Forensic Chemistry

Programme course

6 credits

Forensisk kemi

TFKI23

Valid from: 2017 Spring semester

Determined by
Board of Studies for Chemistry, Biology and Biotechnology

Date determined
2017-01-25

Main field of study
Chemical Engineering, Chemistry

Course level
First cycle

Advancement level
G2X

Course offered for
- Chemical Analysis Engineering, B Sc in Engineering
- Chemistry

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
Organic analytic chemistry or equivalent on upper-level.

Intended learning outcomes
Forensic science plays a crucial role in the justice system by providing basic medicinal and technical information for investigations and court bring actions. In this course, an overview of the analytical tools used in a forensic chemistry laboratory will be presented. Students will learn to evaluate the quality and reliability of various available analytical techniques: Students will be able to:

- define the most common illicit drugs, doping agents and injurious substances and how Swedish statutes and decrees regulate the handling of them.
- identify, outline and assess the value of different analytical techniques used for forensic applications.
- describe how different analytical techniques and assays can be used in investigations of narcotics in a variety of materials, formulations and matrices.
- describe how chemical analysis can be used for investigations of physical evidences from a crime scene.
- describe current quality systems in the area, how they are constructed and applied in forensic laboratories.
- overall account for how some selected drugs are produced illegally and how comparative analysis of evidence material is performed.

Course content
Introduction in Forensic Science, especially analytical chemistry. The importance of evidence collection at the crime scene and of such evidence in court. Laws and regulations. Applications of analytical chemistry on substances of interest in a crime investigation, especially for various drugs of abuse. Analytical strategies for different types of forensic investigations. Methods for classification and comparative studies on evidence material. Quality control systems.

Teaching and working methods
Some of the most important fields in forensic chemistry will be covered by lectures and seminars. The students will work with some case studies individually and in seminars. Seminars and some defined lectures are mandatory.

Examination

UPG1	Project, written and oral presentation	2 credits	U, G
TEN1	Written examination	4 credits	U, 3, 4, 5

Grades
Four-grade scale, LiU, U, 3, 4, 5

Department
Institutionen för fysik, kemi och biologi

Director of Studies or equivalent
Magdalena Svensson

Examiner
Martin Josefsson

Education components
Preliminary scheduled hours: 41 h
Recommended self-study hours: 119 h

Course literature
Forensic Science 2nd or 3rd ed, Jackson & Jackson (Pearson Education)
Kompendier och annan skriftlig information som delas ut i samband med undervisningen. Narkotika dopningsmedel och hälsofarliga varor (SCI, SNPF, Mediahuset) rekvireras via kursledningen.

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.