



BB1130 Analysis and Purification of Biomolecules 7.0 credits

Analys och 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 BB1130 valid from Spring 2010

Grading scale

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

Education cycle

First cycle

Main field of study

Biotechnology, Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

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

- Explain different protein separation methods, their properties, advantages and disadvantages and when it is most appropriate to use them.
- Explain the different analysis methods reviewed during the course, their properties, advantages and disadvantages
- Plan a working cleaning procedure for a protein with consideration to what has been learned in the course.
- Plan characterization of the purified protein and be able to take into consideration the available methods' advantages and restrictions
- Carry out a lab which includes many of those reviewed techniques
- calculate gains/losses in a purification process and suggest improvements in order to reduce losses

Write a report which sheds light on the methods used and interpret data from the purification/analyses done

Course contents

This course is focused on the methods which constitute the foundation for purification and analysis of biological macro molecules, such as nucleic acids and proteins. The techniques which will be discussed often all exist within both biochemical/biotechnological research and industry. During the course these methods will be described and discussed during the lectures, labs and a smaller project. The course book will be complemented with descriptions from other literature and with relevant case studies from research. If the opportunity arises, a visit to a company will be arranged. In order for you to be able to understand and handle problems both in large and small scales, differences between analytical and large-scale problem inquiries will be illustrated. Guest lecturer with much insight into those specific techniques will be invited in order to raise the quality of the course.

Course literature

Practical Biochemistry, 6th ed.(2005), Wilson and Walker

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 4.0 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.

Other requirements for final grade

A written exam (TENA; 4,5 credits, grading scale A-F), Lab course (LABA; 3 credits, grading scale Pass/Fail).

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.