SH2101 Subatomic Physics 6.0 credits

Subatomär fysik

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

Establishment

Course syllabus for SH2101 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Physics

Specific prerequisites

Language of instruction

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

Intended learning outcomes

To extend the knowledge of nuclear and particle physics, to enhance the understanding of the phenomena governing the composition and structure of the universe and to show how knowledge in this field can be used by the society.

Course contents

Big Bang and the development of the Universe from particles under extreme conditions via nucleosynthesis in stars to atomic nuclei and matter. Dark matter. The force between protons and neutrons. The structure and mass of the nucleus and the various decay modes of unstable nuclei. Nuclear reactions and nuclear energy. The three families of quarks and leptons. The different forces and their exchange particles. The standard model. CERN.

Course literature

W.S.C. Williams: Nuclear and Particle Physics (Clarendon, Oxford 1991. ISBN 0-19-852046-8, Paperback)

Examination

- TEN1 - Examination, 6.0 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

One written examination (TEN1; 6 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.