Report - DD2380 - 2023-06-22

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.

We used the standard 12 statements/4 general questions LEQ course questionnaire to gather feedback from our students. The goal was to assess their learning experience and identify opportunities for course improvement. Students' responses were carefully analyzed to ensure that there were no issues relating to gender and disability. In addition, I participated in a meeting with the Master's programme in Computer Science (TCSCM) where I got feedback from student representatives and discussed how this course fits in with the overall curriculum.

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.)

During the course I interacted with students mainly in lectures which allowed me to directly address any questions or concerns and maintain a line of communication with the class. Furthermore, after the course's completion I got feedback from two student representatives. In addition to my own interactions, a dedicated team of Teaching Assistants (TAs) was also available to students. The TAs held consultation hours, led tutorial and lab sessions, and addressed students' questions. Regular meetings between myself and the TA team ensured we were aligned and responsive to students' needs and feedback.

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

This year, the course maintained most of the design of previous iterations, while implementing adjustments to better foster student interaction and integrity. The course continued to be arranged as a series of lectures, bolstered by three tutorials and three lab sessions designed to deepen students' understanding of selected areas. As always, the breadth of AI allowed us to invite a range of guest lecturers who are experts in various AI fields, supplementing the primary lectures given by our core faculty.

We continued to include PASS/FAIL elements such as a programming assignment on Logic and Planning, online quizzes after lectures, and an essay on AI ethics and societal aspects. The final grade A-F is still determined by a set of three main programming assignments that are typically conducted in pairs and evaluated both on Kattis and through in-person presentations to the teaching team.

One significant change we made this year was the transition to requiring physical presence for student presentations, tutorials, and labs. This decision was driven by our teaching team's experience from previous years that face-to-face interaction could better facilitate the detection of academic misconduct. Additionally, the on-campus format enhanced the richness of student interactions during tutorial and lab sessions. However, recognizing the convenience of digital tools for both students and the teaching team, we continued to offer recorded lecture videos from the COVID-19 and facilitated student consultation through Zoom/ KTH queue.

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?

The students' workload for this iteration of the course generally fell within expected parameters. Feedback from the students, as well as data gathered from the course evaluation questionnaire, indicated a median workload centered around 15-20 hours per week. This aligns closely with our intended workload target of 40 hours per 1.5 credits.

Some students, in their open questions reported that the Hidden Markov Model (HMM) lab was more time-consuming compared to the other labs. Conversely, ffeedback from student representatives highlighted that a particular module of the course (Reinforcement Learning) is much less time-consuming than the others, leading to a less effective learning experience and extremely variable weekly workloads. In the next course iteration revisions are already planned to correct this imbalance.

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?

In line with the trend from previous years, where close to 20% of students do not achieve a passing grade, the performance on the course this year remained consistent. This continuity in results alongside the positive feedback we get from students may indicate that the learning outcomes are likely achieved as expected and reflect both the effectiveness of the course structure and the commitment of most of the students. This stability provides a strong foundation upon which we can continue to enhance and evolve the course.

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

The students' feedback to the open-ended questions ranged from specific advice on how to navigate the course to general impressions of their learning experience. They provided general practical tips such as starting labs and quizzes early, keeping up to date with the material, asking questions during lectures, and developing good coding practices. They also emphasized the value of consistent and regular study habits.

The little negative feedback we received was mainly on the open questions related to the students' workload, which was covered in the two sections above. Some students also mentioned that they would appreciate more guidance on the assignments, especially for those who may not have had all the prerequisite knowledge. It was suggested that making expectations clearer in terms of what aspects of the assignments would be assessed in the presentations could be beneficial for future course iterations. We have identified the root cause of these issues and will improve the assignment causing them.

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

Overall, the students considered the course a positive learning experience, which is reflected in the high LEQ scores, with most dimensions of their learning experience approaching 6 on a scale from 1 to 7. Students particularly appreciated the practical applications of AI, which were visible in the labs, and the support from the teaching assistants. However, they expressed some concerns regarding workload balance. In general, students offered constructive feedback and valuable suggestions which we will take dearly for further enhancing the course in future iterations.

