



## Course syllabus

Faculty of Technology

Department of Mathematics

1MA133 Linjär algebra för ingenjörer, 7,5 högskolepoäng

1MA133 Linear algebra for engineers, 7.5 credits

### **Main field of study**

Mathematics

### **Subject Group**

Mathematics

### **Level of classification**

First Level

### **Progression**

G1N

### **Date of Ratification**

Approved 2013-12-16

Revised 2019-03-13 by Faculty of Technology. Content, examination and assessment methods are revised.

The course syllabus is valid from autumn semester 2019

### **Prerequisites**

General entry requirements and Mathematics 3c or Mathematics D (Field-specific entry requirements 8/A8).

## 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.

## 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. Basic programming using Matlab (or similar programming languages).

## Type of Instruction

Lectures and seminars.

## Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

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

## 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.

## Required Reading and Additional Study Material

### Required Reading

Torsten Lindström. *Med fokus på linjär algebra*, Studentlitteratur, latest edition. 152 pages.

Material from the department