AH1908 Installation 2. Construction, Management and Maintenance of Roads and Railways 7.5 credits

Anläggning 2. Byggande, drift och underhåll av vägar och järnvägar

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

Establishment

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed courses

- AF1763 Mathematics 1, Linear Algebra 5.0 credits
- AF1734 Structural mechanics 1 5.0 credits

and

- INL1 - Hand-in-exercise, 1.5 credit in AF1758 Soil Mechanics 7.5 credits

Intended learning outcomes

The student should after the course be able to:

- describe the fundamental procsesses for design and construction of Road, Rail and Sewage Systems
- perform basic design and dimensioning tasks

Course contents

Highway and track technology:

- Design of roads and railways.
- Construction of roads and railways.
- Management of road construction – System perspective versus project perspective.
- Maintenance of highways and railways.
- Assessing the condition of roads.
- Life cycle cost (LCC) for maintenance of highways.
- Swedish highway design methods
- Characterization of heavy vehicles and traffic for dimensioning of highways.
- Loading and stresses in highways.

Road hydrology:

- The maintenance model.
- Control of state.
- Performance metrics.
- Life cycle cost (LCC) for wastewater network foundations.

Examination

- ÖVN1 - Exercises, 3.0 credits, grading scale: P, F
- TEN1 - Exam, 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

Passed written exam (4,5 ECTS credits)

Passed exercises (3 ECTS 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.