



FSI3320 Phenomenology of Elementary Particle Physics 10.0 credits

Fenomenologi för elementarpartikelfysik

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 FSI3320 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Language of instruction

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

Intended learning outcomes

- To obtain a deeper understanding of the phenomenology of elementary particle physics.
- To know about the common methods and approaches to solving problems within the area.

- To understand the link between theoretical and experimental elementary particle physics.

Course contents

Part I: neutrino physics, 2.5 ECTS credits

Part II: Active participation in the "Journal Club", 2.5 ECTS credits

Part III: Active participation in a "summer school" in theoretical elementary particle physics, 2.5 ECTS credits

Part IV: An elective part of the phenomenology of elementary particle physics (not neutrino physics), 2.5 ECTS credits

Specific prerequisites

Course literature

Del I:

- **E.Kh. Akhmedov, Neutrino Physics, hep-ph/0001264**
- **G.G. Raffelt and W. Rodejohann, Massive Neutrinos in Astrophysics-, hep-ph/9912397**

Examination

- DEL1 - Participation, 2.5 credits, grading scale: P, F
- DEL2 - Participation, 2.5 credits, grading scale: P, F
- INL1 - Assignment, 2.5 credits, grading scale: P, F
- LIT1 - Literature study, 2.5 credits, grading scale: P, 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

- To solve all the problems in the literature for Part I.
- To participate actively in at least one semester of the "Journal Club" for the group in theoretical elementary particle physics.
- To participate actively in at least one international "summer school".
- To read and understand any book on the phenomenology of elementary particle physics (not neutrino physics).

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.