Preparation of Proteins

Programme course

3 credits

Proteinpreparation

TFKE54

Valid from: 2017 Spring semester

Determined by
Board of Studies for Chemistry, Biology and Biotechnology

Date determined
2017-01-25

Offered for the last time
Spring semester 2022

Replaced by
NKED27

Main field of study
Biology, Chemical Biology

Course level
Second cycle

Advancement level
A1X

Course offered for
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- Chemistry
- Protein Science, Master's programme
- Organic Synthesis and Medicinal Chemistry, Master's programme
- Chemical Biology

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Protein Chemistry

Intended learning outcomes
The objective of the course is to provide comprehensive knowledge in the following areas: Protein chemistry, expression of cloned proteins and methodologies for protein purification as well as experimental planning. After studies well learned the student will have proficiency to:

- Express and purify cloned proteins
- Adopt a reflecting, scientific attitude to theories and obtained experimental results.

Course content
During the course methods such as expression of cloned proteins, affinity chromatography and SDS-PAGE are used. Various spectroscopic techniques such as absorbance, fluorescence and circular dichroism are used.

Teaching and working methods

The course has a pronounced experimental focus and character. Work is done on genetically mutated human proteins cloned in bacteria. The origin of the mutated proteins can be proteins that have been mutated by the students in an earlier course in gene technology or can be provided by the research group. The protein variants are expressed in E.coli and purified by affinity chromatography. Purity and yield are determined. The students should then independently evaluate their experimental data. The project is reported as a report.

Examination

PRA1	Project work	3 credits	U, G

Grades are given as ’Fail’ or ’Pass’.

Grades

Two-grade scale, U, G

Department

Institutionen för fysik, kemi och biologi

Director of Studies or equivalent

Magdalena Svensson

Examiner

Lars-Göran Mårtensson

Education components

Preliminary scheduled hours: 34 h
Recommended self-study hours: 46 h

Course literature

Kompendium och vetenskapliga artiklar

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.