



SG2212 Computational Fluid Dynamics 7.5 credits

Strömningsmekaniska beräkningar

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

Establishment

The course syllabus is valid from Spring 2025 according to the school principal's decision: S-2024-1591 Decision date: 2024-10-15

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Completed courses including programming, numerical methods, and/or fluid mechanics, to an extent of at least 4 credits.

English B / English 6

Language of instruction

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

Intended learning outcomes

After reading this course the student should be:

- familiar with the differential equations for flow phenomena and numerical methods for their solution
- able to use and develop flow simulation software for the most important classes of flows in engineering and science.
- able to critically analyse different mathematical models and computational methods for flow simulations
- able undertake flow computations using current best practice for model and method selection, and assessment of the quality of results obtained.

Course contents

Examination

- TENA - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LABA - Home work and computer assignments, 4.5 credits, grading scale: P, 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.

One written or oral examination (TEN1; 3 university credits).

Homework and computer assignments (LAB1; 4,5 university credits).

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.