



BB1210 Purification of Biomolecules 6.0 credits

Rening av biomolekyler

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

Course syllabus for BB1210 valid from Autumn 2019

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed course BB1150 Biochemistry 1.

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 shall have

Knowledge and understanding to:

- Account for, describe and give examples of common methods for purification of biomolecules. (TEN1)
- Apply methods for purification of biomolecules. (LAB1)
- Perform a chromatographic experiment for purification of a biomolecule, calculate the obtained yield and suggest improvements. (LAB1)

Skills and abilities to:

- Plan an efficient process for purification of a biomolecule (LAB1)
- Report orally and in writing within the subject (LAB1)

Values and approaches to

- Critically evaluate a presentation of an experiment and give constructive feedback. (LAB1)

For higher grades (A-D) the student shall also be able to

- Compare and plan complex experiments for purification of biomolecules. (TEN1)

Course contents

The course gives a theoretical and practical orientation of the methods used for purification of biomolecules (proteins, nucleic acid, metabolites etc.). General knowledge of the main steps in a purification process, from handling of biological samples and cell lysis, via the most common separation methods, to concentration and storage of final sample, is included. Basic experimental design will also be treated. The course contains both theoretical and practical parts.

The following methods will be covered in the course:

- Cell lysis
- Centrifugation
- Filtration
- Precipitation
- Chromatography (gel-filtration, ion exchange, hydrophobic interactions, affinity etc.)
- Buffer exchange, concentration and storage

Prerequisites equivalent to BB1030 Microbiology, BB1160 Eucaryot cell biology and BB1190 Genetechnology are recommended.

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- TEN1 - Written exam, 3.0 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.

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.