AH2314 Individual Choice Modeling and Market Analysis 7.5 credits

Modellering av individers val samt marknadsanalys

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for AH2314 valid from Autumn 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

For CSAMH students:

- SF1694 Algebra and Geometry or the equivalent
- SF1901 Probability Theory and Statistics or the equivalent
- English B or the equivalent

For other students:

- At least 6 ECTS in Mathematical statistics and 6 ECTS in Linear algebra
- English B or the equivalent

Language of instruction

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

Intended learning outcomes

After completing the course, the student should be able to

- describe differenttheories andmodels ofindividuals' choices
- formulate models of discrete choice, market demand and consumer surplus
- explain theconcept ofrationality,the basicas-ifassumptionin the theory ofexpected utilityas well asanomalies inthe behavior of individuals.
- Independently program models andanalyze data
- use simulation-based methods for prediction and estimation
- describe and use frequentist and Bayesian approaches for inference and prediction
- designing experiments / surveys for data collection, especially Stated-preference techniques

Course contents

To understandand predictthe behavior of individuals – how, what and whyindividuals makethe choices they make – is centralin economics andmarketing.For example, in the private sector it is important for executives to know howconsumers will react tochanges such as the introductionof a new product, or the alteration ofgoodsattributes.The public sector hassimilar issues, for exampleif acar rebateis introduced forenvironmentally friendly cars, how is thecar market affectedthen?Can the environmental objectives be achieved?Withinthis course, we study models ofindividualchoiceandeconometricmethods forinference andprediction.

The course consists ofthree differentparts.

1. Theoryof discrete choice, randomutility maximization, mixed logit models, econometric estimation, simulatedmaximum likelihood
2. Alternative choice models, Prospect theory, reference dependence, anchoring, framing and anomalies. Choice modeling "as if" ersus "as is".
3. Bayesianmethodologyin marketing

Disposition

For each part of the course, a theoretical basis is provided during the lectures, which will providea knowledge basefor acomputer lab/homework assignment. Each part of the courseis accompanied by ahomework assignment. That is, normally,a total of three assignments are required to be completed during the course and the assignment reports are graded. The final course grade isbased on an appraisalof the results ofthe reportsand the resultsof the exam.

Course literature

Train, K., 2003, "Discrete choice methods with simulation", Cambridge University Press (Tillgänglig online).

Rossi, PE, Allenby, GM, McCulloch, R, (2005), Bayesian Statistics and Marketing.

S.Washington, M Karlaftis, F.Mannering (2003), Statistical and Econometric Methods for Transportation Data Analysis.

Utvalda artiklar

Examination

- PRO1 - Project Assignment, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: P, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

- PRO1 - Project assignment, 4,5 hp, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3,0 hp, grading scale: P, 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.