Report - EL2620 - 2022-02-16

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.
A course evaluation board with two student members was formed in the beginning of the course. After the written exam, a course evaluation was sent out to the students. The course evaluation does provide some feedback regarding gender and disabled students.

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 course responsible had a lunch meeting with the course evaluation board at midterm to discuss how the course was perceived among students. A student member of the board provided feedback on this course analysis.

COURSE DESIGN
Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.
The course treats control theory for nonlinear dynamic systems. The course consists of traditional lectures, exercises, math help sessions, homework assignments, and a written exam.

Implemented changes:
1. New responsible teacher and examiner is Henrik Sandberg.

2. Examination of the course has changed to:
* INLA - Homework, 2.5 credits, Grading scale: P, F
* INLB - Home work, 2.5 credits, Grading scale: P, F
* TENT - Written exam, 2.5 credits, Grading scale: A, B, C, D, E, FX, F
INLA consists of Homework 1-2 and INLB of Homework 3-4. The course is split into 4 Modules, which are mapped to Homework 1-4. 5/10 points or more was required on each Homework to pass. 8/10 points or more on Homework 1 gave 1 bonus point on the TENT Problem 1, and similar for Homework 2-4. To better align the learning outcomes of the course, Problem 1-4 on TENT are mapped to Modules 1-4, respectively, and we require at least 5/10 points on Problems 1-3 on TENT to pass the course.

3. Last course offering was taught remotely. This year, all teaching activities were on campus, but recorded material from last year was also provided.

THE STUDENTS' WORKLOAD
Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If these is a significant deviation from the expected, what can be the reason?
In the course evaluation, most students indicate a work load of 9-14 hours/week. Since the course is 7.5 credits, the expected work load is around 20 hours/week. Most students thought that the time they spent on the course was appropriate, but it does appear a bit low. A reason could be that students did not read the course book material on their own, and that the homeworks are easier than anticipated.

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 students succeeded very well on average. The graduation rate was around 75% and the grades on the written exam and the overall course were very high:
A 38.24%
B 20.59%
C 8.82%
D 20.59%
E 0.00%
Fx 5.88%
F 5.88%

Last year the graduation rate was around 60%. The difference may depend on that the course last year was offered online. Another difference is that course responsible has changed, so the written exam and grading have not yet been fine tuned. Also, as indicated above, the grading criteria and system for bonus points were changed, and most students had collected 3 bonus points for the exam. This often increased a student's grade with one step.

STUDENTS´ANSWERS TO OPEN QUESTIONS
What does students say in response to the open questions?

Most students were very happy with the teaching and material. It should be noted that only 9 out of 38 students answered the questionnaire.

Suggested improvements included introduction of laboratory exercises, more concrete example during the lectures, and improvement of written material on describing functions.

SUMMARY OF STUDENTS' OPINIONS
Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

During the course evaluation board meeting, a mind map over the course material was requested. This was provided at the end of the course.

In the questionnaire, the course gets very high scores on average (scale 1-7, 1 worst, 4 neutral, 7 best):
1. I worked with interesting issues 6.7
2. I explored parts of the subject on my own 6
3. I was able to learn by trying out my own ideas 5.8
4. The course was challenging in a stimulating way 6.1
5. I felt togetherness with others on the course 5.6
6. The atmosphere on the course was open and inclusive 6.4
7. The intended learning outcomes helped me to understand what I was expected to achieve 6.8
8. The course was organized in a way that supported my learning 6.3
9. I understood what the teachers were talking about 6.3
10. I was able to learn from concrete examples that I could relate to 6.3
11. Understanding of key concepts had high priority 6.3
12. The course activities helped me to achieve the intended learning outcomes efficiently 6.3
13. I understood what I was expected to learn in order to obtain a certain grade 6.9
14. I received regular feedback that helped me to see my progress 6
15. I could practice and receive feedback without being graded 5.6
16. The assessment on the course was fair and honest 6.6
17. My background knowledge was sufficient to follow the course 6.6
18. I regularly spent time to reflect on what I learned 6.3
19. The course activities enabled me to learn in different ways 6.3
20. I had opportunities to influence the course activities 4.7
21. I was able to learn by collaborating and discussing with others 6.4
22. I was able to get support if I needed it 6.8

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 teachers are very satisfied with the course, and with the engagement the students have shown.

However, the new bonus point system should be reconsidered, since the grading appears generous. Also, it is a concern that the estimated student workload is a bit low. Since there is plenty of material in the course already, it is not appropriate to increase the amount of material, but rather look into the assessment and grading of the present material. Furthermore, there was a notable difference between the results in Homework 1-3 vs. Homework 4. Homework 4 treats more advanced material, which may be a reason, but we could emphasize sliding mode control in the teaching more.

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 question with the least positive responses from the students was "I had opportunities to influence the course activities". It received 4.7, which is better than neutral but not as high as on other questions. Probably this is because the course covers quite a lot of material and the lecture and exercise schedules are quite fixed. Still, the teachers did spend time on lectures and exercises to address issues and answering questions that were of particular interest to the students. A biweekly light course assessment may be a way to increase the students' possibility to influence the course.

Interestingly, female students on average gave the course somewhat lower scores than the male students. Similarly, international students gave the course higher scores than the national ones. No student with disability answered the questions. We do not know what the reasons for theses differences are, but that may be worth further investigations.

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

- The course material on describing function should be developed.
- Emphasize sliding mode control in Module 4 more.
- The mind map created should be integrated with the teaching earlier in the course.
- The grading and bonus point system for the Homeworks should be reconsidered.
- Introduce a biweekly light course assessment as proposed in the students in the course evaluation board.