# 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

Course syllabus for AI1178 valid from Spring 2017

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

SF1627 Mathematics for Economists 9.0 credits or equivalent

AI1128 Economics of the Built Environment 7.5 credits or equivalent

AI1175 Basic Statistics for Economists 7.5 credits or equivalent

# 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 have knowledge of mathematical and statistical concepts, methods and models that business students in different sectors apply. On completion of the course, the student should be able to

1) use mathematical tools to analyse microeconomic and macroeconomic models.

2) solve and analyse economic optimization problems

3) estimate linear regression models and carry out hypothesis tests by means of computer-aid.

4) critically interpret, analyse and present results based on linear regression analysis.

# Course contents

Linear algebra with economic applications

Multivariable analysis applied on economic models

Simple and multiple linear regression analysis with cross-section data

Basic statistical analysis of time-series data

# Disposition

Lectures

Exercises in classrooms and computer rooms

Group assignments with compulsory excel exercises (and possibly other software as MATLAB or R).

# Course literature

Kursbok med fokus på statistiska metoder för ekonomer, med datorstöd (Excel)

Sydsæter & Hammond: Essential mathematics for economic analysis, Pearson

Föreläsningsmaterial och övningsmaterial, samt diverse webbmaterial

---

- Kurslitteraturen kan ändras

# 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.

INL1: Written assignments 3.0 credits, grading scale P/F

TEN1: Written examination, 3.0 credits, grading scale A-F

# Other requirements for final grade

Passed subparts: TEN1, INL1

Grading scale for completed 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.