SE2127 Packaging Materials 7.5 credits

Förpackningsmaterial

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

Establishment

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Basic course in solid mechanics (SE1010 or SE1020 or SE1012 or SE1055).

Language of instruction

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

Intended learning outcomes

After the course, the participant should be able to

- discuss important applications in packaging technology using the correct mechanical and chemical terminology
- relate the results from the most important testing methods for determining the mechanical behaviour of packaging materials to basic and relevant quantities in solid mechanics, and also
- demonstrate the benefits of mechanical modelling and numerical analysis in packaging materials applications.

Course contents

- Basic solid mechanics for packaging technology
- Fracture mechanics applied to paper materials
- Creep behaviour of paper
- The mechanical characteristics of paper in the thickness direction
- Barrier materials
- Delamination in paper and paper board
- Converting operations at production of wood-fiber based packages
- The finite element method for packaging design
- Packaging ergonomics

Course literature

The Ljungberg Textbook, reprints and handouts.

Examination

- ÖVN1 - Assignments, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 3.8 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 2.2 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.

Other requirements for final grade

Written exam (TEN1; 3,8 university credits)
Laboratory (LAB1; 2.2 university credits)
Home assignments (ÖVN1; 1,5 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.