



HS1007 Fluid Mechanics 7.5 credits

Strömningslära

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

Establishment

Grading scale

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

Education cycle

First cycle

Main field of study

The Built Environment, Technology

Specific prerequisites

Completed courses:

AF1763 Mathematics 1, Linear Algebra 5.0 credits and AF1734 Structural mechanics 1 5.0 credits

Intended learning outcomes

Upon completion of the course, the student shall be able to:

- Describe principles of energy and power consumption dimensioning and flow measurement
- Calculate static pressure and forces on plane and curved surfaces
- Design pipe networks and open channels
- Estimate pump and fan requirements and apply design principles for these

Course contents

- Static pressure and forces
- Continuity considerations for circulating service pipes
- Forces caused by flow
- Continuity equation and energy equation with balance considerations
- Pipe flow, channel flow, and fluid machinery
- Pumps and fans with applications
- Flow measurement
- Elements from hydrology
- Groundwater flow
- Considering sustainability aspects when dimensioning pipe, pump and fan networks

Examination

- TENA - Written exam, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- PROB - Project, 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.

Kursen examineras genom ett projekt (PROA) och en skriftlig tentamen (TENA).

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.