



Report - DD2380 - 2018-12-20

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):

Jana Tumova, tumova@kth.se

COURSE DESIGN

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

The course is arranged as a series of lectures and three tutorial sessions to deepen understanding of selected areas. Thanks to the breadth of AI, several lectures were given by guest lecturers, who are experts in the field (Josephine Sullivan on Machine Learning, Rika Antonova on Reinforcement Learning, Johan Boye on Natural Language Processing, Gabriel Skanze on Speech Recognition, Danica Kragic on Robotics, Mårten Björkman on Computer Vision, and representatives from IBM on Cognitive Computing). The rest of the lectures were split roughly equally between Jana Tumova and Patric Jensfelt and focused on topics from three areas: taming uncertainty, problem solving, knowledge representation and planning.

A criteria-based grading scheme is used with TEN1 2hp consisting of a series of 9 online quizzes released after lectures, and an essay on ethics and risks of AI (with individual reflection and a team discussion part), and LAB1 4ph with 2 programming assignments and a choice between a pen and paper assignment and an open-ended project on planning. The programming assignments are conducted typically in pairs, in C++ or Java, evaluated in Kattis, and also presented in person to a teaching assistants. The pen and paper assignment was individual and the project was conducted in teams of 3-5 students, for higher grades. There is no written exam, the final grade A-F is determined from the grades of LAB1.

This year, the main changes included the introduction of the pen and paper assignment, and a poster session for the project presentation. The course followed organization in Canvas from HT2017. The lecture topics were updated and the quizzes were revised. Some minor improvements were introduced also to the programming assignment, including relaxing deadlines for higher grades, which were perceived by students as very difficult to meet in previous years. The essay was given a new format with individual reflection and a team discussion, and was moved from being the last assignment to the first one, to distribute students' workloads more equally, and get in touch with the broad idea of Artificial Intelligence and its impact on society early on.

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 reported students' workload varied quite a lot. Approx. 40% of students reported low workload, under 15 hours/week, which is 6% lower than last year and approx. 19% of students reported high workload, over 27 hours/week which is the same number as last year. We account the decrease in the number of students reporting low workload to the introduction of the new assignment. However, the numbers and the comments from the students confirm that gaps between requirements for the E and A needs to be further decreased.



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 did approximately as well as the year before. In 2018, approx. 21% of the registered students did not fully complete the course; in 2017 this was 22%. In 2018, the course had >490 participants, which is approx. the same as in HT 2017, but it should be noted that a second round is now offered in VT in P3 that has had <100 participants. To spread the number of students more evenly between the two course rounds, the HT version will only be offered to students, for whom the course is compulsory.

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?

Overall, the course seems to be well-received and the students found it interesting. The course received good scores in terms of meaningfulness, comprehensibility and manageability; meaningfulness was the strongest one of the three. There were no big differences between responses of men and women. Due to the size of the course and the large variety of students' backgrounds, I created several groups in the evaluation and attempted to split the students based on the program they study to see the difference between them. Unfortunately, it became clear that the students misunderstood which group they should mark and I do not dare to draw conclusions regarding these differences.

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?

The strongest points are working with interesting issues, that the course was challenging in a stimulating way, and collaboration and support. The weakest points on the other hand were regarding practicing without being graded. This is not completely unexpected considering the fact that the assignments, on which the students spent a significant amount of time and actually get a hands-on experience, were all graded. We offered consultations through a discussion forum on Canvas, quick in-person consultations, as well as scheduled consultations, however, we made an effort not to help with coding and debugging itself. Project advisors were introduced and also more transparent evaluation procedure of the assignments in the form of a protocol template. In comparison to HT 2017, the evaluation of "I could practice and receive feedback without being graded" and the evaluation of "The assessment of the course was fair and honest" stayed approximately the same.

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?

The most recurring constructive comment was that the workload is too high, some suggested more and smaller programming assignments, which I think is a good idea for future. The future course participants were advised to start on the assignments early and to do the quizzes right after lectures.

PRIORITY COURSE DEVELOPMENT

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

In short term: Further improvements in A3. Clearer lectures on reinforcement learning.

In long term: I would very much like to develop a larger set of smaller programming assignments and introduce some integration in an intelligent agent. With 500+ students, the course is very large and the students have very diverse backgrounds. It would be great to split it into more smaller instances that could be adjusted to the backgrounds.