Faculty of Science

MATA14, Mathematics: Analysis 1, 15 ECTS credits
Matematik: Analys 1, 15 högskolepoäng
First Cycle / Grundnivå

Confirmation
The course syllabus was confirmed by the Education Committee of the Faculty of Science on 11-06-2009 and has been revised 16-01-2012. The revised syllabus is valid from 16-01-2012, Spring Semester of 2012.

General information
The course is a compulsory course at the First cycle in a Science Bachelor’s degree in Mathematics and a Science Bachelor’s degree in Physics.

Language of instruction: Swedish or English. When needed, the entire course will be given in English.

Main Field of Studies
Mathematics

Specialisation
G1N, First cycle, see admission requirements

Learning outcomes
The aim of the course is that students on completion of the course should have acquired the following knowledge and skills:

Knowledge and understanding

On completion of the course, the students are expected to:

- be acquainted with the theory and applications of differential and integral calculus for functions of one real variable
- have acquired basic knowledge to be prepared for further studies of mathematics
Skills and abilities

On completion of the course, the students are expected to:

- have developed their ability for mathematical communication in spoken and written form

Course content

Course implementation
The teaching consists of lectures and group exercises. An essential element of the group exercises is training in problem solving. A compulsory project work is part of the course requirements. The project can contain theoretical or numerical aspects or applications of the course contents, but it may also have a didactical character. The latter is especially suitable for students who aim to pursue a teacher education.

Course examination
Examination consists of the following parts:

- presentation of project work (2 credits)
- written exam and possibly, in connection with this, an oral examination (13 credits)

The oral examination is compulsory in order to obtain the grade Pass with distinction, and it is held only for students who have passed the appurtenant written exam. Students who fail the ordinary examination are offered a re-examination shortly after.

Grading scale
The grading scale consists of the grades Fail, Pass, Pass with distinction.
In order to pass the entire course, it is required to pass the project work and the written exam. In addition to these, students must pass the oral examination in order to obtain the grade Pass with distinction. The final grade is based on the acquired results for the different parts of the examination.

Admission requirements
Basic eligibility and Mathematics D or Mathematics 4 (Swedish Upper Secondary School Programmes), or similar background.

Additional information
The course cannot be credited as part of a degree along with the course Mathematics 1 alpha (MAT131 or MATA11) nor with the course Mathematics 1 beta (MAT132 eller MATA12).