BB1230 Biochemistry 2 6.0 credits

Biokemi 2

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

Establishment

Course syllabus for BB1230 valid from Spring 2019

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

BB1150 Biochemistry 1, BB1030 Microbiology

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should be able to:

•Explain the basic principles of metabolism

• Explain the cells metabolic pathways at the molecular level with included metabolites, co-factors and enzymes.

• Explain the regulation of cellular metabolism processes.

• Describe and evaluate metabolic processes from simple problems.

• Evaluate and summarize simple research literature.

• Planning and do biochemical laboratory assignments, evaluate and summarize the results in a report.

Course contents

The course will treat the following subjects:

• The basic principles and design of metabolism

• Carbohydrate metabolism: (glycolysis, gluconogenesis, pentose phosphate pathway, glycogen metabolism)

• The citric acid cycle and the glyoxylate cycle

• Oxidative phosphorylation – oxygen metabolism

• Photosynthesis (photophosphorylation and the Calvin cycle)

• Fatty acid and lipid metabolism

• Amino acid metabolism

• The decomposition and biosynthesis of proteins

• Metabolic regulatory mechanisms, hormone control and signal transduction

• Integration of metabolism

Course literature

Biochemistry, 7th edition, Jeremy M. Berg, John L. Tymoczko and Lubert Stryer. ISBN: 9781429276351

Examination

- TEN1 - Written exam, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 1.0 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.

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.