



# MH2300 Functional Materials

## 6.0 credits

Funktionella material

This is a translation of the Swedish, legally binding, course syllabus.

### Establishment

Course syllabus for MH2300 valid from Spring 2009

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

Second cycle

### Main field of study

Materials Science, Materials Science and Engineering

### Specific prerequisites

Background in materials science and engineering corresponding to Advanced materials 4H1610.

### Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

To gain deep knowledge about materials which are not primarily used for their mechanical properties but for other properties such as physical. To know what "functions" can be built into the materials and how to maximise their performance. In addition, information retrieval on the internet is trained.

## Course contents

Specific properties of functional materials are covered, which are used in high-tech applications. The course includes:

- Shape memory metals
- Invar alloys
- Magnetic material
- Electric contact material
- Conducting thermoplastics and polymer composites
- Surface coatings
- Biomaterials

## Course literature

Compendium.

Review and conference articles from the modern scientific literature.

## Examination

- ÖVN1 - Exercise, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

## Other requirements for final grade

Written exam (TEN1; 3 cr), seminars (ÖVN1; 3 cr) and a study visit.

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.