Kursanalys för SK2560

Datum för kursanalysen	2019-06-13

Sida 1: **Kvantitativ analys**

Läsår:	2019
Läsperiod(er):	VT

Kursansvarig:	Ying Fu
Lärare: Föreläsare	Ying Fu Guest lecture: Elena Vasileva
Övningsassistenter	Ying Fu
Labbassistenter	Ying Fu
Övriga inblandade lärare	

Antal registrerade studenter	13 master students, 1 PhD student (SK3560)
Prestationsgrad,* % (t.o.m. ovan datum)	100 %
Examinationsgrad, %** (t.o.m. ovan datum)	100 % (13 klarat, 13 registrerade)

* Antalet presterade poäng hittills på kursen dividerat med antalet möjliga poäng för de registrerade studenterna vid gällande datum.

** Andel studenter av de registrerade som klarat samtliga kurskrav vid gällande datum.

OBS! När du skickar in din kursanalys, bifoga aktuell kursplan.

Sida 2: **Kvalitativ analys**

Kursens pedagogiska utveckling

Redogör för eventuella förändringar införda utifrån förra årets kursanalys.

The course covers from the most fundamental physics end to the practical nanophotonics and bionanophotonics application end, by emphasizing the links between the two ends. This makes the course extremely challenging for students.

I introduced a new section to the course about research & technical development impact from an environmental humanities perspective. This was greatly appreciated by the participants.

As suggested by previous course participants, (1) lecture notes were further expanded with explanation lines to support offline studies: (2) 2 lecture hours were dedicated to solving equations to improve learning outcome. (3) Lab exercise 2 was extended into two parts, the first is about cell culture, and the second part remained, so that the students had more learning in biology.

Studenternas syn på kursen

Redogör för studenternas syn på kursen (dokumenterad genom kursenkät, kursnämndsmöten, intervjuer och/eller annan lämplig metod).

In the middle of the course, I was informed by the program director the following comments concerning the course SK2560 from students during the TTFYM programme questionnaire this period (2019VT)

"*I have very passionate teachers this period! I would like to thank both Ying Fu and Val Zwiller for their enthusiasm and for the nice environment in their lectures*.

I also love the evaluation system of SK2560. It is based on a lot of homework, different kinds of lab sessions and a rather progressive final exam, where we can bring eveything we want, computer included. I think it is good to start leaving the books behind and finally have a taste of how the real world works."

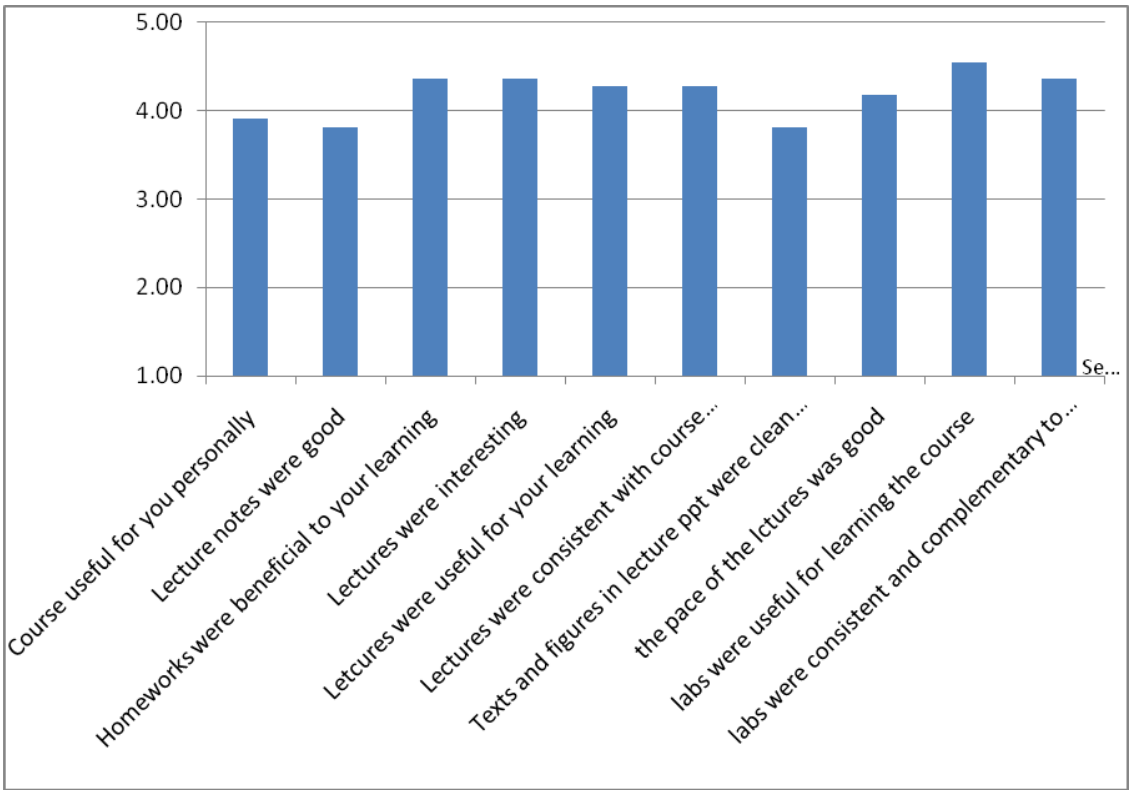
I distributed course evaluation forms by the end of the course.

