Course Analysis SK2300 Optical Physics HT2020 (period 1)

Marijn Versteegh and Val Zwiller, November 2020

Course responsibles: Marijn Versteegh and Val Zwiller
Examiner: Val Zwiller
Teachers:
Val Zwiller: 7 lectures
Marijn Versteegh: 7 lectures, 8 exercise sessions, 7 lab occasions with report: Microscope lab, Michelson interferometer lab, Polarization and 3D imaging lab, Fourier optics lab, Quantum entanglement lab
Stephan Steinhauer: 6 lab occasions with report: Microscope lab, Michelson interferometer lab, Polarization and 3D imaging lab, Fourier optics lab, Quantum entanglement lab

This year 19 students were registered for the course. 17 students passed all 5 labs (8 lab groups). 1 student had already done the labs in a previous year. 1 student left the course because of illness. 18 students took the written exam in October, of whom 13 passed and 5 failed. There will be a re-exam in December.

Changes with respect to HT2019:

- Stephan Steinhauer took over the labs from Lily Yang.
- All labs were taught by Marijn Versteegh and Stephan Steinhauer.
- The exercise sessions were taught by Marijn Versteegh. With respect to the previous year we had more exercises and home exercises. We mostly use questions from previous exams, as well as some exercises from the book.
- Val Zwiller gave a new lecture about solar energy.
- Groups of 2 students instead of 3 because of the pandemic.

We asked the students to participate in the course evaluation, for which we used LEQ. 9 out of 18 students gave feedback. From the answers from the students we notice that:

- The students who filled in the questionnaire spent on average 12 hours per week on the course, which is more than the previous year.
- Found that they worked with interesting issues (score 6.7) (last year 6.3).
- Found the course challenging in a stimulating way (score 6.2) (last year 5.8).
- Were able to practice and receive feedback without being graded (score 6.1) (last year 6.5).
- Found the assessment on the course fair and honest (score 5.5) (last year 6.3).
- Were able to learn by collaborating and discussing with others (score 6.1)(last year 5.2).
- Were able to get support if they needed it (score 6.8)(last year 6.2).

These scores are better than the scores of last year. The students are generally satisfied with the course. Many students told us that they like the labs and found them well structured. We are humbled and happy to get so many comments from the students such as:

‘I am serious about this course being the best one I've had in my 5 years in KTH.’

‘I really appreciated that the teacher took in account our opinions and difficulties by finding another way to explain. That was the case in class but also in labs.’

‘Go on all the lectures - I can promise that you will develop an interest in this field after the lectures.’

‘This was the first time I was sad on the last lecture because the course was over!’

The following changes will be made for the next course round:

- We will remove some lab tasks to give the students more time to complete the labs in 4 hours. Measure the index of refraction only on one glass slab in the Michelson laboratory.
- We will suggest more optional exercises from the book.