AH1022 Traffic and Road Engineering, Basic Course 7.5 credits

Trafik- och vägteknik, grundkurs

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

Establishment

Course syllabus is valid from Autumn Semester 2025 according to the decision of the Director of First and Second cycle studies : HS-2025-0667.Decision date: 2025-04-02

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

AI1527 Introduction to the Planning and Building Process 13.5 credits

AI1128 Economics of the Built Environment 7.5 credits

AH1030 Urban Development and Transport System 7.5 credits

Language of instruction

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

Intended learning outcomes

After passing the course, the student should be able to:

•Identify different traffic terms in the fundamental flow relationships and explain their relationship.

•Identify and explain the basic traffic engineering concepts and methods for data collection and analysis.

•Gain practical application of methods for selecting sustainable traffic control solutions, e.g. signalized and non-signalized intersections that contribute to reducing traffic jams, delays and their effects on the environment and safety, i.e. ensuring sustainable development of the transport system.

•Discuss and compare the different development areas of traffic engineering for sustainable transport systems.

•Application of different data and simulation programs for traffic problem solving.

•Calculate and apply methods to reduce the impact of traffic on society, such as strategies for traffic safety, accident reduction and parking solutions.

•Gain knowledge of Intelligent Transport Systems (ITS) and its role in traffic management for more efficient use of the transport system.

Course contents

•Traffic flow theory, Traffic investigations

•Effect relationships for accessibility, traffic safety, environment

•Project task: Analysis, dimensioning, design and regulation of various traffic facilities

Examination

- ÖVN1 - Exercises, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 4.5 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.

Other requirements for final grade

Approved Examination (TEN1; 4.5 credits) and exercises (ÖVN1; 3.0 credits)

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.