FSH3135 Late Stages of Stars, Supernovae and Gamma-ray Bursts 7.5 credits

Stjärnors slutstadier, supernovor och gammastrålningsutbrott

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 FSH3135 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Graduate students in Physics

Language of instruction

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

Intended learning outcomes

After completing the course the graduate student should be able to

- describe relevant observations and theory of the late stages of massive stars
- describe the processes that determines this evolution
- describe the evolution that leads to supernovae
- describe their relation to gamma-ray bursts
- By using physical reasoning, describe processes such as degenerate gases, white dwarfs, nuclear burning, mass loss, neutrino processes, collapses and explosions.
- Relate the course material to his/her own research field

Course contents

Observations and theory of the late stages of massive stars that eventually explode as supernovae and their relation to gamma-ray bursts. Degenerate gases, white dwarfs, nuclear burning, mass loss, neutrino processes, collapses and explosions.

Disposition

Lectures, assignements, and presentations.

Course literature

Presented during course

Examination

- SEM1 - Seminars, 7.5 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.

An important part of the examination is a presentation in which the graduate student relates one or more of the course goals to his or her own research field. The presentation should be aimed at other graduate students.

Other requirements for final grade

Assignments with oral and written presentation

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.