FKD3420 Molecules and materials at interfaces 3.0 credits

Molekyler och material vid gränsytor

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

Establishment

Course syllabus for FKD3420 valid from Autumn 2018

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Undergraduate exam in chemistry, physics, material science or similar that entitles entrance to PhD studies.

Language of instruction

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

Intended learning outcomes

After passing the course you should have / be able to:

- Insight into how molecules and materials are investigated with selected modern methods.
- Understanding of how molecular properties at interfaces and materials interfacial properties are of importance for development of some important technical areas.
- Sufficient knowledge to view one owns resarch project from a cross-disciplinary context.
- Clearly account for some experimental techniques that can provide important information on properties of molecules and materials at interfaces in one current research project.

Course contents

Description of some current research areas within the area of molecules and materials at interfaces, and their technological importance.

Disposition

The course is provided in the form of a one-day workshop where a number of selected speakers describe the importance of molecules and materials at interfaces in their current research.

Participating PhD students should also read a number of scientific articles within the area and in writing be able to describe how molecules and materials at interfaces is of importance for an ongoing research project at their division (for instance ther omw PhD project).

The PhD participants are expected to carry out about 2 weeks full time work on thier own after the workshop. This includes a short summary of the articles provided, as well as formulation of clear answers to the provided questions.

Course literature

Provided scientitifc articles and copies of lecture material.

Examination

- DEL1 - Participation, 1.0 credits, grading scale: P, F
- INL1 - Homework, 1.0 credits, grading scale: P, F
- RAP1 - Report, 1.0 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.

To pass the course reguires:

- Active participation in the workshop
- Correct answer to questions provided at the workshop
- Individuel written account for how molecules and materials at interfaces is of importance in an on-going research project. The report should include a description of which infromation that is obtained from the techniques being used, and which additional techniques that would provide important information. After approval the report will be provided to all participants.

Other requirements for final grade

- Active participation in the workshop
- Correct answer to questions provided at the workshop
- Individuel written account for how molecules and materials at interfaces is of importance in an on-going research project. The report should include a description of which infromation that is obtained from the techniques being used, and which additional techniques that would provide important information. After approval the report will be provided to all participants.

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.