

Branch: Mechanical engineering



Code: MECENG

Option: Mechanical engineering

Level: Bachelor

Prerequisites: Scientific baccalaureate or equivalent

Opportunities:

If you decide to pursue a career after graduating with a degree in mechanical engineering, there are opportunities in many different fields. These include mechanical engineering, plant and vehicle construction, as well as the aerospace industry or supply and service companies.

Description

In the first four semesters, you will learn all the necessary foundations in mathematics, technical mechanics, materials science and thermodynamics. You will thus acquire a solid knowledge of science and engineering, both in breadth and depth, as well as the competence to apply scientific methods. Afterwards, you have the opportunity to specialise (e.g. in the direction of medical technology, robotics, automotive engineering, energy technology, management, aviation, ...) or to broaden your engineering knowledge independently of the branch. You can therefore compose your own schedule by attending lectures of your choice from a wide range of topics. You will be then able to work together in an interdisciplinary way, conduct research and apply the methods in practice.

Specific competences:

After completing the basic studies, you will be able to understand the essential basic concepts of mathematics, physics, chemistry and electrical engineering, describe processes qualitatively and mathematically-quantitatively and apply laws/formulae to defined problems, use their knowledge of the specific basic subjects of mechanical engineering, such as technical mechanics, machine drawing, machine elements as well as information technology, to formulate and solve questions relating to engineering problems independently (e.g. determination of real-time systems for given control systems, design of components suitable for production, loading and assembly, modeling of uncertainties) apply methods and concepts from materials science, thermodynamics, heat transport phenomena, fluid mechanics and control engineering (e.g. development of material properties, analysis of heat transport and technical flows, design of actively influenced dynamic systems).

Quality and competences

After completing the individually selected subjects in the 5th and 6th semesters, you will be able to apply the learned methods and, if applicable, independently developed solution approaches in practice (e.g. application of real-time industrial bus mechanisms and operating systems, characterization of new electrified concepts in motor vehicles, development and evaluation of solar thermal collectors and photovoltaic systems ...).