Organic Chemistry

Programme course

15 credits

Organisk kemi

NKED16

Valid from: 2017 Spring semester

Determined by
Board of Studies for Chemistry, Biology and Biotechnology

Date determined
2017-01-25

Main field of study
Chemistry

Course level
Second cycle

Advancement level
A1X

Course offered for
- Organic Synthesis and Medicinal Chemistry, Master's Programme

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
Applicants are expected to have a bachelor's degree with a major in the field of Chemistry and the equivalent of last 15 ECTS in Organic Chemistry and 12 ECTS in Biochemistry

Intended learning outcomes
The course gives principles in organic chemistry such as the connection between structure and reactivity of molecules. After passing the course the student will be able to:

- describe the fundamental theory of molecular structure, kinetics, mechanisms and stereochemistry
- design and plan strategy of organic synthesis
- describe theoretical and practical fundamentals in organic spectroscopy
- explain how chemicals can be used with respect to sustainable development
- use experimental and practical skills in organic synthesis methodology, including identification, analysis and risk assessments of organic compounds.

Course content
The course consists of fundamental theory of molecular structure, kinetics, mechanisms and stereochemistry. The fundamental classes of organic reactions. The course also includes the strategy of synthesis and synthesis of natural products and pharmaceuticals. The theoretical and practical aspects of UV-spectroscopy, IR-spectroscopy, NMR-spectroscopy and Masspectroscopy. The experimental work includes organic laboratory techniques, synthesis in several steps and analysis of organic compounds.

Teaching and working methods
The course includes lectures, seminars and laboratory work.

Examination

LAB1	Laboratory work	6 credits	U, G
TEN1	Written examination	9 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
Peter Konradsson

Education components
Preliminary scheduled hours: 120 h
Recommended self-study hours: 280 h

Course literature
Clayden, Greeves, Warren and Wothers; Organic Chemistry Laborationsmaterial från institutionen

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.