Faculty of Science

KEMM01, Chemistry: Organic Chemistry - Advanced Course, 15 credits

Kemi: Organisk kemi - fördjupningskurs, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-09-12 and was last revised on 2007-09-12. The revised syllabus applies from 2007-09-13, spring semester 2008.

General Information

The course is an optional second-cycle course for a degree of Master of Science in Chemistry.

Language of instruction: Swedish and English
When necessary, the course in full is given in English.

Main field of studies	*Depth of study relative to the degree requirements*
Chemistry	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is to provide in-depth knowledge and practical skills in Organic Chemistry.

On completion of the course, students shall be able to

- describe and explain the principles that dictate the association between organic molecule's structure and reactivity
- describe and explain mechanisms for advanced organic type reactions
- select and combine organic type reactions for total synthesis of complex organic molecules
- independently perform synthesis planning and organise a synthesis strategy
- independently perform experiments in advanced organic chemistry
- independently assess and evaluate risks and safety aspects during laboratory work in organic synthesis

Course content

Lectures and exercises in advanced organic chemistry, partly on the theory and methods for studying the mechanisms of organic reactions, partly in in-depth reaction theory, synthesis strategy and synthesis planning.

Laboratory work is obligatory and intended to illustrate the theoretical content of the course, as well as provide improved skills in advanced experimental methodology. Increased emphasis is placed on the independence of literature searches, planning, product analysis and evaluating scientific results.

Course design

Teaching takes the form of lectures integrated with exercises, laboratory work and oral and written presentations.

Assessment

Assessment comprises an oral or written examination. A re-sit examination is offered soon after the examination to students who do not pass.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.
To be awarded Pass students must pass the examination and pass the laboratory work.

The examination grades are: Pass with Distinction, Pass or Fail. Grades for the compulsory components are: Pass or Fail.

The final grade for the course is determined by the grade on the examination.

Entry requirements

To be eligible for this course students must have basic eligibility, English B and 90 higher education credits in completed Science courses, including passes in courses equivalent to:

- KEMA00 General and Analytical Chemistry 7.5 credits, KEMA01 Organic Chemistry – Basic Course 7.5 credits, KEMA02 Inorganic Chemistry – Basic Course 7.5 credits and KEMA03 Biochemistry – Basic Course 7.5 credits, or
  KEM101 General Chemistry 1 15 credits and KEM102 General Chemistry 2 15 credits, or
  KEM111 Chemistry for Environmental and Biological Sciences – General Course 1 15 credits and KEM122 Chemistry for Environmental and Biological Sciences – General Course 2 15 credits

and

- KEMB09 Physical Chemistry – Basic Course 15 credits or KEM103 General Chemistry 3 15 credit, and
- KEMB01 Organic Chemistry 15 credits or KEM012 Organic Chemistry15 credits

Knowledge equivalent to KEMB29 Spectroscopy and Dynamics 7.5 credits is recommended.

Equivalent knowledge that has been gained in another way also provides eligibility for the course.

Further information

The course cannot be credited as part of a degree that also includes KEM023 Organic Chemistry – Advanced course 15 credits.

Subcourses in KEMM01, Chemistry: Organic Chemistry - Advanced Course

Applies from H13

0711 Organic Chemistry - Advamced Course, 7,5 hp
Grading scale: Fail, Pass, Pass with distinction
0712 Organic Chemistry - Advamced Course, Compulsory Elements, 7,5 hp
Grading scale: Fail, Pass

Applies from H07

0701 Organic Chemistry - Advanced Course, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction
0702 Organic Chemistry - Advanced Course, Compulsory Elements, 0,0 hp
Grading scale: Fail, Pass