



MJ2484 Advanced Mechanics and Finite Element Methods 6.0 credits

Fortsättningskurs mekanik och FEM

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

Establishment

Course syllabus for MJ2484 valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Engineering mathematics, BSc level

Only for TAETM

Language of instruction

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

Intended learning outcomes

At the end of the course the student should be able to:

- Understand the fundamental theory of the finite elements
- Develop skills to model the behavior of elastic structures
- Use a commercial finite element software for structural analysis

Course contents

The goal of this course is to learn develop both theoretical concepts as well as practical use of the

method. Starting from the mechanical behavior of simple structures like pin jointed structures;

fundamental concepts of the structural analysis are introduced. Subsequently, it is shown how the

general elastic equations established in continuum mechanics can be discretized and how it is possible to obtain an approximate solution for these equations.

Course literature

Egen litteratur

Examination

- TENA - Examination, 6.0 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.

TEN, 6 ECTS, A-F

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.