



CB1030 Theory and Methodology of Science with Applications in biotechnology 3.5 credits

Vetenskapsteori och vetenskaplig metodik med tillämpning inom bioteknik

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

The Head of School at CBH has decided on 2019-11-25 to adopt this syllabus to apply from HT 2020 (file number C-2019-1905).

Grading scale

P, F

Education cycle

First cycle

Main field of study

Biotechnology

Language of instruction

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

Intended learning outcomes

After completion of the course, the student should have:

Knowledge and understanding to:

- Identify definitions and descriptions of concepts, theories and problem areas, as well as identify the correct application of these concepts and theories.
- Account for concepts, theories and general problem areas, as well as apply concepts and theories to specific cases.

Skills and abilities to:

- Apply concepts and theories to examples from the field of biotechnology and conduct a critical discussion of the methodology of examples of biotechnology research

Values and approaches to:

- Critically discuss the definitions and applications of concepts and theories to specific cases of scientific research.

Course contents

Topics covered by the course.

- Scientific knowledge
- Hypothesis testing
- Observations and measurements
- Experiments
- Models
- Statistical reasoning
- Causes and explanations
- Philosophy of social science
- Philosophy of technology
- Risk and risk assessment
- Research ethics

Specific prerequisites

Examination

- HEM1 - Written home exam, 2.0 credits, grading scale: P, F

- SEM1 - Seminars, 1.5 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.

The course is examined with a seminar and a written home exam.

Other requirements for final grade

In order to pass the course, active participation in lectures and seminars and an approved written home examination are required.

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.