

## KEMB01, Chemistry: Organic Chemistry, 15 credits

*Kemi: Organisk kemi, 15 högskolepoäng*

First Cycle / Grundnivå

---

### Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2011-05-17 and was last revised on 2011-05-17. The revised syllabus applies from 2011-07-01, autumn semester 2011.

### General Information

The course is a compulsory first-cycle course for a degree of Bachelor of Science, main field of subject Chemistry.

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

*Main field of studies*

Chemistry

*Depth of study relative to the degree requirements*

G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

### Learning outcomes

The aim of the course is to consolidate and extend students' knowledge and skills in organic chemistry, and to provide basic skills in structure determination of carbon compounds by spectroscopic methods.

On the completion of the course students shall have acquired the following knowledge and skills:

- Based on the basic theory of the structure and electron structure of carbon compounds explain their acid-base properties, nucleophilicity and elektrofilycity
- Based on the principles of organic reaction theory predict the reactivity and reaction patterns of simple carbon compounds
- Based on the fundamental principles of synthetic strategy to propose synthetic routes to simple carbon compounds
- Describe the basic theoretical principles of infrared spectroscopy (IR), nuclear magnetic resonance spectroscopy (NMR) and mass spectroscopy (MS) with emphasis on the interpretation of the spectra for the structural determination of

- small and medium organic molecules
- Based on a description of synthesis implement organic syntheses in which the basic experimental techniques are trained

## Course content

Lectures and exercises in organic chemistry including organic reaction theory, organic reaction mechanisms and structure analysis using spectroscopic methods.

Laboratory exercises designed to illustrate the theoretical content of the course and to provide good skill in experimental synthesis methodology.

## Course design

The teaching consists of lectures, instructor-led tutorials in groups, exercises and laboratory work. The laboratory work is compulsory.

## Assessment

The course is examined by a written examination at the end of the course. 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, pass the laboratory work and participate in all compulsory course elements.

The examination grades are: Pass with Distinction, Pass or Fail. Grades for laboratory work and the compulsory elements included therein are: Pass and Fail.

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

## Entry requirements

To be eligible for this course students must have basic eligibility and 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 and KEMA03 Biochemistry – Basic Course 7.5 credits
- and

- KEMB09 Physical Chemistry – Basic Course 15 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 programme that also includes KEM012 Organic Chemistry 15 credits.

## Subcourses in KEMB01, Chemistry: Organic Chemistry

Applies from H13

- 0811 Organic Chemistry, 10,0 hp  
Grading scale: Fail, Pass, Pass with distinction
- 0812 Organic Chemistry, Laboratory Work, 5,0 hp  
Grading scale: Fail, Pass

Applies from H07

- 0801 Organic Chemistry, 15,0 hp  
Grading scale: Fail, Pass, Pass with distinction
- 0802 Organic Chemistry, Laboratory Work, 0,0 hp  
Grading scale: Fail, Pass