

SYLLABUS

Advanced Concrete Technology 7.5 credits K7011B

Avancerad betongteknik

Course syllabus admitted: Spring 2017 Sp 3 - Present

**DECISION DATE
2016-02-12**

Advanced Concrete Technology 7.5 credits K7011B

Avancerad betongteknik

Second cycle, K7011B

| Education level | Grade scale | Subject | Subject group (SCB) |
|-----------------|-------------|------------------------|---------------------|
| Second cycle | U G# | Väg- och vattenbyggnad | Civil Engineering |

Entry requirements

K7009B Concrete Manufacturing and Construction or corresponding.

Selection

The selection is based on 30-285 credits

Examiner

Andrzej Cwirzen

Course Aim

The main objective of this course is to provide students with theoretical knowledge and practical skills enabling to work with advanced concrete technology. The target level of knowledge and skills will reach far beyond the level of the proceeding Concrete Technology course.

Contents

Cement chemistry, secondary cementitious binders, concrete additives, concrete admixtures, fiber reinforced concrete, polymer concrete, high performance/strength concrete, ultrahigh performance/strength concretes, geopolymer concretes, lightweight concrete, special types of concretes. Durability of concrete structures including deterioration mechanisms, prevention and repair methods.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Instruction consists of lectures, laboratory exercises and design project. Attendance in lectures and laboratories is compulsory.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

Project, written exam and report from laboratory exercises.

Final grade 70% written examination, 20% design exercise, 10% laboratory report.

Literature. Valid from Spring 2017 Sp 3

Lecture notes,

Hansen: The Science of Construction Materials, 2009;

Neville: Properties of Concrete, 1995, Cement and Mortar Technology and Additives, 1980,

Rixom & Mailvanagam: Chemical Admixtures for Concrete,

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Items/credits

No items/credits available

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Syllabus established

by Eva Gunneriusson 2016-02-12