



# AI1178 Applied Mathematics and Statistics for Economists

## 6.0 credits

Tillämpad matematik och statistik för ekonomer

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

The course syllabus is valid from Autumn 2024 according to decision of the Director of First and Second Cycle Education: A-2024-0333, 3.2.2 Decision date: 2024-03-20

### Grading scale

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

### Education cycle

First cycle

### Main field of study

Technology

### Specific prerequisites

Knowledge in mathematics (3,0 credits) corresponding to completed part TEN C (Exam 3,0 credits) in course SF1627 Mathematics for Economists 9,0 credits

and

Knowledge in statistics (3,5 credits) corresponding to completed part completed INL1 (INL1 - Assignment, 3.5 credits) in AI1175 Basic Statistics for Economists 7,5 credits.

## Language of instruction

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

## Intended learning outcomes

After a passed course, the student should be able to:

- Estimate linear regression models and carry out hypothesis tests by means of a computer
- Interpret, analyse and present results based on linear regression analysis.
- Apply mathematical tools to analyse microeconomic and macroeconomic models.
- Solve and analyse economic optimization problems.

## Course contents

- Simple and multiple linear regression analysis with cross-section data
- Linear algebra with economic applications
- Multivariable analysis applied on economic models
- Basic statistical analysis of time-series data

## Examination

- INL1 - Assignment, 3.0 credits, grading scale: P, F
- TEN1 - Written Exam, 3.0 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.

Included in the course:

- Lectures
- Exercises in lecture halls and computer rooms
- Group assignments with compulsory exams (and possibly other software like MATLAB)

Re-examination for a higher grade: There is no possibility to retake already passed (A-E) exams.

## Other requirements for final grade

Passed examinations: TEN1, INL1

Grade scale for entire course: A-F

## 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.