



# FAF3211 Operation and Maintenance of Bridges and Tunnels, LCC and LCA 7.5 credits

Drift och underhåll av broar och tunnlar, LCC och LCA

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

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

## Establishment

Course syllabus for FAF3211 valid from Autumn 2010

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

Academic degree in civil engineering (BSc or higher) including basic courses on structures, bridges and tunnels as well as eligible for doctoral studies.

## Language of instruction

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

## Intended learning outcomes

The course gives a deeper insight into the theories and methodologies for planning and realization of effective operation, maintenance, repair and upgrading of existing structures.

## Course contents

The amount of existing infrastructure structures is steadily increasing compared to the number of new constructed bridges, tunnels and other megastructures building up a crucial part of the traffic infrastructure of a country.

The aims of the course are to give:

- Additional knowledge on systems for planning and operation of maintenance of infrastructures.
- Information about practical systems for management of structures.
- Basic knowledge on Life Cycle Cost (LCC) analysis for infrastructures.
- Basic knowledge on Life Cycle Analysis (LCA) for infrastructures.
- Examples on how to use enhanced methods for operation and management of structures using monitoring.

## Course literature

Rapporter utarbetade inom det nordiska ETSI-projektet samt handouts. ETSI-projektet omfattar ett LCC-projekt, ett LCA-projekt samt ett projekt om värdering av broars mjukvärden. Kurskompendier på svenska "Drift och underhåll av konstbyggnader" samt "Drift och underhåll av tunnlar".

## Examination

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.

## Other requirements for final grade

The course corresponds to 7,5 ECTS credits, where 1,5 credit is a 40 h working week. To get a grade for the course the student must perform and present a seminar report.

## 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.