Department of Astronomy

Stockholm University

Syllabus

for course at advanced level

Galaxies
Galaxer

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	AS7022
Valid from:	Autumn 2019
Date of approval:	2019-01-14
Department	Department of Astronomy
Main field:	Astronomy
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University 2006-09-27.

Prerequisites and special admittance requirements

Admission to the course requires knowledge corresponding to a Bachelor's degree in astronomy, physics, or similar. In addition, knowledge corresponding to the courses Introduction to astronomy, 7.5 credits (AS5005), Astrophysical spectra, 7.5 credits (AS5004) and Stellar structure and evolution, 7.5 credits (AS5002) is needed. Also required is knowledge equivalent to Swedish upper secondary school course English 6.

Course structure

Examination code	Name	Higher Education Credits
HELA	Galaxies	7.5

Course content

The course focuses on extragalactic astronomy with an emphasis on developing an understanding of the astrophysical processes related to the different properties which are displayed by different types of galaxies.. The lectures and exercise sessions address the properties of different types of galaxies but mainly focus on the physical processes that are especially important for the evolution of galaxies: star formation, dynamical processes inside and between galaxies, chemical enrichment and mixing of the interstellar medium, radiative processes and dust, as well as active galactic nuclei. The course has a strong connection to active research and uses mandatory seminars during which the students discuss recent research literature.

Learning outcomes

It is expected that the student after taking the course will be able to: describe and execute calculations regarding galaxy formation, the dynamics, chemical composition and the electromagnetic spectrum of galaxies - show understanding for how galaxies are affected, quantitatively and qualitatively, as Universe and its galaxies evolve and interact - show good insight in and understanding for modern extragalactic research, as well as discuss this at seminars - show deep understanding for modern research results and methods within a specific area, and to express this in written form and orally.

Education

The education consists of lectures, seminars and oral reports of a literature study. Participation in seminars and oral reports is compulsory. An examiner may rule that a student is not obliged to participate in certain compulsory education if there are special grounds for this after consultation with the relevant teacher.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge takes place through:: Written and/or oral examination, and/or hand-in exercises, written and oral presentation of literature study.

b. Grading is carried out according to a 7-point scale related to learning objectives: A = Excellent B = Very Good C = Good D = Satisfactory E = Sufficient Fx = Fail F = Fail c. Grading criteria for the course will be distributed at the start of the course. d. A minimum grade of E is required to pass the course, together with: a pass on laboratory work and reports associated with that, and active participation at all seminars and oral presentation. e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term “examination” here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Misc

The course is a component of the Master's programme in Astronomy, but can also be taken as an individual course.

Required reading

Course literature is decided by the departmental board and will be published on the departmental website at least two months before the start of the course.