



LUND
UNIVERSITY

Faculty of Science

MATA15, Mathematics: Algebra 1, 15 ECTS credits
Matematik: Algebra 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: English or Swedish. 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 elementary algebra and linear algebra
- 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

Set theory symbols. Basic properties of the integers. Mathematical induction. Elementary combinatorics. Polynomials and algebraic equations. Complex numbers. Linear systems of equations. Matrices. Analytic geometry in two and three dimensions.

Course implementation

The teaching consists of lectures and group exercises. An essential element of the group exercises consists of training in computing skills and 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 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 (3 credits)
- written test, part 1 (6 credits)
- written test, part 2 (6 credits)

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 as well as the written tests. The final grade is based on the acquired results on the different parts of the examination.

Admission requirements

To be eligible for the course requires basic eligibility and Mathematics D or Mathematics 4 (Swedish Upper Secondary School Programs), or corresponding.

Additional information

The course can not 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).