



# SF1624 Algebra and Geometry

## 7.5 credits

Algebra och geometri

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

### Establishment

Course syllabus for SF1624 valid from Autumn 2019

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

First cycle

### Main field of study

Mathematics, Technology

### Specific prerequisites

Basic requirements.

### Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

After the course the student should be able to

- use concepts, theorems and methods to solve and present solutions to problems within the parts of linear algebra described by the course content,
- read and comprehend mathematical text.

## Course contents

Vectors, matrices, linear equations, Gaussian elimination, vector geometry with dot product and vector product, determinants, vector spaces, linear independence, bases, change of basis, linear transformations, the least-squares method, eigenvalues, eigenvectors, quadratic forms, orthogonality, inner-product space, Gram-Schmidt's method.

## Course literature

Announced no later than 4 weeks before the start of the course on the course web page.

## Examination

- TEN1 - Examination, 7.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

The examiner decides, in consultation with KTHs Coordinator of students with disabilities (Funka), about any customized examination for students with documented, lasting disability.

## Other requirements for final grade

Written exam, possibly with the possibility of continuous examination.

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.

- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.