



SG2224 Applied Computational Fluid Dynamics 5.0 credits

Tillämpade 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 2025 according to the school principal's decision: S-2024-1593 Decision date: 2024-10-15

Grading scale

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

Education cycle

Second cycle

Main field of study

Engineering Physics

Specific prerequisites

Completed course in Fluid Mechanics or Computational Fluid Dynamics, 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

Knowledge required for performing a complete CFD analysis. In particular to identify and choose approximations and models, choose boundary conditions, design and dimension the computational grid, identify and quantify sources of error, and take into account quality and reliability of the computational results.

Course contents

Presentations of the different parts of the course in order to carry through a CFD analysis including lab time. Performance of a substantial project in a group of students which entails a complete CFD analysis, including the investigation of a specific problem. Information on the different commercial CFD software systems.

Examination

- INL1 - Home Assignment, 1.0 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Project Seminar, 4.0 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.

Individual home assignment.

Project report and presentation by the group.

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.