Faculty of Science

MATB12, Mathematics: Fourier Analysis, 7.5 credits

Matematik: Fourieranalys, 7,5 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-11-19 to be valid from 2008-01-01, spring semester 2008.

General Information

The course is an elective course for first-cycle studies for a Bachelor of Science.

Language of instruction: English and Swedish

Main field of studies	*Depth of study relative to the degree requirements*
Mathematics	G1F, First cycle, has less than 60 credits in first-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 the theory for and the applications of Fourier series and Fourier transforms of functions of one variable, have acquired basic knowledge for continued studies in mathematics.

Course content

Fourier series, pointwise convergence, Parseval's formula, Fourier transforms.

Course design

The teaching consists of lectures and exercise sessions. An essential feature of the exercise sessions is practice in problem-solving. Compulsory written assignments may occur during the course.

Assessment

The examination consists of a written examination followed by an oral exam. The oral exam is given only to those who have passed the written exam. For students who did not pass the regular exam, an additional exam is offered shortly afterwards.

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, general entry requirements and knowledge equivalent to the courses MATA14 Mathematics: Analysis 1, 15 credits, and MATA15 Mathematics: Algebra 1, 15 credits (or MATA11 Mathematics 1 alfa, 15 credits, and MATA12 Mathematics 1 beta, 15 credits) are required.

Further information

The course may not be included in a higher education qualification together with MAT242 Fourier analysis 5 p.

Subcourses in MATB12, Mathematics: Fourier Analysis

Applies from H07

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