AH2171 Traffic Engineering and Management 7.5 credits

Traffic Engineering and Management

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

Establishment

Course syllabus for AH2171 valid from Autumn 2021

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

Bachelor's degree or equivalent in civil engineering, geography, technical physics, computer science, statistics, economics, or mathematics. At least 3 credits in each programming, linear algebra, univariate analysis, probability theory and statistics, andEng B/6 according to the Swedish upper secondary school system

Language of instruction

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

Intended learning outcomes

The overall aim of the course is to provide fundamental knowledge of traffic flow theory and its application methods for capacity analysis, design, management, operation and selection of control method for road traffic facilities with regard to traffic performance and safety. After the course you should be able to:

- Understand the fundamental traffic flow theories and identify basic traffic variables and their relationships including speed, density and flow.
- Analyze a variety of traffic facilities and evaluate capacity and level of service (LOS).
- Design signalized intersections including isolated, coordinated and roundabouts.
- Assess, evaluate and justify methods of traffic management and control.
- Understand the use of advanced simulation methods for the analysis of traffic systems and software tools for the design of traffic control strategies.
- Evaluate traffic impacts on the environment and safety.
- Calculate and apply methods for reducing traffic impacts on communities such as traffic calming strategies, accident reductions and parking management.
- Understand the role of ITS in Dynamic Traffic Management.

Course contents

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Examination

- PROA - Project, 3.5 credits, grading scale: A, B, C, D, E, FX, F
- TENA - Examination, 4.0 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.

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

- TENA - Examination, 4,0 hp, betygsskala: A, B, C, D, E, FX, F
- PROA - Project, 3,5 hp, betygsskala: A, B, C, D, E, FX, F

Other requirements for final grade

A mandatory written examination equivalent to 4 cr with grading scale A-F and a mandatory project assignment equivalent to 3.5 cr with A-F .

The course grade will be determined by the grade on the written examination and project.

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.