

Faculty of Science

# MATC11, Mathematics: Analytic Functions, 15 credits Matematik: Analytiska funktioner, 15 högskolepoäng First Cycle / Grundnivå

# Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-03-01 to be valid from 2007-07-01, autumn semester 2007.

# **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	G2F, First cycle, has at least 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 analytic functions of one variable,
- have acquired basic knowledge for continued studies in mathematics.

#### Course content

Basic theory of analytic functions. Cauchy's integral theorem and power series expansion. The argument principle, residue calculus. Möbius transformations. Normal families. Riemann's mapping theorem. Poisson integrals and harmonic functions. Factorisation.

# Course design

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

#### Assessment

The examination consists of a written exam followed by an oral exam. The oral exam may only be taken by those students who pass on the written exam. Students who fail the regular exam are offered a re-examination 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, at least 60 credits in mathematics are required.

### Further information

The course may not be included in a higher education qualification together with MAT331 Analytical functions, 10 p.

#### Subcourses in MATC11, Mathematics: Analytic Functions

Applies from H07

0701 Analytic Functions, 15,0 hp Grading scale: Fail, Pass, Pass with distinction