

Report - EP2500 - 2024-10-13

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):

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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.

We informed students from the opening lecture about the importance of the evaluation and on-going feedback during the unfolding of the course. We made information available early on with specific pages in Canvas, reminded in several occasions in lecture and exercise sessions, and through the course evaluation system.

The students were strongly encouraged to email or message in Canvas, talk in person, talk to the TAs, regarding any matter they needed to communicate.

In all occasions conceivable, the student opinion was asked for course matters, e.g., content of review sessions, adjustment of content and modus operandi of recitations, and mild scheduling changes (swapping an exercise session with a lecture).

An additional element of evaluation: the cybersecurity MSc program student representatives provided feedback and held discussion after the course – as part of a regular process for all courses for the said program.

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 meetings were:

- Two lectures and in class meetings, one recitation, on a weekly basis.
- One mid-term in class, two review sessions, weekly office hour slots, and recap, pre-exam q/a session and post-exam solving session.

The material was provided online, along with all information on the course operation.

The course was given basically in person – meetings were mostly in class. All lectures and exercise/recitation sessions were in-person. The rest of the sessions were hybrid – with a meeting room and a zoom link for increased flexibility and participation as well as break-out discussion (e.g., different teaching team members answering questions on different parts of the course).

COURSE DESIGN

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

Post-covid, we put emphasis on revising the material and re-establishing the in-person dimension of the course. While retaining the hybrid parts was based on the lessons learned during covid, as well as reducing student commute across campuses.

This was the second year after a major revision/renewal of the course material, while maintaining the key characteristics (e.g., exam and midterm questions and homework sets). All material were available in a timely fashion.

This year we modified the recitations, providing students with questions and relatively simple problems to work on prior to session. We motivated them by requiring a minimum verifiable effort – requesting they could called upon be the session lead to explain to their peers how they approached and made progress towards answering the questions/solving the problems.

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?

The workload reported was in-line with that in previous years. There was one student that reported significantly higher workload but explained it was due to the student's prior knowledge.

No significant deviation compared to the hours the students reported.

As typical and successful over the years, students were offered review sessions, to bring everyone at the same level, as well as consultation especially in the first week to help students understand if the course is appropriate for their background. This is important as students from diverse KTH programs take the course, notably including students taking EP2500 in P2 of their first year at KTH.

We continued with homework problems solved in teams of two students, to improve their work, collaboration, and reduce workload.

We also provided more solved problems and past exams, based on MSc program student feedback.

Last but not least, we put emphasis on the uniformly high quality of the contributions of all members of the teaching team.

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?

The results were very similar to the previous year – a small decrease in As and Ds and a small increase in Bs and Cs.

The model of bonus points, since the first year of the course, continued this year. The difficulty of all exams and homework sets was the same as that of prior years. It is not clear if there is any other change in the cohort of students (e.g., on the basis of prior coursework).

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

The students appreciated several aspects, answering to what was the best part of the course:

(1) Breadth and structure of the course

o "All the topics are relatively interesting and have their place on the course."

o "How to broad the course is and the structure of first presenting types of attacks and then ways to mitigate/protect against the attacks."

(2) Grading and incentives

o "The grading was an interesting part of the course, due to the incentives it provides: students only need to do the final exam and still be able to pass with an A, but all the bonus points in the recitations, midterm and homeworks incentivize study throughout the course."

o "Bonus points to reward continuous work (though max. 13% is still not that much considering the work involved)"

(3) Recitations and interactive nature

o "Recitation are really interesting and the exercise proposed are challenging"

o "The weekly recitation sessions are highly interactive."

Students suggested improvements – most welcome, outlined in a summary form below, followed by a quick response:

Suggestion 1: More old exams and midterms, with solutions, and after recitations. Add small discussion groups.

Answer 1: Increased both fronts and intend to do more in that direction to meet student needs. But also emphasized and will continue emphasizing the need for own work (attempting to solve problems) and interaction with the teaching team to ensure deep understanding of concepts, risks/threats, and solutions. We will also take the suggestion and introduce the discussion/exercise solving groups – in a very flexible format to cater to individual student needs.

Suggestion 2: Replace "niche" topics with mainstream ones.

Answer 2: "Niche" topics are including to strengthen the focus on key concepts and allow to abstract from technologies, not the topics themselves. At the same time, they offer a connection to the Advanced Networked Systems Security (ANSS)/EP2510 course in P2/Y2 of MSc typically. In any case, taking the input into account, we will make this approach clearer, strengthen some of the modules of the course with the mindset of "mainstream" security, and offer more optional readings. It is important to note there is emphasis on hands on security work on (mostly) mainstream yet very contemporary technologies in the other follow-up course, the Building Networked Systems Security (BNSS) /EP2520 course in P3/Y1 of MSc typically.

SUMMARY OF STUDENTS' OPINIONS

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

Overall, the scores and opinions are very positive. Very similar to previous years. Students felt they worked with interesting issues, that the course was stimulating, that they received feedback and were very well supported, and collaborated with peers. The work of the TAs was highly appreciated (as reflected on the praise on recitations).

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 improvement/renewal of the material, the change in the course modus operandi, the use of student feedback to address needs, all helped maintaining the quality and student satisfaction.

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?

It was not possible to identify differences.

PRIORITIZED COURSE DEVELOPMENT

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

Based on the exposition in the "Summary of Students' Opinions" above, we will maintain all positive aspects, build on our experience, and, naturally, we will take in the student suggestions, improving on the problem solving (in terms of extent and ways) and revising parts of the course modules.
