FAF3006 Fracture Mechanics of Concrete and Steel 7.5 credits

Brottmekanik för betong och stål

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

Establishment

Course syllabus for FAF3006 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

MSc in Civil and Architectural Engineering and qualified for admission to become a PhD student.

Language of instruction

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

Intended learning outcomes

After completed course, the student should have acquired knowledge on linear and non-linear fracture mechanics and skill to apply it to concrete and steel structures.

Course contents

Included subjects:

- Failures in structure
- Principles of linear fracture mechanics
- Fracture mechanics of steel structures
- Principles of non-linear fracture mechanics
- Non-linear fracture mechanics of brittle construction materials
- Testing fracture mechanics properties of concrete
- Fracture mechanics of concrete structures

Course literature

Shah, S.P., Swartz, S.E., Stuart, & Ouyang, C., "Fracture Mechanics of Concrete: Applications of Fracture Mechanics to Concrete, Rock, and Other Quasi-Brittle Materials". John Wiley & Sons, Inc., New York, Chichester, Brisbane, Toronto, and Singapore, 1995, 552 pp.

Andersson, P., "A Procedure for Safety Assessment of Components with Cracks-Handbook". SAQ/FoU- Report, SAQ Kontroll AB, Stockholm, 1996, 104 pp.

Examination

- RAP1 - Project report, 7.5 credits, grading scale: P, 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.

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.