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## **Translation of Subject Curriculum (Study Plan) for Third-cycle (PhD) Education**

### **Chemistry with specialisation in Organic Chemistry**

**Swedish title: Kemi med inriktning mot Organisk kemi**

TNKEMI07

Swedish curriculum adopted by the Board of the Faculty of Science and Technology (Third-cycle Educational Board) on 2013-11-20, revision on 2018-09-06.

Translations approved 2013-11-20 and 2018-09-06.

The Study Plan for third-cycle studies consists of three parts: a general part, this subject specific study plan, and each doctoral student's individual study plan.

### **Objective**

Building on basic research, the third-cycle studies are expected to provide further insight into the most important areas of the subject as well as in-depth knowledge within at least one subdivision.

The training, including the supervised thesis work, will prepare the student for an independent career with high demands on in-depth subject knowledge and research skills.

By conducting a degree project guided by a supervisor, the doctoral student shall also be able to present her/his goals and results orally and in writing to different target groups in English and, in the case of Swedish-speaking doctoral students, in Swedish.

### **Subject description**

Organic chemistry covers all aspects of the chemistry of carbon compounds; from rates and specificities of reactions and the relationship between molecular structure and properties to synthesis of organic compounds with desired physical, chemical or biological



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properties and the applications of organic compounds and methods to problems in adjacent areas. Organic chemistry also has strong links to the other branches of chemistry, to basic materials research as well as to life science. The active research at Department of Chemistry-BMC covers a wide range of topics which enables a wide range of third-cycle study subjects.

## Eligibility

### Basic Eligibility

The basic eligibility for third-cycle studies is described in the general part of the study plan.

### Special Eligibility

A person has special eligibility for third-cycle studies in organic chemistry after successful completion of at least 90 higher education credits (or international equivalent) of courses relevant to the specialisation. At least 40 higher education credits (or international equivalent) must be in organic chemistry at an advanced level (before 2007: CD-level).

Examples of undergraduate programs that may provide the special eligibility are:

Master of Science in Chemistry  
Masters Degree in Chemistry  
Naturvetarprogram with chemical content  
Master of Science in Chemical Engineering  
Secondary Teacher Education Program with 90 or 120 higher education credits in chemistry.

The research in organic chemistry is conducted in an international context. It is therefore required that the student can comprehend organic chemical texts written in English.

## Admission

Applicants for third-cycle studies in Chemistry specializing in Organic Chemistry must submit an application to the Head of the Department of Chemistry-BMC. Admissions to doctoral studies take place normally several times per year.



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Upon admission to postgraduate education, the Swedish title of the degree is to be specified in the application. According to decision (TEKNAT 2012/215), postgraduate education in Chemistry with specialisation in Organic Chemistry shall lead to a *filosofie doktorsexamen*. The English rendering will be a licentiate/doctorate degree of philosophy.

At the time of admission, the department must provide a financial assistance plan demonstrating sufficient support to cover the maintenance of the applicant as well as her/his research.

### Program structure

At the time of admission, each doctoral student and her/his supervisor shall draw up an individual study plan after consultation with the professor in charge of third-cycle studies. The plan is to be approved by the Head of the Department (by delegation of the Faculty Board) at the time of admission.

The individual study plan shall be annually reviewed by the doctoral student and her/his supervisor jointly, and supplemented with a summary of the achieved results and the plans for the coming year. Significant changes as well as any disagreement on the individual study plan shall be reported to the Head of the Department or, if deemed necessary, to the Third-cycle Educational Board.

### Courses

The third-cycle studies may include different kinds of courses, such as lectures, literature studies, practical training, field studies, etc. The courses are intended to provide a wider insight into the subject as a complement to the competence acquired during research.

The available resources determine the number of given courses. The students are expected to acquire parts of the literature on their own since independent study training is an essential element within the third-cycle education.

The student must also take part in the scientific activities at the Department, including seminars and guest lectures.

Courses offered by other departments at Uppsala University or at other universities, as well as advanced level courses, may also be included in the individual study plan provided that these do not constitute special eligibility for the third-cycle studies.



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The crediting of external courses and courses on the advanced level is handled by the supervisor, after consultation with the professor in charge of the third-cycle studies (forskarutbildningsansvarig professor) and the teacher in charge of the course.

The courses offered at the Department of Chemistry-BMC are announced at the departmental website. The courses are given depending on the need and available resources.

The individual study plan details the extent and content of the course part of the education. The course part covers a minimum of 40 higher education credits, whereof at least 30 credits are in chemistry. It is highly recommended that "Advanced Organic Chemistry 15 hp", given at the graduate level, is included for the completion of both doctoral and licentiate degrees.

Courses in research ethics (at least 2 higher education credits) are compulsory for licentiate and doctoral degrees, as well as university education for postgraduate students who teach undergraduate or advanced level.

## Requirements for doctoral degree

The requirements for the doctoral degree consist of passed examinations in the courses included in the approved individual study plan of each doctoral student, as well as a passed public defense of the degree project. The studies awarded a doctoral degree comprise 240 higher education credits (four years of full-time studies), of which the doctoral thesis comprises a minimum of 120 higher education credits and the course part a minimum of 40 higher education credits.

## Requirements for licentiate degree

A doctoral student who has acquired at least 120 higher education credits (two years of full-time studies) is eligible for a licentiate degree. The requirements consist of passing the examinations included in the program stage and receiving a passing grade on an academic paper of at least 60 higher education credits. The part of the course amounts to a minimum of 20 higher education credits.