AH2307 Urban Modeling and Decision Support 7.5 credits

Urban modellering och beslutsstöd

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 AH2307 valid from Spring 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

DD1310 Programming Techniques 6.0hp or the equivalent; SF1625 Calculus in One Variable 7,5hp or the equivalent; SF1624 Algebra and Geometry 7,5hp or the equivalent, where linear algebra is included; SF1901 Probability Theory & Statistics 6.0hp or the equivalent; and knowledge of English equivalent to English B.

Language of instruction

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

Intended learning outcomes

After the course you should be able to:

- Describe and critique the application of rational models in decision-making processes
- Apply urban theories to building a simple forecasting system
- Analyze policy changes in the urban system and produce decision support for decision-makers
- Write a report of a simple transport planning study

Course contents

The main contents are discrete choice theory, the multinomial and nested logit model, network equilibrium and assignment theory for car and public transport, and the development and application of a simple forecast and analysis system.

The contents are presented in lectures and developed into practical skills through computer aided exercises. The project task is undertaken as a laboratory exercise where the student will build a forecasting system using the methods taught in the lectures. The student applies the system to a range of policy issues and writes an individual report of the work.

Course literature

Ortuzar & Willumsen (2001). Modelling Transport. John Wiley & Sons.

Examination

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

Written exam equivalent to 3 credits with grading scale A-F.

Project assignment equivalent to 4,5 credits with grading scale 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.