HS1007 Fluid Mechanics 7.5 credits

Strömningslära

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 term 2020.

Grading scale

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

Education cycle

First cycle

Main field of study

Built Environment,Technology

Specific prerequisites

Language of instruction

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

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
- Considering sustainability aspects when dimensioning pipe, pump and fan networks

Examination

- PRO1 - Project, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 6.0 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.

The course is examined through a project (PRO1) and a written exam (TEN1).

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.