



# FSI3410 Computational Statistical Mechanics 7.5 credits

Beräkningsmässig statistisk mekanik

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

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

## Establishment

Course syllabus for FSI3410 valid from Spring 2009

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

Statistical mechanics and quantum mechanics, computational physics corresponding to SI3080 and and experience with computers and computer programming.

## Language of instruction

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

## Intended learning outcomes

After completed course, the PhD student should be able to:

- master the statistical mechanics necessary for performing and correct
- interpreting simulations within condensed matter physics.
- show the ability to independently write, develop and test advanced simulation programs.

## Course contents

Molecular Dynamics and Monte Carlo methods including the statistical mechanics which these simulation methods rest on.

## Course literature

**M.P. Allen and D.J. Tildesly, Computer Simulations of Liquids, Oxford Science Publication 1986**

## Examination

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.

## Other requirements for final grade

Project assignment and an oral exam.

## 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.