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 2019

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 hp or similar

AI1128 Economics of the Built Environment 7,5 hp or similar

AI1175 Basic Statistics for Economists 7.5 hp or similar

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:

• estimate linear regression models and carry out hypothesis tests by means of computer-aid

• critically interpret, analyze and present results based on linear regression analysis

• use mathematical tools to analyse microeconomic and macroeconomic models

• solve and analyze 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

Disposition

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

Course literature

Statistics for Business and Economics by Paul Newbold, William Carlson, Betty Thorne, last edition, Pearson Education: Edinburg Gate.

Alternative:

Essential Mathematics for Economic Analysis by Knut Sydsæter, Peter J. Hammond, Arne Strom, last edition, Pearson Education: Edinburg Gate.

Microeconomics: Theory and Applications with Calculus by Jeffrey Perloff (if this book has been used in the course AI1128 Economics of the Built Environment), last edition, Pearson Education: Edinburg Gate.

Lecture notes and material are available online.

Course literature may change.

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.

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.