MATP16, Mathematics: Partial Differential Equations, 7.5 credits

Matematik: Partiella differentialekvationer, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-05-10 to be valid from 2007-07-01, autumn semester 2007.

General Information

The course is an elective course for second-cycle studies for a Degree of Master of Science (120 credits) in mathematics.

Language of instruction: English and Swedish

Main field of studies	Depth of study relative to the degree requirements
Mathematics	A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that the student on completion of the course should:

- have developed the ability to communicate mathematics in speech and writing,
- be familiar with basic concepts and methods within the theory of partial differential equations,
- have acquired basic knowledge for further studies of partial differential equations.

Course content

Quasi-linear equations of the first order. Classification of second-order equations. The Cauchy-Kowalevski theorem. The Holmgren uniqueness theorem. The Laplace equation. The wave equation. The heat equation.

Course design

The teaching consists of lectures and seminars. Compulsory assignments may occur during the course.

Assessment

The examination consists of a written examination followed by an oral examination. The oral examination may only be taken by those students who passed the written examination. Students who fail the ordinary written examination are offered a resit examination shortly thereafter.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.

Entry requirements

For admission to the course, English B is required as well as at least 82.5 credits in mathematics in which should be included the courses MATC11 Analytic functions, 15 credits and MATM14 Ordinary Differential Equations, 7.5 credits or the equivalent.

Further information

The course may not be included in a degree together with MAT416 Partial Differential Equations, 5 credits.

Subcourses in MATP16, Mathematics: Partial Differential Equations

Applies from H12

0701   Examination, 7,5 hp
       Grading scale: Fail, Pass, Pass with distinction