

Materials Science and Engineering, 7,5 HE credits

Materialteknik, 7,5 hp

Established: 2023-05-02

Established by: Department of Engineering Science

Applies from: V24

Learning outcomes

Course objectives

After the course, students should be able to:

- describe different engineering materials at the structural level and give examples of this
- explain mechanical and thermal properties of metallic, polymeric and ceramic materials based on their inner structure
- describe and interpret the microstructure of metal alloys based on phase diagrams
- understand and describe how the structure of a metallic material can be modified in order to change the mechanical properties of the material
- describe the influence of temperature and environment on the property of a material
- describe the life-cycle of engineering materials and show insight into their environmental impact
- make appropriate material selections for various design tasks.

Entry requirements

General entry requirements and approved result from the following course/courses:

HFG100-Solid Mechanics, basic course or the equivalent.

The forms of assessment of student performance

Individual written examination. Individual laboratory with individual written assignment.

Laboratory in group with groupwise written report.

Other regulations

Course grading: U/3/4/5

Course language: The teaching is conducted in English.

General rules pertaining to examination at University West are available at www.hv.se.

If the student has a decision/recommendation on special support due to disability, the examiner has the right to examine the student in a customized examination form.

Cycle

First cycle

Progressive specialization

G1F - first cycle, has less than 60 credits in first-cycle course/s as entry requirements

Main field of study

Mechanical Engineering