Faculty of Science

# FYST45, Physics: Atmospheric Physics and Chemistry, 7.5 credits

*Fysik: Atmosfärsfysik och -kemi, 7,5 högskolepoäng*

**Second Cycle / Avancerad nivå**

## Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2011-01-19 to be valid from 2011-01-19, spring semester 2011.

## General Information

The course is an elective course for second cycle studies for a scientific candidate - or Master's degree (120 credits) in physics.

*Language of instruction:* English

| *Main field of studies* | *Depth of study relative to the degree requirements* |
|---|---|
| Physics | AXX, Second cycle, in-depth level of the course cannot be classified |

## Learning outcomes

The aim of the course is that students should have acquired the following knowledge and skills on completion of the course:

*Knowledge and understanding*

On completion of the course, the student should be able to:

- carry out physical and chemical calculations for the atmosphere based on presented methodology, modelling tools and e.g. meteorological box models and simple climate models and interpret the results in atmosphere and environmental perspective
- from a scientific perspective describe and understand the atmosphere function within important environmental question formulations

- qualitatively and sometimes explain quantitatively how the activities of people influence the atmosphere and, in a wider perspective, the living conditions in the world

*Skills and abilities*

On completion of the course, the student should be able to:

- integrate knowledge of the atmosphere from different subject areas
- integrate knowledge from reading list and simple scientific literature
- carry out projects and plan presentation from given frames
- present projects that have been carried out and discuss the results with course administration and course participants at presentation, e.g. at a poster session

## Course content

The course should give understanding of physical, chemical and meteorological processes in the atmosphere and give an understanding of human influence on the composition of the atmosphere and thereby the environment, e.g. climate and stratospheric ozone. The course also intends to give ability to evaluate environmental question formulations from a scientific point of view in working life and public debate.

## Course design

During the course, lectures and calculation exercises are interleaved. At the calculation exercises, the student can choose to work individual or in groups. A project work is carried out, consisting of literature studies and oral presentation. The extent of the project is 2.5 weeks full-time work.

## Assessment

The examination consists of two parts, partly a written examination where the student answers questions individually of both accounting and computational nature and partly a project work.

Students who do not pass the regular exam are offered a new possibility shortly after the regular exam.

*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## Grades

Marking scale: Fail, Pass, Pass with distinction.
To pass the entire course, approved examination and passed project report and presentation are required.

The final grade are put based on examination.

## Entry requirements

For admission to the course, knowledge equivalent to FYSA31 is required Physics 3, Modern physics, 30 credits, and English B.

## Further information

The course corresponds to FKFF01 at LTH and can therefore not be included in a higher education qualification together with this course.

## Subcourses in FYST45, Physics: Atmospheric Physics and Chemistry

Applies from V10

1001 Atmospheric Physics and Chemistry, 7,5 hp
Grading scale: Fail, Pass, Pass with distinction