

Mechanics



Master of Science
Department of Mechanics



TECHNISCHE
UNIVERSITÄT
DARMSTADT

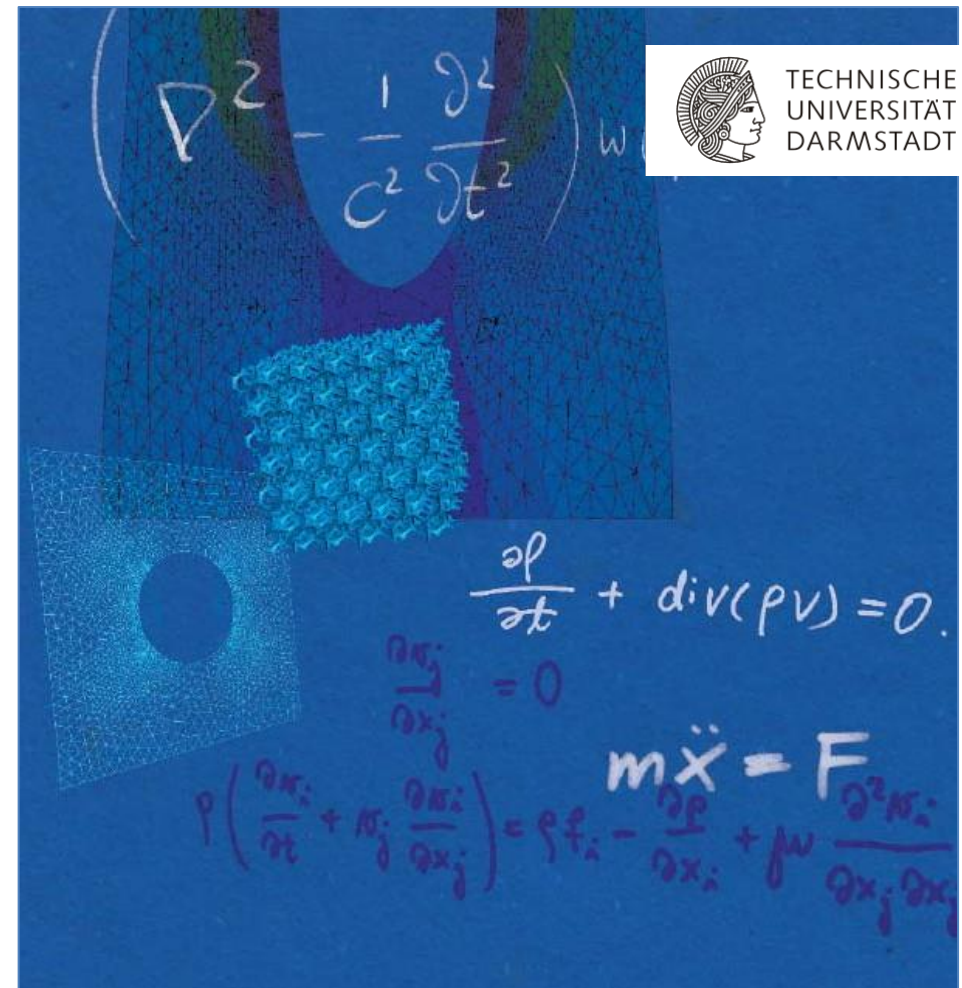
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What is mechanics today?

Mechanics is the vital basis of all engineering sciences. It is the study of displacements and deformations of material bodies and their causes.

The English-language **Master of Science (M.Sc.) Mechanics** program builds on the fundamentals of higher mechanics and mathematics taught in the Bachelor's degree program in "Ingenieurwissenschaften und Mechanik". It gives students the opportunity to acquire in-depth knowledge in several areas of mechanics, applied mechanics and applied mathematics. Mechanics thus closes a gap between the predominantly abstract education of mathematicians and the conventional engineering education, which is strongly linked to special applications.

Through the in-depth basic education, a flexibility is achieved that enables the students to quickly adapt to other fields of activity.

Future opportunities - Fields of activity

Due to the interdisciplinary orientation, graduates are particularly in demand in the following fields of activity within the international market:

- ▷ Universities
- ▷ Research and development departments in industry
- ▷ Research institutes
- ▷ All classical fields of mechanical engineering
- ▷ All classical fields of civil engineering
- ▷ Material sciences
- ▷ Aerospace
- ▷ Environmental engineering
- ▷ Biomechanics

Special features

of the Mechanics program leading to the degree of **Master of Science (M.Sc.)** are:

- ▷ It is an English-language degree program
- ▷ In-depth fundamental and special knowledge in mathematics and basic engineering subjects with special reference to higher mechanics
- ▷ Advanced interface understanding between mathematics, natural sciences, environmental sciences, and engineering sciences
- ▷ Critical evaluation and assessment of scientific methods
- ▷ Comprehensive understanding of abstraction, mathematical-technical creativity, autonomous solution orientation
- ▷ Special and in-depth knowledge in the transformation of problems into mathematical models as well as their computer-aided solution
- ▷ Ability to work independently in interdisciplinary teams and to communicate between different disciplines
- ▷ Recognition and consideration of specific technical and social aspects.

Degree program

The Master Mechanics program has a very flexible structure and gives students a great deal of leeway in terms of practical and research relevance.

- ▷ The study plan can largely be designed individually,
- ▷ the chosen subjects can be completed in any order,
- ▷ individual design of semester(s) abroad,
- ▷ the Master Mechanics program is designed in such a way that it can be completed in 4 semesters.

Access requirements

The Master Mechanics program is intended for graduates of the Bachelor's program "Ingenieurwissenschaften und Mechanik" (B.Sc.) and for graduates with a degree in engineering, mathematics or natural sciences (possibly with additional requirements).

Dates

The study can be started in the WS as well as in the SS.
