



SG2212 Computational Fluid Dynamics 7.5 credits

Strömningsmekaniska beräkningar

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

The course syllabus is valid from Spring 2023 according to the school principal's decision: S-2022-1531 Decision date: 2022-10-17

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

- A course in computer science or programming (e.g. DD1342);
- A background in either fluid mechanics or numerical methods, equivalent to an advanced course in numerical methods (eg SF2520, 2521, 2561) or fluid mechanics (eg SG2214), or equivalent
- 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

- LABA - Home work and computer assignments, 4.5 credits, grading scale: P, F
- TENA - Written exam, 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.

Other requirements for final grade

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.

