



## Course syllabus

School of Business and Economics  
Department of Economics and Statistics

1NA080 Grundläggande matematik för företags- och  
nationalekonomi, 7,5 högskolepoäng  
Essential mathematics for business and economics, 7.5 credits

### **Main field of study**

Economics

### **Subject**

Economics

### **Level**

First cycle

### **Progression**

G1F

### **Date of Ratification**

Approved 2024-02-05.

The course syllabus is valid from autumn semester 2024.

### **Prerequisites**

Economics 30 credits and Statistics 15 credits, or the equivalent. English 6, or the equivalent.

## Objectives

After completing this course the student should be able to:

- solve optimisation problems for continuous functions with one or more variables, with and without constraints
- solve integral problems
- conduct simple analyses in linear algebra
- conduct basic financial calculations with compound interest, present value and internal rate of return

## Content

The course contains:

- functions of one or more variables
- total and partial derivatives
- integrals (including integration by parts)
- concavity, convexity and second-order conditions
- constrained and unconstrained optimisation
- compound interest, present value, internal rate of return
- linear algebra (vectors, determinants, inverse)

## Type of Instruction

The teaching consists of lectures and group exercises.

## Examination

The course is assessed with the grades A, B, C, D, E or F.

The course is examined through an individual written examination 5.5 credits and a written group assignment 2 credits.

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.

Resit examination is offered in accordance with Linnaeus University's Local regulations for courses and examination at the first- and second-cycle levels.

In the event that a student with a disability is entitled to special study support, the examiner will decide on adapted or alternative examination arrangements.

## Course Evaluation

A course evaluation should be conducted during the course or in connection with its conclusion. The results and analysis of the completed course evaluation should be promptly communicated to students who have completed the course. Students participating in the next course instance should be informed of the results of the previous course evaluation and any improvements that have been made, no later than at the start of the course.

## Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course: 1NA005:1, 1NA010, 1NA002, 1NA004:1, 1NA016:1 and 1NA026:1 with 7.5 credits each.

## Required Reading and Additional Study Material

### Required reading

Sydsaeter, K. & Hammond, P. *Essential Mathematics for Economic Analysis*. Prentice Hall. Latest edition. About 200 pages.