The Physics of Low-Dimensional Structures and Quantum Devices (FFFN35, FYST24)

The course is organised as five weeks of lectures, exercises and laboratory exercises followed by one-two weeks of project work. The examination consists of the laboratory exercises, the project work and a written exam.

Lectures and exercises

The lectures are concentrated to the first five weeks (see schedule) and they will be given by Mats-Erik Pistol and Adam Burke. There will be exercises (övningar) every week that complement and illustrate the material covered in the lectures. The first four lectures will be by Mats-Erik followed by about six lectures by Adam and the final lectures by Mats-Erik.

Laboratory exercises

There are two compulsory laboratory exercises (about four hours each) which should result in individually written reports that will be graded. There is also a compulsory computer exercise.

Project

The last 1.5 weeks of the course will be devoted to research projects performed within a research group at Solid State Physics. Most projects will involve two days of lab work starting in the beginning of week 49. The result of the projects should be presented in written reports as well as at a symposium on Thursday, December 14. The project work will be graded.

Written exam

The written exam will be on Friday, January 11 from 08.00-13.00 at Eden 025. The exam will include questions of both descriptive and problem solving character. Allowed tools at the exam are a calculator, the course book (Davies) and the handout on transport through quantum dots.

Grades

The course will be graded with U (fail), 3, 4 and 5. The final grading is a weighted average of the grades of the written exam (50% weight), the laboratory reports (25%) and the project work (25%). To pass the course, all three parts have to have grade 3 or greater.

Literature

John H. Davies, The Physics of Low-dimensional Semiconductors : An Introduction (Cambridge University Press, 1997) ISBN: 052148491X
Complementary material.

Contact

Further information can be found on course webpage at: **https://goo.gl/etxDas** which also contains a link to the schedule. We will not much use liveatlund.
You should consult the webpage quite regularly since we will often communicate with the students through the webpage.

Course coordinators are Mats-Erik Pistol, room Q144 and Adam Burke, room C364B
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