



Report - DD2380 - 2018-08-25

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 (Alexandre Proutiere on Learning, Christian Schulte on Constraint Satisfaction Programming, Johan Boye on Natural Language Processing, Danica Kragic on Robotics, Mårten Björkman on Computer Vision, and Mikael Haglund 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 an optional open-ended project on planning in teams of 4 students for higher grades. The programming assignments are conducted typically in pairs, in C++ or Java, evaluated in Kattis, and also presented in person to a teaching assistants. There is no written exam, the final grade A-F is determined from the grades of LAB1.

This year, Jana Tumova was the course responsible for the first time. The course was transferred to Canvas and organized in modules. The lecture topics were updated and the quizzes were revised. Some minor improvements were introduced also to the programming assignments. The essay was given a new format with individual reflection and a team discussion.

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. 46% of students reported low workload, under 15 hours/week and approx. 19% of students reported high workload, over 27 hours/week. The comments from the students show that one of the reasons could be a big difference between requirements for A and requirements for E. For next year, additional workload will be introduced for lower grades, namely in the form of a third assignment, on knowledge representation planning. Completion of the project was required for grades A and B. Next year, we plan to relax this requirement and allow to choose between project and the third assignment on planning, which should be less time-consuming.



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 2017, approx. 22% of the registered students did not fully complete the course; in 2016 this was 17%. In 2017, the course had >500 participants, which is approx. 10% increase in comparison to 2016. I believe the course attracts wider and wider audience, who want to learn about AI as a very timely topic, and perhaps the students do not expect the content (a wide range of AI topics and algorithmic principles), and requirements (especially on programming and understanding of probabilistic inference) we have.

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.

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, understanding of organization, understanding of what the teachers were talking about, and understanding what was expected to obtain a certain grade. The weakest points on the other hand were regarding receiving regular feedback and practicing without being graded. This is not completely unexpected considering the fact that the programming assignments, on which the students spent a significant amount of time and actually get a hands-on experience, were both graded. We offered consultations through a discussion forum on Canvas and quick in-person consultations, however, we made an effort not to help with coding and debugging itself. Giving feedback can be certainly improved for the project, where students work for 2 weeks on their own, essentially without any support. For next year, we will introduce project advisors.

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 for A-B was too high in comparison to workload for E, which I agree with and as mentioned above, plan to introduce an additional assignment for E-C levels and relax requirements for A-B levels. Many students also mentioned they spent a lot of time on debugging the programming assignments, which did not support learning of AI principles. 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: As mentioned above, the workload for A-B and C-E needs to be balanced out. We should issue a debugging guide/frequently asked questions for the programming assignments to help students get quickly handling the core issues, not spending time on debugging of code. In terms of content, we should add more focus 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.

Course data 2018-08-25

DD2380 - Artificial Intelligence, HT 2017 ai17

Course facts

Course start:	2017 w.35
Course end:	2018 w.3
Credits:	6,0
Examination:	LAB1 - Labs, 4.0, Grading scale: P, F TEN1 - Exam, 2.0, Grading scale: P, F
Grading scale:	A, B, C, D, E, FX, F

Staff

Examiner:	Patric Jensfelt <patric@kth.se>
Course responsible teacher:	Jana Tumová <tumova@kth.se>
Teachers:	Jana Tumová <tumova@kth.se> Patric Jensfelt <patric@kth.se>
Assistants:	

Number of students on the course offering

First-time registered:	415
Total number of registered:	473

Achievements (only first-time registered students)

Pass rate ¹ [%]	89.40%
Performance rate ² [%]	95.00%
Grade distribution ³ [%, number]	A 20% (73) B 12% (43) C 40% (147) D 28% (105) E 6% (21)

1 Percentage approved students

2 Percentage achieved credits

3 Distribution of grades among the approved students

DD2380 - Artificial Intelligence, HT 2017 SAP

Course facts

Course start:	2017 w.35
Course end:	2017 w.43
Credits:	6,0
Examination:	LAB1 - Labs, 4.0, Grading scale: P, F TEN1 - Exam, 2.0, Grading scale: P, F
Grading scale:	A, B, C, D, E, FX, F

Staff

Examiner:	Patric Jensfelt <patric@kth.se>
Course responsible teacher:	Jana Tumová <tumova@kth.se>
Teachers:	Jana Tumová <tumova@kth.se> Patric Jensfelt <patric@kth.se>
Assistants:	

Number of students on the course offering

First-time registered:	1
Total number of registered:	38

Achievements (only first-time registered students)

Pass rate ¹ [%]	100.00%
Performance rate ² [%]	100.00%
Grade distribution ³ [%, number]	D 100% (1)

1 Percentage approved students

2 Percentage achieved credits

3 Distribution of grades among the approved students