Linnæus University

Course syllabus

Faculty of Technology
Department of Mathematics

1MA403 Vektorgeometri, 7,5 högskolepoäng
Vector Geometry, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved 2014-10-03
Revised 2021-11-26 by Faculty of Technology.
The course syllabus is valid from autumn semester 2022

Prerequisites
General entry requirements and Mathematics 4 or Mathematics D (Field-specific entry
requirements 9/A9).

Objectives
After completing the course, the student should be able to

- solve problems, perform calculations, and conduct lines of reasoning within the
  part of mathematics that is covered by the course, and to communicate these
  solutions, calculations, and reasonings in writing
- describe definitions, and formulate and prove theorems that are central to the
  course.

Content
Linear equation systems, Gauss elimination, matrices, vectors, basis and change of
coordinates, scalar product, vector product, determinants, lines, planes, angles, distance
computations, linear mappings, matrices for linear mappings, compositions of linear
mappings, diagonalizations, some parts concerning determinants of higher order.

Type of Instruction
Lectures and seminars.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow
in descending order where the grade E is the lowest grade on the scale that will result in

a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

The student's knowledge is assessed in the form of a written exam.

Course Evaluation
During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap
The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 1MA103 Vector Geometry, 7.5 credits

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material
Required Reading
Lay, David C.,*Linear Algebra and Its Applications*, Pearson/Addison Wesley, latest edition. 792 pages.