



FAF3501 Fluid Mechanics 7.5 credits

Strömningslära

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

Establishment

Course syllabus for FAF3501 valid from Autumn 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Master of Science in Civil and Architectural Engineering or equivalent.

Language of instruction

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

Intended learning outcomes

The objective of this course is to provide a deeper physical and mathematical understanding of the fluid flow processes relevant to indoor environmental management with key focus on air movement and distribution in buildings (e.g. natural and mechanical ventilation, air

heating etc.), as well as fluid flow in heating, comfort cooling, domestic hot water generation and other building service systems. Relevant issues are discussed with the over-arching goal of achieving high resource (energy, water etc.) efficiency, high indoor environmental quality and user satisfaction, as well as optimal overall building performance.

Course contents

Related aspects of fluid flow/dynamics are discussed with focus on:

- Building ventilation
- Air distribution in buildings
- Pressure distribution across the building envelope
- Building tightness and infiltration
- Heating/cooling in buildings
- Bio-climatic space-conditioning (natural ventilation, passive cooling/heating)
- Indoor environmental quality
- Energy and resource efficiency
- Overall building performance

Examination

- UPP1 - Report, 5.0 credits, grading scale: P, F
- TEN1 - Oral exam, 2.5 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.

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.