# FCH3302 Cryo-Electron Microscopy Imaging and Analysis of Biological Materials 5.0 credits

## Kryo-elektronmikroskopi för avbildning och analys av biologiskt material

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

## Establishment

Course syllabus for FCH3302 valid from Spring 2021

## Grading scale

P, F

## Education cycle

Third cycle

## Specific prerequisites

## 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 doctoralstudent should have the knowledge and ability to

- Explain the basic principles of image formation and image processing in cryoEM.
- Demonstrate adequate knowledge to implement and adopt sample preparation strategies for cryoEM
- Suggest, plan and implement a strategy for an own project suitable for cryoEM.
- Reflect critically on risks and environmental aspects on the sample preparation for yourself, co-workers and society.
- Present relevant studies and how they can improve your own research.

## Course contents

The course is going to inform the attendants on the basic principles:

- Transmissionselektronmikroskopi och bildgivning
- Provberedning för kryoEM, material och kringutrustning
- Grunderna för och olika mjukvara för bildbearbetning and 3D- rekonstruktion.

## Examination

- SEM1 - Seminars, 2.0 credits, grading scale: P, F
- LAB1 - Laboratory work, 3.0 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.

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

Presence in seminars and one approved oral presentation 15 min, laboratory work (in a group) and written project proposal (assignment).

## 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.