



FJQ3101 Micro and Nanotechnology Journal Club II 1.5 credits

Mikro och Nanoteknologi Journalklubb II

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

Establishment

Course syllabus for FJQ3101 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Requirement:

Micro and Nanotechnology Journal Club I

Language of instruction

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

Intended learning outcomes

After completing the course, the student should to pass the course be able to:

- Present the technical content of a scientific article to non-experts and experts
- Analyze and discuss scientific articles with their peers with respect to: the writing style; scientific statements; scientific ethics questions relating to presented data; and scientific merits and validity of the presented research.
- Analyze and reflect over the sustainability aspects of micro- and nanotechnology, in particular the aspects of environmental and societal impact of both the current status of the studies and future dissemination of the technology
- Analyze completeness and reproducibility of presented experimental procedures.
- In the perspective of maximizing the scientific impact of the discussed studies, suggest alternative manners to formulate statements in results and discussion and conclusions sections
- Relate recent scientific articles to the student's own research and suggest new approaches to their studies
- Be acquainted with a broad spectrum of scientific articles in the micro and nanotechnology.

Course contents

This course consists of a detailed study of scientific articles in the field of micro and nanotechnology. The course content is tuned for PhD students in the fields of MEMS, Cell Physics, biotechnology, and the like.

Disposition

The course is organized as regular seminars, scheduled by the course responsible. Participants of the course will on a rotating schedule be asked to find a suitable scientific journal publication, with high "high quality / high learning factor". The topics of publication should be related to micro and nanotechnology. One student is chosen as the presenting participant, and this on a rotation basis. The choice of article must be approved by the course responsible one week before the seminar and distributed to the course participants.

The article discussion starts with a brief motivation from the student who selected it. Then the students are randomly chosen to present and explain a part of the publication. The discussion is thereafter focused on 1) the scientific impact of the publication, if possible, how could it have been improved, 2) discussion on the writing style, presentation of background information and experimental details; 3) the statements made in the results and discussion sections; 4) sustainability and scientific ethical aspects; and 5) scientific merits and the validity of the conclusions made.

Course literature

Scientific literature

Equipment

N/A

Examination

- EXA1 - Examination, 1.5 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.

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

To be given a passing grade at the meeting, students need to prepare for all topic areas. All students are expected to be active participants during the meeting.

Other requirements for final grade

The students gain 1.5 study points after five meetings they actively participate in. The course is then reported as passed.

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.