



FCK3322 Supramolecular Chemistry 7.5 credits

Supramolekylär kemi

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for FCK3322 valid from Spring 2022

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Eligible for studies at the third-cycle level.

To be able to profit from the course the graduate student should have taken the course KD2310, or should have acquired the equivalent knowledge elsewhere.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After completion of the course the doctoral student should have the knowledge and ability to:

- account for fundamental concepts and methods in supramolecular chemistry.
- demonstrate knowledge in synthesis and characterization of supramolecular systems.
- explain how supramolecular chemistry is used in organic chemistry, materials science, chemical biology and nanotechnology and be able to understand and discuss current research questions in the field.
- discuss how supramolecular chemistry can be used to facilitate sustainable development.

Course contents

- Fundamental concepts of supramolecular chemistry
- Cation receptors
- Anion receptors
- Receptors for neutral molecules and ion pairs
- Self-assembly
- Supramolecular materials
- Mechanically interlocked molecules
- Molecular machines
- Supramolecular catalysis
- Systems chemistry
- Supramolecular systems out-of-equilibrium
- Applications of supramolecular systems: sensors, devices, drug delivery, biomaterials, etc

Examination

- SEM1 - Seminars, 3.0 credits, grading scale: P, F
- TEN1 - Written exam, 4.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Mandatory attendance and active participation in the seminar part of the course.

Transitional regulations

If the examination form is changed, the student will be examined according to the examination form that applied when the student was admitted to the course. If the course is completed, the student is given the opportunity to be examined on the course for another two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.