



AH2172 Transport Data collection and Analysis 7,5 hp

Transport Data collection and Analysis

Fastställande

Kursplan för AH2172 gäller från och med HT07

Betygsskala

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

Utbildningsnivå

Avancerad nivå

Huvudområden

Särskild behörighet

Knowledge corresponding to the following courses:

AH2300 Transport and society.

AH2171 Traffic Engineering and Management.

Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

Lärandemål

- Identify appropriate methods for transportation and traffic data collection.
- Understand transportation data needs.
- Understand the role sampling the data collection
- Use descriptive statistics for the analysis and preparation of data
- Perform outlier analysis.
- Perform statistical inference for hypothesis testing and interval estimations
- Use data for model building including
- Linear regressions
- Non linear models.
- Apply methods and interpret results using statistical software

Kursinnehåll

- Transportation data needs
- Surveys and survey design
- Traffic studies
- Sampling and sample statistics.
- Descriptive statistics and outliers
- Hypothesis testing and confidence Intervals
- Linear regression and applications (in transport and traffic)
- Other data analysis and model building methods

The content of the course is presented and trained in tutorials. Applications are in safety studies, traffic studies, and transport planning. Further training in field surveys and data collection, reduction and analysis is carried out in the form of comprehensive project work. The project covers all the major steps that have to be undertaken including report preparation, discussion of the results. The students will also present their results for discussion.

Kurslitteratur

To be determined. Possible literature may include:

- J.de D. Ortúzar and L.G. Willumsen (2002), Modelling Transport (2002).
- S.Washington, M Karlaftis, F.Mannering (2003).Statistical and Econometric Methods for Transportation Data Analysis (2003).
- A selection of research articles.
- O'Flaherty (ed.) (1997) Transport Planning and Traffic Engineering, (1997), chapter 12-13 (PW Bonsall) and parts of other chapters

Examination

- PRO1 - Project, 2,5 hp, betygsskala: P, F
- TEN1 - Examination, 5,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enskilda studenter.

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

Övriga krav för slutbetyg

A mandatory written examination equivalent to 5 cr with grading scale A-F and a mandatory project assignment equivalent to 2.5 cr with grading scale A-F. The course will have grading scale A-F, where the course grade will be determined by the grade on the written examination and the project work.

Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.