

**SYLLABUS**

# **Physics for Technicians 4.5 credits B0003T**

**Fysik för bergsskoletekniker**

**Course syllabus admitted: Autumn 2012 Sp 1 - Autumn 2012 Sp 2**

DECISION DATE  
**2012-04-03**

# Physics for Technicians 4.5 credits B0003T

## Fysik för bergsskoletekniker

### First cycle, B0003T

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	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

The selection is based on final school grades or Swedish Scholastic Aptitude Test.

## Examiner

Nils Almqvist

## Course Aim

The course will provide basic knowledge in physics that may be needed for a job as a technician.

The student will after a completed course

- have arguments and carry out simple calculations on physical quantities and concepts such as speed, strength and energy
- describe and analyze some everyday phenomena and processes such as simple motion, force situations and pressures, energy conversion and optical phenomena using physical concepts and models
- participate in planning and carrying out simple experimental investigations as well as oral and written report and interpret results

To do this requires that the student have obtained

- basic knowledge of the structure of the universe and the structure of matter into smaller components, and the fundamental forces that connect planetary systems, atoms and nuclei
- knowledge of forces and moments, and utilize these concepts to describe the equilibrium and linear motion
- knowledge of the light, its reflection and refraction and some applications in this area
- knowledge of electrical fields, electrical current and voltage, and electrical energy and power
- knowledge of heating, temperature and pressure
- knowledge of conservation of energy and energy transformations, know the meaning of the concept of energy quality and be able to use knowledge of the energy to discuss energy issues in the community
- knowledge of some events from the historical development of physics and its implications for society.

## 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.

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.  
Lessons 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 FY1004.

## Literature. Valid from Autumn 2012 Sp 1

## 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