

# Report - SF1678 - 2024-01-03

Respondents: 1  
Answer Count: 1  
Answer Frequency: 100.00%

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Please note that there is only one respondent to this form: the person that performs the course analysis.

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**Course analysis carried out by (name, e-mail):**

Kathlén Kohn, kathlen@kth.se

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**DESCRIPTION OF THE COURSE EVALUATION PROCESS**

**Describe the course evaluation process. Describe how all students have been given the possibility to give their opinions on the course. Describe how aspects regarding gender, and disabled students are investigated.**

The course participants had selected 2 student representatives. Both representatives met the lecturer (me) and the TA three times (see below)

I have repeatedly encouraged the students to talk to the representatives, both in canvas announcements and during my lectures before the break. During the breaks, I would leave the room and answer possible questions outside so that the students can talk to the representatives.

After the course concluded, the students got the answer a kursvärdering from which the LEQ-report was derived. I had encouraged all students in Canvas announcements to fill out the form so that I can improve the course for the next time.

During the course, I have actively checked in with the quiet students, including the few female participants.

Unfortunately, not enough female students or students with disabilities filled out the form to show up in the LEQ report.

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**DESCRIPTION OF MEETINGS WITH STUDENTS**

**Describe which meetings that has been arranged with students during the course and after its completion. (The outcomes of these meetings should be reported under 7, below.)**

The first meeting happened in the 4th week of the course, after the first home work assignment had been published. In that initial meeting, the student representatives said that the students, to the best of their knowledge, were pretty satisfied and didn't have wishes or suggestions for improvement. We had asked the students how we can improve their participation in the exercise session and then agreed that the TA would publish the exercises to be discussed a day in advance so that the students get a chance to do the exercises at home and to use the tutorial to discuss with other students and the TA.

The second meeting happened at the beginning of the 2nd period. The course content started to be a little more difficult at that time and the students asked for more support. We had then arranged office hours with the TA. Unfortunately, they were used sparsely, although the TA allowed the students even to choose a time slot.

The third and concluding meeting happened just before the first exam.

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**COURSE DESIGN**

**Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.**

The course had 2 lectures per week (90 minutes each) and weekly 1 tutorial / exercise session (45 minutes each).  
The course went over 2 periods. During the 2nd period, the TA offered office hours.

In the lectures, I covered the main material at the black board (definitions, theorems, proofs, few examples).  
Many examples were left for the students to fill in at home.

The tutorial consisted of a variety of exercises, ranging from very easy to quite difficult. The difficult exercises were marked, so that the students would see that they are not expected to be able to solve them by themselves. The students were encouraged to try the easy exercises at home, before the tutorial. During the tutorial, all exercises were discussed in groups, with support by the TA.

The course will had four sets of homework problems. Solutions were handed in electronically through Canvas. The students were allowed to discuss the problems with other students, but needed to write down their own solution.  
Each homework set I, II, III, IV corresponded to the problem A1, A2, A3, A4 on the final exam, respectively. Each homework set and the corresponding problem on the exam gave together at most 4 points. The points gained from the homework were valid only through the year 2023.

The final written exam had two parts, A and B. Part A consisted of 16 points and corresponded to the home assignments. Part B consisted of 20 points. The grades E, D, C, B, A required at least 16, 20, 24, 28, 32 points, respectively. Exactly 15 points gave the intermediate grade Fx.

The main change from the previous course was that I used a different book that covered the material in a slightly different order.  
Moreover, I went a little slower, adding more details to the proofs, and then did not cover optional material that the previous lecturer had added.

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**THE STUDENTS' WORKLOAD**

**Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?**

I would say the work load was appropriate.

According to the LEQ report, the students spend on average about 10 hours per week, and the course had 7.5 credits.

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**THE STUDENTS' RESULTS**

**How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?**

I would say that the students succeeded quite well. Out of 25 students, who took the exam, only 4 failed and 9 received grade A.

In the previous year, 39 students took the exam (which was unusually many; typically 25 or less students take the exam): no one received grade A.

The course was given by a different lecturer and some students said that my exam was easier.

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## STUDENTS' ANSWERS TO OPEN QUESTIONS

### What does students say in response to the open questions?

The students assessed that the work load varied a lot. There were only 4 home work assignments, and so during those weeks the work load was higher.

## SUMMARY OF STUDENTS' OPINIONS

### Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

The students liked the structured lectures and the learning experience during the home assignments. They found the material interesting and described the course as welcoming.

Some students did not like the course book.

The students wished for more structured tutorials, with more summaries and more written on the board like in a lecture. One student suggested that the tutorial should be 2 hours, like the lectures, and not just 1 hour.

