

Syllabus

for course at first level

Introduction to Astronomy
Introduktion till astronomi

**7.5 Higher Education
Credits**
7.5 ECTS credits

Course code:	AS5005
Valid from:	Spring 2022
Date of approval:	2019-01-14
Changed:	2021-09-16
Department	Department of Astronomy
Main field:	Astronomy
Specialisation:	G2F - First cycle, has at least 60 credits in first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University 2019-01-14, and revised 2021-XX-XX.

Prerequisites and special admittance requirements

Admission to the course requires knowledge equivalent to Mathematics for the natural sciences I, 15 credits (MM2002), Mathematics for the natural sciences II, 15 credits (MM4001), Classical Physics, 30 credits (FK3014) and Electromagnetism and waves, 7.5 credits (FK5019).

Course structure

Examination code	Name	Higher Education Credits
HELA	Introduction to astronomy	7.5

Course content

The course consists of an introduction to modern astronomy with a focus on physical understanding. It starts with a broad overview of the properties and content of the Universe, next to discuss how observations give us information about the Universe and its evolution. After this the course treats the basic physics in astrophysics, such as radiation laws, gas laws, atomic and nuclear physics. This is applied first to stars, their formation, evolution and ends, followed by planetary systems and exoplanets. Next, the fundamentals of galaxies and galaxy clusters are discussed. The course ends with the foundations of modern cosmology. During the course, central societal and ethical aspects relevant to astronomy are discussed.

Learning outcomes

Upon completion of the course, students are expected to be able to:

- * describe the different research areas in modern astronomy;
- * show good understanding of how different research instruments work and are used;
- * show extensive ability to use fundamental physics for astrophysical problems;
- * show the ability to acquire independently deeper knowledge within a given area of astronomy;
- * discuss relevant societal and ethical aspects connected to modern astronomy.

Education

Teaching comprises lectures, exercises and seminars.
The course is offered in English.

Forms of examination

a. The course is examined as follows: Assessment takes the form of written examination, activity in seminars and oral reports. The examiner can decide on adapted or alternative examination formats for students with disabilities.

If the instruction is in English, the examination may also be conducted in English.

b. A passing final grade requires participation in the lectures, seminars and any associated integrated instruction. In the event of special circumstances, the examiner may, after consultation with the teacher concerned, grant a student exemption from the obligation to participate in certain compulsory instruction.

c. The course's final grade will be set according to a seven-point scale related to the learning objectives of the course:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Fail, some additional work required

F = Fail, much additional work required

d. The grading criteria will be distributed at the beginning of the course.

e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board. The course includes at least three examination opportunities each academic year the course is offered. For the academic years that the course is not offered, at least one examination opportunity is offered.

f. Students awarded the grade Fx are given the opportunity to improve their grade to E. The examiner decides on the supplementary assignments to be performed and the pass mark criteria. The supplementary assignments must take place before the next examination opportunity.

Interim

Students may request that the examination be conducted in accordance with this course plan even after it has ceased to be valid. However, this may not take place more than three times over a two-year period after the course was discontinued. Requests must be made to the departmental board. The provision also applies in the case of revisions of the course syllabus and revisions of the required reading.

Limitations

The course may not be included in examinations in combination with courses Introduction to astronomy (AS5001), Modern astronomy (AI1220), Modern astronomy (AS1009) eller Modern astronomy (AS2001).

Misc

The course is part of the Bachelors programme in Astronomy, and it can also be taken as an individual course.

Required reading

The course literature is decided by the department board and published in the online course catalogue at least two months before the start of the course.