



FSG3134 Advanced Methods in Fluid Mechanics 7.5 credits

Avancerade metoder i strömningsmekanik

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

Establishment

Course syllabus for FSG3134 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Participants should be enrolled in a PhD programme related to fluid mechanics, and have passed one basic course in fluid mechanics: SG2214 or SG2225 at KTH.

Language of instruction

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

Intended learning outcomes

The student shall acquire knowledge on specialized topics in fluid mechanics directly from world-renowned experts in the area.
The final project will allow the student to use the new knowledge to solve practical problems.

Course contents

The course will focus on advanced topics in fluid mechanics. External lecturers invited by the Linne FLOW Centre at KTH will introduce state-of-the-art theories and techniques.

Previous courses/summer schools focused on flow control, turbulent boundary layers, low Mach-number aero-acoustics in confined flows, Micro and complex fluids.

Disposition

Lectures are typically held during one week, from 3 to 6 hours lecture per day. Students will perform the final project alone or in pairs.

The course is composed of two of these one-week courses.

The new organization at KTH and the funding from VR directly aimed to Graduate Schools opened the possibility to have several highly specialized courses during the typical PhD time. Therefore the need to introduce this course, giving credits that the students can use towards the final degree in addition to the other PhD courses regularly given at KTH.

Course literature

Externa föreläsare förbereder anteckningar, kompendium och alla relevanta publikationer

Examination

- PRO1 - Project work, 4.0 credits, grading scale: P, F
- PRO2 - Project work, 3.5 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.

Other requirements for final grade

The final project will be performed under the supervision of the teacher/teachers. Students are supposed to hand in a final report about the project that will be examined by the exam-

inator/director of Studies of the FLOW Graduate School. Two such projects are required to obtain 7,5 ECTS.

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.