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 teaching team felt satisfied with this year's course offering, especially in terms of student outcomes and their overall evaluation of the course. It's good to observe that the course has maintained consistent levels of student achievement and that feedback from the students was broadly positive. The high LEQ scores indicate that students continue to find the course beneficial and engaging, and their constructive feedback has been invaluable in identifying areas for further refinement, especially regarding workload balance.

Regarding the changes implemented this year, we believe that moving back to in-person presentations and tutorials has been beneficial. It has helped in better detecting academic misconduct and fostering meaningful interactions among students, which is crucial for a subject like AI, especially with new technologies that might make misconduct easier. The continuation of online resources like lecture videos and platforms for student consultation were also seen as useful additions, offering flexibility and accessibility to our students.

In conclusion, while we are pleased with the overall performance and feedback, we recognize that there is always room for improvement, and we will remain committed to continually refining the course to enhance student learning experiences.

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?

Stronger areas in the learning environment are tied to the course's practical components and teaching assistant support. Students value the hands-on experience in the tutorials and programming assignments where they can directly apply the concepts taught. The teaching assistants have also played a vital role in fostering a conducive learning environment, with students expressing appreciation for their support throughout the course.

The reported workload distribution and student feedback indicate the course's workload could be a potential area for improvement. While the workload seems broadly in line with the expected hours for the course's credit value, there is considerable variability in load in each of the main assignments in the course. This could be attributed to factors such as the complexity of some modules and the varying levels of background knowledge among the students. This highlighted the need for adjustments to the course to ensure a more consistent learning experience for all students.

In terms of the potential differences in experiences between different groups of students:
Gender: The data provided indicate a slight difference in the course experience between students identifying as female or male. Male students appear to have a slightly higher appreciation of the course. This issue will be investigated further.
International/National students: Similarly, the available data does not indicate significant disparities between the experiences of international and national students.
Students with/without disabilities: The data provided also does not include any insights into potential differences in experience for students with disabilities.

Going forward, it could be beneficial to incorporate further ways to capture feedback from these different student groups to ensure their unique needs and experiences are being addressed effectively within the course.

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

In terms of priority areas for development, we are focusing on the following:
- Adjustment of Programming Assignment Difficulty: Both student feedback and our internal evaluations highlight the need to balance the difficulty levels of the course's three main programming assignments. In the short term, we are in the process of revising these assignments, using student feedback as a guide. Over the long term, we commit to continuous review and adjustment of these assignments to ensure they remain relevant, engaging, and properly challenging for students.
- Assessing Challenges and Opportunities with LLMs in our course: We acknowledge the growing usage of Large Language Models (LLMs) as both writing and programming aids and understand their potential impact on assignment difficulty and integrity. In the short term, we are incorporating discussions and case studies around LLMs into our ethics lecture and assignment, helping students to understand and responsibly navigate these new tools. Over the long term, we aim to adapt our course to leverage these technologies positively. This may necessitate making our programming assignments more challenging, but we will continuously assess this aspect.
- Continual Course Content Update: Updating our course content to stay timely and relevant is a constant objective. This involves regular curriculum reviews, seeking feedback from our students, colleagues, and industry professionals, and staying informed about the latest research and developments in AI. We are committed to maintaining the course's relevance and quality through this ongoing effort.
- Diversity and Inclusion Efforts: While diversity and inclusion were not explicitly mentioned in the student feedback, we recognize the importance of an inclusive learning environment. In both the short and long term, we plan to gather more detailed feedback from various demographic groups within our student body. This information will guide adjustments to our teaching approaches and course materials, helping us better accommodate diverse learning needs. As part of this effort, we will include a more comprehensive questionnaire in the next course iteration to better understand the slight differences in gender from the LEQ ratings.