SE2121 Introduction to Biomechanics 9.0 credits

Biomekanik

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 SE2121 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Engineering Physics

Specific prerequisites

SE1010 or SE1020 or SE1055 or SE1012 and SE1025.

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 participants should be able to

- discuss why biomechanics is important to advance therapeutical and diagnostic procedures that promote the advancement of health care delivery
- understand the theoretical basis of the mechanics of cells, normal and diseased arterial walls and of muscles
- carry out biomechanically based analyses of cells, normal and diseased arterial walls and of muscles.

Course contents

* Historical development of biomechanics and its role today

* Mechanics of cells

* Mechanics of normal and diseased arterial walls

* Mechanics of muscles

Course literature

Hand-outs.

Examination

- HEM1 - Assignments, 4.5 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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 (TEN1; 4,5 university credits)
Home assignments (HEMA; 4,5 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.