



# SG2802 Membranes, Plates and FEM 7.5 credits

Skivor, plattor och FEM

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 valid from Fall 2022

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

Passed courses corresponding to DN1214, SG1107, SG1801, SG2803.

English B / English 6

## Language of instruction

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

## Intended learning outcomes

The student will learn to analyse and evaluate principal stresses, explain and use the strut-and-tie method for simple membranes, use the finite element method for computation of membranes and plates and evaluate the results, and explain the stabilising function of membranes and plates in large buildings.

## Course contents

Stress and strain relations in 2D and 3D, principal stresses and strains, constitutive relationships, strut-and-tie method, analytical and numerical methods for membranes and plates, basic elements of the FEM for membranes and plates, use of the FE software ForcePAD and ANSYS.

## Examination

- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN2 - Examination, 1.5 credits, grading scale: P, F
- ÖVN1 - Exercises, 3.0 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.

## Other requirements for final grade

A written examination (TENA; 3 university credits), An oral examination (TENB; 1,5 university credits), Exercises (ÖVNA; 3 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.