SG1102 Mechanics, Smaller Course 6.0 credits

Mekanik, mindre kurs

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 for SG1102 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering,Technology

Specific prerequisites

Calculus, one variable, and linear algebra with geometry.
Calculus, several variables, should at least be studied in parallel.

Language of instruction

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

Intended learning outcomes

After having passed this course the students will be able to: Apply Newton’s three laws for simple mechanical systems. Solve simple equations of motion. Apply the concepts of work and moment of force. Decide when the theory of central motion is applicable. Solve harmonic oscillation problems, with and without damping.

Course contents

Vector and kinematics, Newton's laws, Work, power, energy, Central force, Center of mass, moment of inertia, Systems of particles and center of mass motion, Rotation about fixed axis.

Linear oscillations in one dimension, harmonic, damped.

Course literature

Nicholas Apazidis, Mekanik, Studentlitteratur or Christer Nyberg, Mekanik Grundkurs, Liber.

Examination

- INL1 - Hand in Task, 1.5 credits, grading scale: P, F
- TENB - Examination, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- TENC - 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.

Other requirements for final grade

Written exam (3 university credits), hand in assignments (1,5 university credits). a theory exam (TEN1;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.