# 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 2011

## 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. For students who received/will receive their final school grades after 31 December 2009, there is an additional entry requirement for mathematics as follows: documented proficiency in mathematics corresponding to Mathematics A.

And the specific requirements of mathematics, physics and chemistry corresponding to Mathematics D, Physics B and Chemistry A, as well as at least 7,5 university credits (hp) in organic chemistry.

## Language of instruction

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

## Intended learning outcomes

This course will provide you a basic knowledge of biochemistry and microbiology in order to give you an understanding of the possibilities biotechnology can provide for the chemical engineer and how it can contribute to the society.

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.

These aims are relevant in order to pass the course.

## Course contents

Structures and properties of biological macromolecules. Organisation of the cell and function of cell active macromolecules. Biochemical energy exchanges: degradation and synthesis. Gene technique. Elementary microbiology. Scientific literature.

## Course literature

Erlandson – Albertsson, Gullberg Cellbiologi, 2002

Thongaard, Varlund, Madsen Grundläggande mikrobiologi, 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.