



Report - IS1500 - 2020-04-26

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

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

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

David Broman, dbro@kth.se

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.

I have used the following method:

1. Course committee meetings. Students volunteered to be part of the committee in the beginning of the course. We had two meetings, one in the middle of the course and one after the course finished.
2. In the middle of the course, I performed a battery evaluation (a special form of mid-term evaluation). All students are asked to give feedback (pros and cons) on small papers that are handed out in the break in one of the lectures. The course responsible then summarizes all answers, and presents it at the next lecture. The summary is also published on Canvas.
3. At the end of the course, the LEQ form is sent out to all students.
4. The students are encouraged to send emails directly to the examiner with feedback.

I try to encourage that students from different programs with different background to take part in the course committee. This year, all members were female, representing both CDATE and CLGYM.

To enable support for disabled students, I always inform (in the Canvas page) about where they can find more information about their rights (FUNKÅ). I am also always using microphones at the lectures (important for student with hearing impairment).

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.)

There were two meetings with the course committee (kursnämnd), one meeting in the middle of the course, and one meeting at the end of the course. Besides that, we had a Battery evaluation (mid-term evaluation, previously called Muddy cards evaluation) with the whole course during one of the lectures.



COURSE DESIGN

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

The course teaches the fundamentals of computer organization, including both software and hardware. The course is divided into 6 modules:

1. C and Assembly Programming
2. I/O Systems
3. Logic Design
4. Processor Design
5. Memory Hierarchy
6. Parallel Processors and Programs

The course is divided into 3 LADOK parts: 1. Labs in logic design (1.5 hp)
2. Labs and home labs (4.5 hp)
3. Written Exam (3hp)

There are in total 14 lectures, 6 exercise sessions, 4 seminars, 6 laboratory exercises, and one mini project. The course ends with a 5 hour written exam.

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?

Many students find the course quite challenging. However, from the LEQ response diagrams, most students say that they spent between 6 and 14 hours on the course, where most of the students answered 6-8 hours. On average, most students seem to think that the workload is reasonable, even though a few students think that the workload is high.

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?

This year, 79% of the students passed the first exam (2020-01-13). The distribution of grades was as follows: A 10%, B 8%, C 14%, D 13%, and E 34%. In total, 196 students wrote the exam.

The pass rate has been fairly high and stable the past couple of years. For instance, in January 2019 the pass rate was 70%, in 2018 the pass rate was 75%, and in January 2017 it was 74%.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

Here is a summary (not quotes) of some advices that were given to future students:

- Attend the lectures, both the lectures and the slides are really good.
- Attend the seminars since they prepare you in a good way for the exam.
- Start early with the project
- Start with the labs on time.
- Choose a project that you like.
- Prepare yourself before the lectures.



SUMMARY OF STUDENTS' OPINIONS

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

In general, it is very clear that the students seem very happy with the course. Some of the main findings are:

Strengths:

- Course structure, many students think that it is well organized
- Students are in general very positive about the lectures. Especially the slides, the overall structures, and the interactive exercises.
- The labs are good and many students say that they learn a lot from them.
- Many students say that the structure and information on Canvas is very good.

Weaknesses:

- This year, the EXPO was too crowded since the KTH scheduler assigned a too small room.
- Some students think that the exam was hard, and that the new format of grading criteria was not good. However, this was adjusted before the final grades were handed out. We got a positive reaction to this.
- Some students find it hard to understand what was required to get an advanced project.

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 works overall very well, and it is mature. Some student says that this is the best course they have taken at KTH. I have made many incremental changes over the years, and the last contribution (extra video lectures) was very appreciated.

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?

Analysis of the polar diagrams of the LEQ:

In general, the polar diagrams are very high. For instance, for the question "The course was challenging way", 97.8% gave a positive answer, where 68.9% gave the highest value (+3). For the question, "understanding the key concepts had high priority", there were no negative answers. For the question "The course activities helped me to achieve the intended learning outcomes efficiently", again, there were no negative answers and 72.3% of the answers gave the highest value (+3). In general, all 22 areas had a good average score, where the lowest score was on areas 7, 15, 16, and 17 with a score of between 5.6 and 5.9 out of 7 (the rest of them all were at 6 or above).

A few words about the ones that were scored slightly lower (between 5.6 and 5.9). Question 7 was "The intended learning outcomes helped me to understand what I was expected to achieve". All answers were positive or don't know X, except two answer with score -1. The comments basically stated that students did not read the learning outcome. For question 15 "I was able to practice and receive feedback without being graded" All answers were positive or neutral, except 2 answers (-1). There were no comments. On question 16, "The assessment on the course was fair and honest, all except 6 answers (12.8%) were positive or neutral. 63.8% were very positive (+2 or +3). The main critique was that some people thought that the exam was too hard. However, looking at the exam results, this exam does not look very different from previous years, and there is an acceptable distribution of grades. The last question was number 17, "My background knowledge was sufficient to follow the course". Here, most student agree strongly that they have the right background (56.5%), but a few students (8.7%) answered that they do not agree. During course committee meetings, it is clear that the experienced background knowledge varies heavily depending on which program that the student is studying. Representatives from CLGYM expressed that their programming background was too limited, whereas CDATE students seem to think that their background was enough.

General analysis:

In the polar diagrams, there were no major differences between the answers from the female and the male students. There were no direct information about international students because the majority of the students come from CLGYM and CDATE.

An interesting aspect of the polar diagrams was that students with disabilities gave in general higher scores than the average of other students, except for area 19 "The course activities enabled me to learn in different ways". The students with disabilities answered on average 5.8, which still can be considered very high (other students answered 6.5). There were no specific comments from the students.

In general, we can see that the course evaluation matches what has been said by the course committee and by the battery (mid-term) evaluation. Students seems to be very happy with the course.



PRIORITIZED COURSE DEVELOPMENT

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

This year we introduced an "easy" exercise group, where the TA went through more fundamental questions in a slower pace. This was appreciated, and we will therefore keep it next year.

Many course improvements have already been done during the last couple of years, and the majority of the students seem to be quite happy with the current course design. Hence, there are no explicit course improvements planned for the next time that the course is given.

OTHER INFORMATION

Is there anything else you would like to add?

Some students expressed that the lectures were very good, and one student thought that the lecturer should give lectures to other teachers at KTH about how to give lectures. Thank you very much for this friendly and positive feedback, and I (David) will do the best I can.

To all students who might read this course analysis: Thanks for great feedback. Please do not hesitate to send me an email (dbro@kth.se) if you have some more feedback, comments, or questions.
