



SF2739 Partial Differential Equations 7.5 credits

Partiella differentialekvationer

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

Course syllabus for SF2739 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mathematics

Specific prerequisites

Completed courses SF1683 Differential Equations and Transforms and SF1677 Foundations of Analysis.

Language of instruction

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

Intended learning outcomes

After the course the student should be able to

- formulate central definitions and theorems within the topic of the course,
- apply and generalize theorems and methods within the topic of the course,
- describe, analyze and formulate basic proofs within the topic of the course.

Course contents

The course treats first order equations. The wave equation: equation in one or several space coordinates, Huyghen's principle. The Laplace equation: fundamental solutions, Green's function, Dirichlet's problem, the maximum principle, Dirichlet's principle, introduction to Sobolev rooms. The heat equation: initial value problem, fundamental solutions, the maximum principle.

Course literature

Announced no later than 4 weeks before the start of the course on the course web page.

Examination

- TEN1 - Examination, 7.5 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 examiner decides, in consultation with KTHs Coordinator of students with disabilities (Funka), about any customized examination for students with documented, lasting disability. The examiner may allow another form of examination for re-examination of individual students

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.

