Nano Scientific Project

Programme course

6 credits

Nanovetenskapligt projekt

NFYA04

Valid from:

Determined by

Date determined

Main field of study
Physics

Course level
First cycle

Advancement level
G2X

Course offered for
- Physics and Nanotechnology

Prerequisites
Former courses in physics.

Intended learning outcomes
The aim of the course is that the student shall develop skills in planning, conducting and presenting a scientific project, while increasing his/her understanding of selected research areas within nano science. The projects are well defined sub projects within currently ongoing research at IFM. After completion of the course, the student should be able to:

- describe one research area (specific for the course) within nano science
- conduct a scientific research project within nano science
- analyze and evaluate the project in the light of the current research frontier
- present the project in writing in the form of a short scientific paper
- present as well as defend the project orally
- be the opponent of a similar project.

Course content

The following will be part of the course:

- a survey of ongoing research at IFM
- research methods and research strategies
- handling a research project (CDIO)
- how to perform a literature survey
- the basics of writing a scientific paper
- how to prepare a scientific presentation.

For the specific research project in focus, the course will also include:

- associated theory
- measurement and/or computational principles
- methods for evaluation of measured or calculated data
- principles of documentation.

The student is expected to (under supervision) attain an increased understanding of the research area prior to lab exercises.

Teaching and working methods

All participants will meet regularly in the lectures and seminars of the course. In parallel, project work will be performed in groups of 2-3 students, under the guidance of a researcher from IFM. Individual work is performed mainly during literature studies and paper writing, the latter partly under supervision.
The course runs over the entire autumn semester.

Examination

UPG2	Oral Presentation or Opposition	1 credits	U, G
UPG1	A Written Report in the Form of a "Scientific Article"	5 credits	U, G

Grades are given as ’Fail’ or ’Pass’.

Grades

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Department

Institutionen för fysik, kemi och biologi

Director of Studies or equivalent

Magnus Johansson

Examiner
Johanna Rosén

Course website and other links
http://www.ifm.liu.se/undergrad/fysikgtu/coursepage.html?selection=all&sort=kk

Education components
Preliminary scheduled hours: 40 h
Recommended self-study hours: 120 h

Course literature
Artiklar