to be made via [uni-assist.de/en](https://uni-assist.de/en). The 8-week pre-study internship may be completed either before or while studying.

### Career Prospects

Industries (selection):

- development, design, production, sales
- jobs at a technical level, in management positions or as a freelancer
- jobs in global companies or regional SMEs

Activities (selection):

- automation and robotics
- mechanical and plant engineering
- vehicle construction and drive technology
- aerospace technology
- information and entertainment technology
- chemical, process and process engineering
- management consulting

Mechatronics Bachelor of Science					Master				
1 <sup>st</sup> semester	2 <sup>nd</sup> semester	3 <sup>rd</sup> semester	4 <sup>th</sup> semester	5 <sup>th</sup> semester	6 <sup>th</sup> semester	7 <sup>th</sup> semester	8 <sup>th</sup> semester	9 <sup>th</sup> semester	10 <sup>th</sup> semester
Development of Sustainable Systems, 10 CP		Measurement Technology, 5 CP	Control Engineering, 5 CP	Specialisation: • Drive Technology or • Automation or • Robotics, 40 CP		Practical Phase and Basics of Project Work (introduction in the 5 <sup>th</sup> semester), 15 CP			The following consecutive Master's programmes can be pursued after completing the Bachelor's degree:  1. Mechatronics – Master of Science 3 semesters – 90 CP  2. Mechanical Engineering – Master of Science 4 semesters – 120 CP  3. Electrical Engineering and Information Technology International – Master of Science 3/4 semesters – 90/120 CP  4. Data Science – Master of Science 4 semesters – 120 CP  5. Automotive Engineering – Master of Science 4 semesters – 120 CP  6. Polymer Engineering – Master of Science 4 semesters – 120 CP  7. Industrial Engineering – Master of Science 4 semesters – 120 CP  The Diploma Supplement, which assigns an ECTS grade from A to E to the grade, simplifies the recognition of the degree abroad.
		Systems Theory, 5 CP	Mechatronic Systems, 5 CP						
Mathematics, 15 CP		Electronics, 5 CP	Actuators, 5 CP						
Computer Science I, 5 CP	Computer Science II, 5 CP	Engineering Mechanics: Kinematics and Kinetics, 5 CP	Sensors, 5 CP			Bachelor's Thesis with Colloquium, 15 CP			
Physics, 5 CP	Engineering Fundamentals of Elastostatics, 5 CP	Software Engineering, 5 CP	Networks, 5 CP	Engineering Core Elective, 5 CP	Engineering Core Elective, 5 CP				
Electrical Engineering, 5 CP	Digital Technology, 5 CP	Microprocessors, 5 CP	Specialisation, 5 CP	Interdisciplinary Challenges of Social Developments, 5 CP	Fundamentals of Business Administration, 5 CP				
Materials Science, 2.5 CP	Technical English, 2.5 CP								

CP: The size of the module blocks corresponds to the average amount of studying and learning required. Credit points (CP) are awarded for modules completed - usually 30 CP per semester.

Colour legend: 

standard module

practical phase

final thesis

core elective

specialisations

interdisciplinary qualifications

CP: The size of the module blocks corresponds to the average amount of studying and learning required. Credit points (CP) are awarded for modules completed - usually 30 CP per semester. Colour legend: standard module final thesis practical phase core elective, specialisations interdisciplinary qualifications