

Mechanical Engineering (B.Sc.)

Information for students

This page contains information for students who **started their studies from winter semester 2012/13 up to and including summer semester 2022.**

Special documents and downloads for the study program, also for students who started their studies before winter semester 2012/13, can be found on the page [Documents](#).

Note: Most documents are provided in german language only.

General information and curriculum

The Bachelor's programme Mechanical Engineering can be started in the winter and summer semester. In both cases, students have access to the same study contents in the basic and advanced subjects. There are, however, differences with regard to the sample curricula, which are given as a recommendation for a possible course of study:

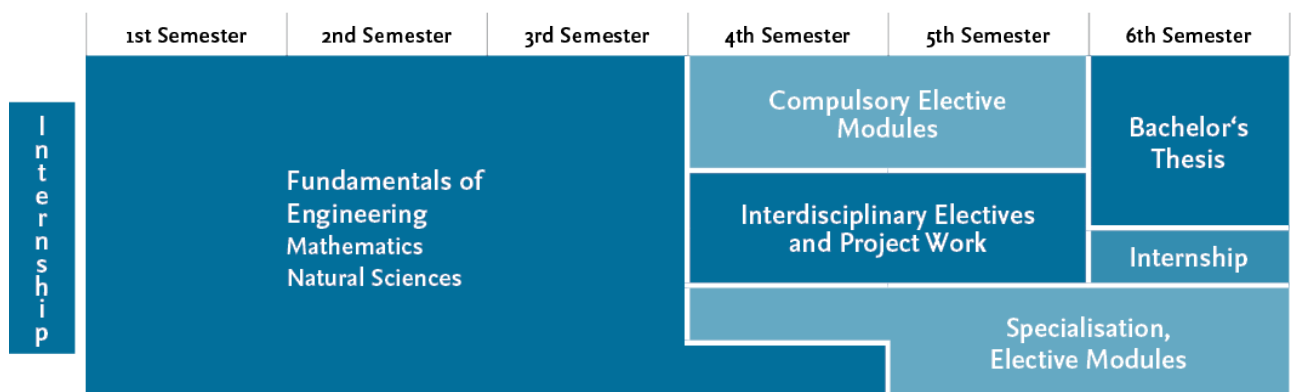
[Curriculum Start Wintersemester](#) [Curriculum Start Sommersemester](#)

Special note for the start in the summer semester:

Instead of the module *"Einführung in computergestützte Methoden für Ingenieure"*, the module *"Fertigungstechnik"* (from the third semester) can also be chosen in the first semester. In this case, the module *"Einführung in computergestützte Methoden für Ingenieure"* is postponed to the third semester. This variant is particularly suitable for students who have already completed an education in the technical field.

Structure of the Bachelor's degree programme

The chart below shows the structure of the study programme. The curriculum (see above) gives you an exact idea of the subjects and possibilities included in the study programme. A complete and detailed description of all subjects included in the programme can be found in the module handbook (MHB, see page "[Documents](#)").



Structure of the Bachelor's programme Mechanical Engineering

Fundamentals

The fundamentals are subjects that must be taken by all Bachelor's students in Mechanical Engineering. They represent a broad foundation of knowledge on which you can build your professional specialisation. The fundamentals include Mathematics, Natural Sciences and Engineering. In particular, the following study areas are covered in the fundamentals:

- Electrical Engineering
- Data processing / Programming
- Designing / Machine Elements
- Mathematics
- Measurement and Control Technology
- Physics / Chemistry
- Engineering Mechanics / Fluid Mechanics
- Thermodynamics
- Material Sciences

Internship

After completion of the pre-study internship, an engineering internship of 10 weeks must be proven during the Bachelor's degree programme. The internship guidelines provide more detailed information on the areas and duration of the internship:

[General Downloads](#)

The engineering internship gives you the opportunity to already get to know the professional environment and the professional requirements for an engineer working in industry during your studies.

[Internship](#)

Bachelor's thesis

The Bachelor's programme is completed by the final module. This module includes the preparation of a written thesis, the **Bachelor's thesis** (12 CP) and a **presentation** of the results (2 CP). The Bachelor's thesis should demonstrate the student's ability to write a scientific paper. In addition, this module trains the documentation and communication of scientific results and enables the students to successfully apply these working methods in their future field of work.

Interdisciplinary Electives and Project Work

Within the **Interdisciplinary Electives** and in the **Project Work**, interdisciplinary contents are taught. Interdisciplinary project work is carried out in teams based on the division of labour and serves primarily to promote the ability to develop, implement and present concepts and to develop and formulate results in teamwork. For **Interdisciplinary Electives**, students can choose from the university's overall programme for interdisciplinary qualification (pool model). Students can choose any course that ends with an examination and is not part of their own Bachelor's programme, e.g. training in soft skills or language courses. In addition to the pool model, the Faculty of Mechanical Engineering recommends [these courses](#) for interdisciplinary profile development.

Compulsory Elective Modules

Until the end of the third semester, the study programme is the same for all students. At the beginning of the fourth semester, students set individual priorities for their course of study (beginning with the decision whether to take the module "Wärme- und Stoffübertragung (Heat and Mass Transfer)" or "Maschinendynamik (Dynamics of Machines)" in the fourth semester). The decision for a specialisation is therefore usually made during or towards the end of the third semester.

One of the following specialisations must be chosen:

- General Mechanical Engineering
- Energy and Process Engineering
- Automotive Engineering
- Aerospace Engineering
- Material Sciences
- Mechatronics
- Production and Systems Engineering

A separate module catalogue is assigned to each of the **Specialisation, Elective Modules**, which are taken in the fourth to sixth semester. The modules are individually adapted to the respective specialisation. As a rule, four modules are to be selected from the range of modules offered in the fields of specialisation. One of them must be a module with a laboratory part. The laboratories integrated into the modules ensure that the teaching content is taught in a practical manner.

Also linked to the choice of specialisation are the modules which must be taken in the elective fields of "Production Engineering", "Design Engineering", "Mechanics and Strength" and "Numerics" in the fourth or fifth semester. Depending on the chosen specialisation, either a compulsory module or a catalogue of compulsory elective modules limited to a few modules is specified from which a module must be selected. The fixed specification of the main topics of these compulsory elective modules ensures that you acquire more in-depth knowledge in the respective area.

Service and advice

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