

**SYLLABUS**

# **Nanostructured Materials and Nanotechnology 7.5 credits T7006T**

**Nanomaterial**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE  
2021-06-16**

# Nanostructured Materials and Nanotechnology 7.5 credits T7006T

## Nanomaterial

### Second cycle, T7006T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Materialteknik	Materials Technology

## Main field of study

Materials Science and Engineering

## Entry requirements

T7008T Phase Transformations or similar.

## Selection

The selection is based on 30-285 credits

## Course Aim

The aim is to understand the basic principles for nanostructured materials and relative merits of different techniques for the production of nanostructures.

## Contents

The course will cover nanostructured materials and phenomena occurring when the length scale of the constituents are in the nanometer range. Emphasis will be put on interface phenomena since nanostructured materials contain a large fraction interfaces. The course will give examples and potentials for the future of nanotechnology. Generally applicable techniques for the preparation of bulk nanostructured materials, thin films, patterned nanostructures such as sol-gel, thin film and self-assembling techniques will be discussed as well as high spatial resolution techniques for the characterisation of nanostructures.

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures, seminars and presentation at final seminar-exam.

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written report and seminar-exam.

## Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

## Overlap

The course T7006T is equal to MPC007

## Course offered by

Department of Engineering Sciences and Mathematics

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Project work	G U 3 4 5	5	Mandatory	A07	
0002	Seminars	U G#	2.5	Mandatory	A07	

## Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

## Last revised

by Niklas Lehto, Head Faculty Programme Director 2021-06-16

## Syllabus established

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.