SE2123 Testing Techniques in Solid Mechanics 6.0 credits

Hållfasthetsteknisk provning

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

Establishment

The course syllabus is valid from Spring 2022 according to the school principal's decision: S-2022-0529 Decision date: 2022-02-24

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

SE1010 or SE1012 or SE1020 or SE1055, SE1025.

English B / English 6

If the number of students exceeds the course max, then the selection criterion follows:
1) Students who have selected the Solid Mechanics track
2) Students who have selected the Fluid Mechanics or Sound and vibration track
3) Others, based on read Solid Mechanics courses and grades.
If the number exceeds the maximum, then the department will still make room for those

withing 1). If there after those in 1) have been accepted are places available, then the selection within 2) and 3) follows read Solid Mechanics courses and grades.

Language of instruction

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

Intended learning outcomes

Experimental testing is a very important engineering tool, both in industry and academia. In this course, the participants will learn how to perform some solid mechanical experiments and interpret the results. They will also learn the theoretical background and will be able to determine parameters defined in the standards as well as parameters in material models. Furthermore, practical, hands on, experience will be acquired from use of experimental equipment including servo-hydraulic test machines at the department.

After the course, the participants should be able to

- understand the theoretical background for a number of measurement methods, and techniques in solid mechanics.
- work with certain experimental equipment used in solid mechanics testing
- account for basic experimental planning.

Course contents

The course gives insights into several experimental methods used in solid mechanics.

Examination

- KON1 - Test, 0.0 credits, grading scale: P, F
- LAB2 - Laboratory Work, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 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

Written exam (TEN1; 3 university credits)
Laboratory work (LAB1; 3 university credits)
Test (KON1, 0 university 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.