Some student suggested to have a coarser grading on the homework assignments (we sometimes gave 0.25 points to be nice). One student asked for more exercises to do at home. Another student realized that the examples that I gave during my lectures without details served as such exercises.

In the course evaluation, the students realized that it was very important to properly do the homework, and to make use of the offered resources such as office hours.

Some students were surprised by the final exam being relatively easy. One student did not like that they were allowed to bring notes to the exam. They felt it was like cheating.

I used the 6 LEQ questions numbered 1,4,15,16,21,22. The students' answers were quite positive: the average score on the 6 questions varied between 5.4 and 6.7.

1 I worked with interesting issues: average 6.7

4 The course was challenging in a stimulating way: average 6.7

15 I was able to practice and receive feedback without being graded: average 6

(One student noticed that all homework assignments gave bonus points for the final exam.)

16 The assessment on the course was fair and honest: average 6.7

21 I was able to learn by collaborating and discussing with others: average 5.4

(one student wrote that they didn't like the format of the tutorial)

22 I was able to get support if I needed it: average 6

## OVERALL IMPRESSION

### Summarize the teachers' overall impressions of the course offering in relation to students' results and their evaluation of the course, as well as in relation to the changes implemented since last course offering.

The course was not too big so that one could get to know to students and steer the pace of the course according to the students' interests.

Overall, the course was successful for the students and the teachers. The students were overall quite interested and so teaching them was very fruitful.

In general, the students who put effort in the home assignments passed the course with good to very good grades.

What irritated me as a lecturer at the beginning of the course was that half of the students had seen most of the group theory that has to be taught in this course in previous classes, but the other half of the students didn't. That let some students to be bored and not following the course as much as they should have when we picked up the pace and talked about Sylow theory. Interestingly, the students have not received this repetition of the same material in several courses as an annoyance; at least, they haven't mentioned it in the course evaluation and also the student representatives were not bothered by that.

## ANALYSIS

### Is it possible to identify stronger and weaker areas in the learning environment based on the information you have gathered during the evaluation and analysis process? What can the reason for these be? Are there significant difference in experience between:

- students identifying as female and male?

- international and national students?

- students with or without disabilities?

The lectures were well-received and also my hand-written lecture notes. Also, the students felt supported, for instance by the possibility of office hours.

Some students had wished for more exercises to solve at home, without being part of the bonus points. This is the first Bachelor course I had taught at KTH, and so I was not so aware of that it is common to provide the students with lists of many problems. I was hesitant to do that to not scare off the students.

Most criticism was towards to structure of the tutorial. Several students has wished for a tutorial that is more like a lecture, where the TA just writes down solutions at the board. I am not sure what the reason for that is. Maybe the students are used to this from other courses? Or maybe they don't feel comfortable discussing their ideas with others? Or maybe they feel that they have to work on other things and just want to be served with the solution instead of figuring it out themselves?

Some students also felt that the TA was a little too pedantic in his grading. A possible reason here is that for some students this is the very first course where the students actually have to write formal proofs. And then it is easy to make mistakes, that mean something completely different mathematically.

Unfortunately, not enough female students or students with disabilities or international students filled out the form to show up in the LEQ report.

## **PRIORITIZED COURSE DEVELOPMENT**

### **What aspects of the course should be developed primarily? How can these aspects be developed in short and long term?**

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I want to prioritize 3 things:

First, every week, a list with suggested exercises will be published. Some of those exercises will re-appear in the tutorial, but many of them not (for instance, just to verify that some examples from the lecture satisfy the definitions / theorems). This will be done the next time the course is given, i.e. spring term 2024.

Second, the activities in the weekly tutorial can be changed. For instance, instead of the TA giving a summary (which several students wished for), one could do a flipped classroom where one or two students give a 10-minute summary. Such a summary could be motivated by adding a bonus point to the exam.

Also, to add more chances for feedback without being graded, one can add peer review activities. For instance, in the last tutorial, when the students do the mock exam at home. Another example can be that the students do easy weekly exercises at home which they then peer-review in the tutorial (or discuss their solutions in groups as we did in this course offering).

We will experiment with tutorial formats in the next course offering, i.e. spring term 2024, but changes that would affect the way the course is graded would only be done in the course offering of 2025 the earliest.

To allow for several activities, it would be helpful if the tutorial were 2 hours and not just 1 hour. That way, one could start with a 10 minute summary by students. Then do a peer-review round of easy exercises the students solved at home. And then afterwards still have time to do group discussions on harder exercises, with help by the TA; where the solutions can be presented by the TA or the students at the very end.

Third, in the long-term it will be better if there are not several courses where group theory is taught at Bachelor level, at least not when the programs have such an overlap such that this course has half of the people with a background in group theory and the other half does not. This will be discussed with the responsables of the respective Bachelor programs and other algebra professors at our department.

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