BB1080 Biochemistry, Theory 7.5 credits

Biokemi, teori

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

Establishment

Course syllabus for BB1080 valid from Spring 2012

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 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 E, Physics B and Chemistry A.

Language of instruction

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

Intended learning outcomes

The course is designed to provide a basic knowledge of the cell's macro molecules and the cellular processes on a molecular level and give an introduction to biochemical analysis and separation methods.

After passing the course, the student should be able to:

- describe and summarize the cell's basic biochemical processes on a molecular level and solve more simple problems
- describe the connection between catabolism and anabolism
- expand his/her understanding within biochemical, bio-process technical, molecular biological and enzymological areas.

Course contents

Biochemical analysis and separation methods.

Enzymology (catalysm, kinetics, mechanisms, inhibition).

Protein structure, function and biosynthesis.

Glycolysis, gluconeogensis and the citric acid cycle.

Glycogen, lipids and nitrogen metabolism.

The calvin cycle and the pentose phosphate pathway.

Metabolic rule mechanisms.

G-Proteins.

Hormone control and signal transference.

Biological membranes and transport processes over membranes.

Oxidative phosphorylation and photosynthesis.

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.

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

Other requirements for final grade

A written exam (TEN1; 7,5 credits, grading scale A-F).

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.