

SYLLABUS

Physics B 15 pre-education credits BX001T

Fysik B

Course syllabus admitted: Autumn 2012 Sp 1 - Spring 2013 Sp 4

**DECISION DATE
2012-04-03**

Physics B 15 pre-education credits BX001T

Fysik B

Pre-university level, BX001T

Education level	Grade scale	Subject	Subject group (SCB)
Pre-university level	G U 3 4 5	Fysik	Physics

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language

Selection

Examiner

Nils Almqvist

Course Aim

The student will after a completed course

- describe and analyze mathematically physical problems by means of adequate quantities, concepts and models
- carry out experimental investigations as well as oral and written report and interpret results

To do this requires that the student have obtained

- detailed knowledge of the concepts of force, mass, work, energy and momentum and the ability to use these concepts
- knowledge of electrical and magnetic fields, induction, mechanical and electromagnetic waves and their properties and be able to describe some applications in these areas
- knowledge of atoms structure, liaison between the energy levels and atomic spectra as well as have knowledge of the photo concept
- knowledge of ionizing radiation, radioactive decay, fission and fusion, and to use mass-energy equivalence to perform calculations in nuclear physics
- knowledge of the main features of the large-scale development of the universe.

Contents

Readings, Uniform and accelerated linear motion, light reflection and refraction, optical imaging, force and pressure, equilibrium, force and motion, Work, Energy and power, Thermodynamics, Electric fields, Power Effect of charged particles, electrical dc circuits. Magnetic field, momentum and impulse, Circular motion, Wave motion, Induction and AC, Atoms and Quantum mechanics, Radioactivity.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures and laboratory work.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

Written examination and approved laboratory assignments.

Remarks

The course corresponds to FY0004.

Literature. Valid from Autumn 2012 Sp 1

Bergström, Lars. (2005) Heureka! : fysik för gymnasieskolan. Kurs B. 1 uppl. Stockholm : Natur och Kultur. (480 s). ISBN 978-91-27-56722-2

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

No items/credits available

Syllabus established

by Dept TVM Mats Näsström 2012-04-03