



# KH1223 Biotechnology 7.5 credits

## Bioteknik

This is a translation of the Swedish, legally binding, course syllabus.

## Establishment

Course syllabus for KH1223 valid from Spring 2017

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Biotechnology, Technology

## Specific prerequisites

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B and English corresponding to English A.

Completion of upper-secondary school from 1 July 2011 and adult education at upper-secondary level from 1 July 2012 (Gy2011)

**General entry requirements and Specific entry requirements:** Physics 2, Chemistry 1 and Mathematics 3c. A pass in each of the subjects is the lowest acceptable grade.

Completion of upper-secondary school before 1 July 2011 and adult education at upper-secondary level before 1 July 2012

**General entry requirements and specific entry requirements:** Mathematics D, Physics B and Chemistry A. The grade Passed or 3 in each of the subjects is required.

## Language of instruction

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

## Intended learning outcomes

Biotechnology is an umbrella term for techniques using living organisms or substances derived from living matter. Examples of fields where biotechnology is important are pharmaceuticals, food, washing powder, water treatment, agriculture and forestry. The subject biotechnology includes the science of biochemistry and microbiology, which is the knowledge about the chemistry of the cell and the knowledge about microorganisms, respectively.

The aims of the course are:

- To be able to describe the organization of the cell and the metabolism pathways thereof.
- To describe structure and properties of biologic macromolecules.
- To describe the possibilities of the gene technology and explain commonly used recombinant DNA techniques that are in use today.
- To use your knowledge about microorganisms in order to use them in a positive manner but also how to control the growth and existence of them.
- Use your knowledge to critically review and discuss current topics in biotechnology

These aims are relevant in order to pass the course.

## Course contents

The cell, Macromolecules, DNA to protein, Enzymes, Metabolism, Elementary microbiology, Gene techniques, Scientific literature.

## Course literature

Erlandson – Albertsson, Gullberg Cellbiologi, 2002

## Examination

- ÖVN1 - Exercises, 1.5 credits, grading scale: P, F
- TEN1 - Written examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

## Other requirements for final grade

Passed examination (TEN1; 4,5 cr.).

Passed lab sessions (LAB1; 1,5 cr.).

Passed project assignment (PRO1; 1,5 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.