



# AK2002 Good and Bad Science

## 7.5 credits

### God och dålig vetenskap

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 AK2002 valid from Spring 2009

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

Second cycle

### Main field of study

Built Environment

### Specific prerequisites

General entrance requirements for university studies, i.e. completed upper secondary schooling incl documented proficiency in English.

### Language of instruction

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

## Intended learning outcomes

The aim is to show how to distinguish between good and bad science, and between science and different forms of pseudo-science. The course aims at making its students better prepared to critically assess, from a scientific point of view, claims that are said to be scientifically proven.

## Course contents

The course will take the form of lectures one evening a week at Fysikum, Stockholm University. It is arranged in cooperation between Fysikum Stockholm University and the KTH Philosophy Unit.

The lectures comprising the course are held by specialists in different fields. The following is a preliminary list of lecture themes:

- What is science?
- Distinguishing between science and pseudoscience
- How we can be duped by chance
- Being critical of one's sources
- Peer review
- Evolution - how do we know it took place?
- The arguments of creationism
- Clinical testing
- Quackery and medical science
- Big Bang - What can we know?
- Perpetuum mobile - Can we know it is impossible?
- Physics and mysticism
- Astrology, a critical appraisal
- Dowsing, a critical appraisal
- How to fake - on fakes and pseudoscience
- Science in mass media

## Examination

- TEN1 - Examination, 7.5 credits, grading scale: A, B, C, D, E, FX, 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

Written examination (TEN1;7,5 cr).

## 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.