Report - DD2425 - 2019-03-06

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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COURSE DESIGN

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

The course runs over two periods with the first period providing an overview of the field of robotics and the second being entirely focus on a project. The project starts about halfway into the first period. The students are divided into groups of 4 and all groups are given the same project. The projects are modified slightly from year to year but the overall theme is kept relatively similar. As this has been the only course at KTH in robotics until now it has been important to ensure that the projects exposes the students to a broad range of problems within the field. In the beginning of the course the students work on an individual lab which is designed to make them learn the Robot Operating Systems (ROS) which is the middle ware used in almost all robotics research today. The students also complete a set of quizzes to the assess the prior knowledge in areas such as control and computer vision. The project groups are then formed by the teacher to ensure that all groups have knowledge in all areas, practical systems and programming skills and as far as possible that they do not know each other from before. The task is made so difficult that it cannot be solved to perfection and thus an important part of the work in the project is to decide where to invest time and where not. The project ends with a contest between the groups. The contest serves many purposes. First, it shows how difficult it is to get a system as complex as the robots that they built to work at a given date and time. Second, it allows the team to compare the different solutions, usually with the take home message that well-tested and robust does better than further developed but not tested. Finally, it gives a nice finish to the work that the groups have put in with lunch and coffee together for the better part of a day.

The main difference from last year was
* The positive trend from last year with 25% women did not repeat itself. This year only 5 / 38 out of which one never really started the project part
* The students built their own arms this year instead of using the poorly working arms from previous years. This was a good choice.
* We asked the students to comment on their fulfilment of the criteria for the different grades for the ILOs. I still think the idea was good but the implementation was not the best. Looking at the evaluation it seems that this was perceived as influencing the grades very much. This was meant as a tool for the students to reflect on their own fulfilment of the criteria.
* We organised separate examination for some of the criteria which had previous years been examined in connection with the final meeting with the group.
* We reduced the regular interaction with the students even more this year. The idea was to make sure that the groups gained independence. This turned out to work really well and this the last time the course was given was by far the best in terms of performance. Some of this was probably due to removing the arm as well but this was not all I believe.

THE STUDENT'S 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 distribution of time spent on the course this year a bit more bi-modal in nature then last year. A large fraction of students still say that they spend >41h per week but then there is "gap" to the next lot which is 24-26h or less. Looking at the course evaluation, question "1. I worked with interesting issues (a)" got 6.9/7 so it is clear that student find the course very interesting and I think this explains a lot of the time spent.

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?

Better results than ever in terms of what they managed to implement. As hinted before I think that while a bit painful initially the independence of the group resulted in being able to address once own problem better which gave better results.

OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT
What is your overall impression of the learning environment in the polar diagrams, for example in terms of the students' experience of meaningfulness, comprehensibility and manageability? If there are significant differences between different groups of students, what can be the reason?

The most negative thing that falls out in the LEQ is that that women this year (5 in total out of which 4 finished) they give lower score for almost everything. Item 1, that the course was interesting was the only one where the women scored it higher. Every single one of them gave it a 7 whereas the men averaged 6.9. Comparing the results to previous years there is a significant difference. One reason could be be that there were much fewer women this year which changed the learning environment. In each group it was the same because groups rarely had two women before either but this year compared to previous had overall much fewer women. The item that ges the lowest score by the women is "20. I had opportunities to influence the course activities (m)"

ANALYSIS OF THE LEARNING ENVIRONMENT
Can you identify some stronger or weaker areas of the learning environment in the polar diagram - or in the response to each statement - respectively? Do they have an explanation?

Looking at the response the score are very high overall. However, as already discussed above, the lower scores from women is troublesome. I do not have a good explanation for it. Compared to last year the lower score are for different things. Last year the "I felt togetherness with others on the course (d)" was the lowest and this year this one was similar for both groups despite there being much fewer women this year which could indicate that we made the groups work together better this year?

I was happy to see that all KTH stduents 4-5 rated "2. I explored parts of the subject on my own (a)" and "3. I was able to learn by trying out my own ideas (b)" as 7.

See comment about the grading in the first section

ANSWERS TO OPEN QUESTIONS
What emerges in the students' answers to the open questions? Is there any good advice to future course participants that you want to pass on?

Make sure to test and integrate early on

PRIORITY COURSE DEVELOPMENT
What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?

This course will be discontinued :-(

OTHER INFORMATION
Is there anything else you would like to add?

Course data 2019-03-06

DD2425 - Robotics and Autonomous Systems, HT 2018 Robots 18

Course facts

Course start:	2018 w.35
Course end:	2019 w.3
Credits:	9,0
Examination:	LAB1 - Laboratory Works, 0.5, Grading scale: P, F PRO1 - Project, 5.5, Grading scale: P, F TEN1 - Exam, 3.0, Grading scale: P, F
Grading scale:	A, B, C, D, E, FX, F

Staff

Examiner:	Patric Jensfelt <patric@kth.se>
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Teachers:	Patric Jensfelt <patric@kth.se>
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Number of students on the course offering

First-time registered:	0
Total number of registered:	38

Achievements (only first-time registered students)

Pass rate[1] [%]	*There are no course results reported*
Performance rate[2] [%]	*There are no course results reported*
Grade distribution[3] [%, number]	*There are no course results reported*

1 Percentage approved students
2 Percentage achieved credits
3 Distribution of grades among the approved students