I did many small talks with students during the lecture moments, pauses, labs, about the contents (course materials and lecture notes), speed of lectures, homeworks, exam problems.

The general response is that students find the course interesting and well organized.

Students are especially happy about knowledge-specific lectures (such as why nano and why nanophotonics) and application-specific lectures and lab exercise at SciLifeLab (QD biomarkers in research and imaging applications).

Below is statistics of “Course evaluation” kursenkät (11 master students)



One comment for Q2: “good when you’ve been to lecture, but it needed a lot of extra reading to be able to follow the notes.”

Below are comments from “Course evaluation” kursenkät:

What is (are) thing(s) that you appreciated about the course

- I think that the visit to the lab was interesting and it give a bit more clarity to why nanophotonics and different methods are useful.
- .Good laborations! I liked the speech for each lecture, but it is hard to study alone with just the lecture notes!
- The lecture nots should be better
- I loved the microscopy lab and in the lectures, the applications (above all biomedical) were

really interesting.

- Way of teaching and explaining is very good. Great examples and relation to daily life.
- Very close to real world application; the prof was really interested in the subjects; labs were great.
- The labs provided us with useful applications; Fun lectures/sense of humour.
- Your explanations! I like that you explain the motivation behind every new topic and that you also focus on applications. Also, lab sessions and homework were very useful.
- Sense of humour
- The lab at SciLife. It had more impact on learning.

How do I improve the course

- A bit more text in the lecture slides would make it easier to look back on them and remember context.
- Your lectue notes, maybe record the lecture so it will be easier to follow the course; HW were a bit too difficult sometimes.
- Good
- Some lecture notes are rather hard to understand, above all the ones with equations, as there is often no text/keywords explaining them. Homeworks are hard if it has been a whle since the last QM course.
- Maybe change slides a bit so that lecture can be understood even if not attending lecture. More mathematical for nor-physics background.
- Lab 1 could use more instructions; Lectures had lots of recaps on basic concepts, but difficult physics was sometimes discussed too briefly. More time to physics, less recaps.
- Clear slides.
- More exercise during lecture.
- The lectures are a bit too fast and difficult to catch up for someone who doesn't understand specific terminology. More lectures for fundamentals / at least half a lectures explanining terminology clearly at the beginning of the course.

Are there any overlaps in the course content as compared to previous courses that you read

- Don't think so. Maybe a bit from solid state physics in the beginning of the course, which was probably relevant repetition.
- Only confocol microscopy part.
- No
- Not really. Some were similar but the new perspective was helpful.
- A bit with semiconductor physics, but it was a good reminder.
- Not other courses at KTH.
- Some overlaps, e.g. quantum wells, heterostructures are taught in SK2901 Quantum Materials & Devices.

Kindly write some general comments, reflections and suggestions about the course

- It has been great.
- I like the speech for the lecture, lecture lightens up *** (*difficult to read handwriting*) Maybe recording would make it easier.
- No comments
- Very interestign course and great lab.
- Hope you succeed in writing the book, it would really compliet the lectures!
- I really liked this course! :)
- :)

Kursansvarigs syn på kursen

Sammanfatta hur utförandet och resultatet av kursen gått, samt tolka/analysera studenternas syn på kursen.

One repeated comment/advice from students for improving the course is more background materials and details to read at home. For this, the only solution is that I write a textbook.

I have started writing the textbook and will do my best to allocate more time to finish writing the textbook.

Förändringar inför nästa år

Föreslå vilka förändringar du planerar att göra för att främja kursens pedagogiska utveckling och kvalitet.

1) The course materials will be placed at KTH Canvas, as commented by students ("I would like it if the teachers used Canvas (speaking for SK2560)" and advised by program director Magnus Andersson.

2) Lecture notes will be formulated into a textbook for in-depth after-class study.