

**LUNDS UNIVERSITET**

Naturvetenskapliga fakulteten

Fysiska institutionen, Matematisk fysik

*Tomas Brage***Kursanalys för FYSC11 Atom och Molekyl fysik, VT 2021***Kursansvarig: Tomas Brage**Andra lärare: Anne l'Huillier, Henrik Hartman, Jan Knudsen**Antal registrerade studenter; 79**Antal svar på kursvärdering; 33**Kursombud:**Antal studenter som examinerades: 65**Betyg: 54 godkända, varav 19 VG, och 11 U***Course analysis****A) Summary of Course analyses**

By mistake, the grading system was turned upside down in the questionnaire, which means that the best grade is 1, the worst is 6, for which we apologize. But the students largely gave positive feed-back on

- The lessons (introduction 2.7; EM field 2.9; Astrophysics 2.9)
- The labs (2.4 and 2.5)
- The examination (2.4)
- The social atmosphere - that everyone was seen and heard (1.4)
- Prerequisites (1.1)

The following things should be discussed further and evaluated next time:

- The literature, which received only 3.2 and was considered to be scattered - difficult with not just one book, which fully reflects the course.
- Exercises - students do not participate - we need to think through what we should do to improve.
- The spectroscopy project and the number of teachers involved in lessons, as well as the connection between lessons and labs, need to be reviewed.

B) Comments to the course evaluation

a. From the teacher

The course was largely conducted in the traditional way, but in the end we were forced to adapt the examination to Covid. This forced something that was probably positive - a transition to a more formative examination - home examination, followed by online discussion. This model has been permanently incorporated into the new syllabus, which will come into force in autumn 2021.

It was considered confusing and ill-organized with several teachers, but it should also be emphasized that several teachers also provide a greater variety. We are offering teachers that are presenting things that are close to their research.

Lessons need to be more concrete and less "hand-waving", but this is a challenge since the course is aiming to reach quite far in application of quantum mechanics, without thoroughly going through all basic concepts in e.g. classical mechanics and electrodynamics. The advantage of this is of course that student will be more motivated to learn the detailed description and explanation of this later. The solution is probably to bring this up with the students and openly discuss it.

The spectroscopy project needs to be planted and better organized. This year was the first time it was introduced in this course.

b. From Kursombuden

Analysis was sent to the student union, but we have not received any comments.

C) Comments on planned or made changes

- We have continued with the same examination form, but the questions are presented earlier during the course, with a deadline for submission towards the end.
- The course leader has pointed out that the coordination broke down last year, for guest teachers and supervisors. Since lectures are taped and all PPT presentations are posted, all involved in teaching or supervising in the course are encouraged to learn about what is taken up by others.
- A greater focus on a book was introduced and it was made clear that they are suitable for different students: Foot is best if you continue towards Photonics, Spectrophysics if you continue towards Astrophysics, for example.
- The computational project has a new supervisor, who focuses on this and has been available for questions during a longer time. The project is introduced later in the course, not during the first week.
- The exercise hours must be made relevant in some way, for example by thinking about how to teach - mixing different forms and having exercises in connection with lessons. Peer-learning with the support of the teacher and the exercise leaders becomes a way to improve learning.