AH1907 Installation 1. Road, Railways and Wastewater Networks 7.5 credits

Anläggning 1. Väg-, järnväg och VA-teknik

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

Establishment

The course syllabus is valid from autumn 2022.

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed course: HF1904/HF1700, AF1734/HS1722, AF1735

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should be able to:

- explain technical terms and understand their mutual relations within the fields of road, railway and water and waste water technology
- perform simple projecting group assignments within the fields of road, railway and water and waste water technology
- perform calculations regarding the geometric design of the road and vehicle dynamics
- use computer programs for road design and mass calculation
- explain the relationship between design and production of sustainable infrastructure programs.

Course contents

Road and railway technology:

- Road and railway track components
- Geometric design of roads and railways
- Classes and types of roads, streets and railways
- Buidling materials for roads and railways (bitumen, asphalt, unbound materials)
- Climate, environment and drainage aspects
- Mechanistic/empirical modelling of asphalts pavements
- Design of roads and railways

Road hydrology:

- Water and waste water technology and road construction
- Storm water and traffic

Water and waste water technology:

- Materials science about water and waste water technology
- Operation and maintenance of water and waste water technology

Examination

- ÖVNA - Exercises, 2.5 credits, grading scale: P, F
- ÖVNB - Exercises, 2.5 credits, grading scale: P, F
- TENA - Exam, 2.5 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.

The examination consists of three parts:

TENA (2.5 credits) Written examination

ÖVNA (2.5 credits) Road design project

ÖVNB (2.5 credits) Water and waste water project

Grading criteria are announced at the beginning of the course.

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.