Linnæus University

Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

4FY850 Datorfysik II, 7,5 högskolepoäng
4FY850 Computational physics II, 7.5 credits

Main field of study
Physics

Subject Group
Physics

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Faculty of Technology 2013-03-04
The course syllabus is valid from spring semester 2013

Prerequisites
2FY812 Computational Physics I, 7.5 credits or equivalent.

Objectives

After completing the course the student should:

- have a deeper understanding of simulation and methods for computer simulations of physical and technological applications
- independently analyse, evaluate and in writing present achieved results

On of the following:

- ability and understanding of programming simulations of advanced physical systems, or
- ability and understanding of computer aided algebra and it’s use in describing advanced physical systems.

Content

Course content:

- Finite element method

- Computer aided algebra
- Application of numerical linear algebra to physics

Type of Instruction
Teaching consist of lectures, project supervision, and project work. The project work is mandatory.

Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Assessment is based on the student's written report and oral defense of it.

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Course Evaluation
A course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed by the coordinating department.

Required Reading and Additional Study Material
Required reading
Harvey Gould, Jan Tobochnik, and Wolfgang Christian: An Introduction to Computer Simulation Methods: Applications to Physical Systems