

Course analysis for EL2450 Hybrid and Embedded Control Systems, Spring 2019

Course information: <https://www.kth.se/social/course/EL2450/>

1. Teaching stuff

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2. Quantitative data on number of students

As can be seen from the course information webpage, the course is worth 7,5 credits. 5,5 credits are given for a passing grade in the exam (A,B,C,D,E,Fx,F scale) and 0,5 credits for each of the two first homework and 1 credit for the third homework (laboratory exercise)(P/F scale). The statistics are as follows:

Number of registered students: **80**

Number of students that passed the course (exam and homework): **58***

(*incl. students that passed the re-exam and previous years' students)

3. Student viewpoints

Feedback from the students was gathered in the form of a mid-term evaluation through an anonymous evaluation questionnaire we designed in Google. The results of the latter are attached. We received feedback from more than half of the registered students (42 out of 80 participated). Therefore, the change from a post exam evaluation last year to a mid-term evaluation this year was a success.

We could derive some useful conclusions from the questionnaire. In general, both the exercises and the homework assignments received a lot of positive comments from the students. They praised how the lectures were complemented by the exercises and homework. Although homework 3 was again popular among the students, some complained that the instructions for this particular homework were not very clear. Some students would like to have an even more practical homework, but this is not feasible given time and resource constraints. We received some complaints about errors in the exercise compendium and that tasks, where one should use Matlab, should be clearly indicated. We updated the compendium during the course, in case mistakes were found. Several students mentioned that they would like to have additional exercise sessions, where they have time to solve the tasks and ask questions to the TAs and maybe an additional help session for the homework.

Regarding the lectures, we received some negative comments. The content in some lectures seemed to be too much and too theoretical for some of the students and they would prefer to have some application examples to the theory to understand during the lectures. This comes in accordance to the

earlier observation that students in the program in recent years are weaker in mathematics than students in previous years. A few students complained about the lecturer's pace and articulation, while others said that they liked the way the lecturer tried to engage the students. Although we got some negative feedback, most students thought that the content of the lectures is relevant and interesting.

Regarding the reading material, most students are positive, but there are still those requesting a textbook for the course. As mentioned in previous analysis, I have up to now insisted on providing the students with the lecture slides and related reading material. I think this is best for them in view of whatever they will do in the future will require that they look at different sources rather than a specific textbook or manual. Since this is a constant complaint however, I plan to take it into account in the coming year. See the next section for more details.

4. Planned developments.

The main criticism is that the course contains too much theoretical material, as well as the continuous complaint about the lack of lecture notes in a single document. While I believe that rigorous theory should be necessary in every course in our program, following the trend to have less math I might loosen up some of the lectures and corresponding materials. In addition, during the summer we started drafting lecture notes for the course based on the materials of the slides. It is planned to have a good version for the next round of the course.

5. Other comments

As mentioned in our discussions as well as in the previous course analysis, my main concern is that there is a trend among students to follow less theoretical/easier courses. I think this is suboptimal for many reasons but I don't have a remedy for that.