



# FAF3116 Structural Engineering for Hydropower Constructions 2.0 credits

## Byggkonstruktion för vattenkraftskonstruktioner

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 FAF3116 valid from Autumn 2013

## Grading scale

## Education cycle

Third cycle

## Specific prerequisites

Mechanics, solid mechanics.

## Language of instruction

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

## Intended learning outcomes

The course is intended to widen the knowledge regarding structural engineering within the hydropower industry of PhD students with the research topics related to hydropower.

## Course contents

- Hydropower concrete dams
- Introduction/repetition of basic structural mechanics
- Concrete material - material composition, physical and mechanical properties, hardening of concrete etc
- Concrete design - from uncracked concrete to the ultimate state (Stage I - III)
- Reinforcement and pre-stressing
- Nonlinear behaviour of concrete
- Research projects in structural engineering for the hydropower industry
- Laboratory work - Laboratory testing of the ultimate strength of reinforced and pre-stressed concrete beams

## Course literature

To be announced at start of the course.

## 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.

Project assignment.

## 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.