Report - ML150X - 2022-07-01

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.

The course evaluation included an LEQ survey with a response rate of 4 / 24 students representing 16,7% of the cohort of this year. Students responded the survey at the end of the course between May 15 and 29 of 2022.

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 and examiner met students continuously before and during the course. We held two meetings prior to the start of the courses in November of 2021 with bachelors' students. These meetings included an explanation of the goal of the course, examples of projects, important dates in the course, topics relevant for a thesis report, and way of working with supervisors. Additionally, the course responsible met students during each of the four lectures (January 21, February 4, 18, and 25) and its two mandatory seminars (March 24 and May 30). Additionally, the course responsible met students continuously to clarify requirements, offer advice on writing, or general questions about the course (e.g., presentation or formatting of report). The course responsible met with the examiner for discussion changes to the course in its next edition.

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

Efter genomgången kurs ska studenten kunna:
ILO 1 - Visa kunskap om det valda ämnesområdets vetenskapliga grund och tillämpliga metoder, orientering i aktuellt forsknings- och utvecklingsarbete samt visa fördjupad kunskap inom någon del av ämnesområdet.
ILO 2 - Visa förmåga att kritiskt söka, samla och använda relevant information samt identifiera sitt behov av ytterligare kunskap.
ILO 3 - Visa förmåga att formulera, bedöma och hantera problem och kritiskt diskutera företeelser, frågeställningar och situationer.
ILO 4 - Visa förmåga att planera och med tillämpliga metoder genomföra uppgifter inom givna tidsramar.
ILO 5 - Visa förmåga att muntligt och skriftligt i dialog med olika grupper redogöra för och diskutera information, problem och lösningar.
ILO 6 - Visa förmåga att göra bedömningar med hänsyn till relevanta vetenskapliga, samhälleliga och etiska aspekter.
ILO 7 - Visa sådan färdighet som fordras för att självständigt arbeta inom någon del av huvudområdet teknik.
ILO 8 - Visa förmåga att göra bedömningar av SDG (Sustainability Development Goals) och deras avvägningar för att identifiera och lösa relevanta vetenskapliga och industriella problem inom teknikområdet.
Kursens huvudsakliga innehåll
•Ett givet gemensamt huvudtema inom vilket studenterna självständigt ska formulera sitt eget problem
•Stödjande föreläsningar kring vetenskapligt arbete: informationssökning, referenshantering, m.m.
•Muntlig presentation av slutrapport på KTH och på utfört företag
•Under hela kursen: självständigt arbete med problemformulering, informationssökning, projektplanering och projektuppföljning, muntliga presentationer och rapportskrivning
Beskrivning av lärandemål och kriterier för pass i ML150X
ILO 1 Beskriv det valda ämnesområdets vetenskapliga grund och tillämpliga metoder, orientering i aktuellt forsknings- och utvecklingsarbete samt visa fördjupade kunskaper för att lösa avancerade problem inom någon del av ämnesområdet.
ILO 2 Beskriv sökning, insamling och användning av relevant information och behovet av ytterligare kunskap för att lösa avancerade problem.
ILO 3 Beskriv formulering, bedömning och hantering av avancerade problem och kritiskt diskutera fenomen, frågeställningar och situationer som leder till deras lösning.
ILO 4 Beskriv en plan inklusive tillämpliga metoder för att utföra uppgifter för att lösa avancerade problem inom givna tidsramar.
ILO 5 Analysera, redogöra för och diskutera muntligt och skriftligt för olika grupper inklusive information och lösningar på avancerade problem.

ILO 6 Analysera vetenskapliga, samhälleliga och etiska aspekter av ditt ämne och deras bidrag till att lösa avancerade problem
ILO 7 Beskriv självständigt lösningen på avancerade problem inom teknikens huvudområde inklusive förmågan att delta, testa, utvärdera information. Gör bedömningar, hantera effekter och vidta åtgärder för att förbättra arbetet baserat på feedback från kollegor, handledare och examinatorer.
ILO 8 Beskriv förhållandet mellan den föreslagna lösningen på avancerade problem inom teknikområdet och SDG (Sustainability Development Goals). Analysera vikten av lösningen, dess avvägningar och presentera idéer för att utveckla framtida arbete för att uppfylla SDG och förbättra hållbarhet.
We provide students with a document describing each learning outcome, its grading criteria, and content and section of report for fulfilling the learning outcome.
The course design includes several changes since its last offering with the purpose of supporting constructive alignment. These changes include:
•Designing learning activities including preparatory work, active learning, and peer feedback corresponding to the learning outcomes.
•Rubrics specifying the grading criteria for each learning outcome, design of teaching and learning modules corresponding to the learning outcomes.
•Specification of learning outcomes and chapters of a thesis report, self-evaluation and peer review activities applying learning outcomes and their grading criteria.
•Feedback from course examiner, supervisors, and course responsible based on intended learning outcome and grading criteria.
•Meetings including supervisors, course responsible, and examiner before, during, and after the course for discussing supervisions, grading criteria, report structure, and evaluation.

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?

ML150X is a 15,0 course corresponding to 400 hours of student work between January and May. The results of the LEQ show that one student worked between 27 and 29 hours, one student worked between 24 and 26 hours, one student worked between 18 and 20 hours, and one student worked between 15 an 17 hours a week. This results show a reduction of time spent by students in this course when compared to that of last year. This difference may be explained by a lower attendance to class from students this year, and the corresponding preparation for each module.

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?

23 students passed the course and one student did not submit the final report on time.

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

What was best about the course?
•⬚Clear structure in lectures that helped student with the writing of the report.
•⬚Writing a report including collaborative work with companies focusing on specific tasks.
What would you suggest to improve?
•⬚Thoughtful feedback and constructive criticism on writing that could help students avoid fatal flaws. Student emphasize the importance about the timeliness of feedback
•⬚Differences of opinion from supervisors, examiners, and course responsible regarding the written report.
•⬚Writing of an academic report and managing its iterations.
What advice would you give to future participants?
•⬚Start working on the report on time and doing so continuously.
•⬚Focus the content of report on material covered in lectures and feedback from examiner.
Is there anything else you would like to add?
•⬚Carefully selecting supervisors involved in the course

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

I worked with interesting issues (6,80)
The course was challenging in a stimulating way (4,00)
The intended learning outcomes helped me to understand what I was expected to achieve (3,80)
I was able to learn from concrete examples that I could relate to (4,00)
Understanding of key concepts had high priority (4,00)
The course activities helped me to achieve the intended learning outcomes efficiently (3,80)
I could practice and receive feedback without being graded (3,20)
The assessment on the course was fair and honest (5,50)
My background knowledge was sufficient to follow the course (4,20)
The course activities enabled me to learn in different ways (3,80)
I was able to learn by collaborating and discussing with others (4,20)
I was able to get support if I needed it (4,50)

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.

Students in the cohort of this year struggled with language proficiency, grammatical mistakes and rhetoric despite continuous invitations to use the services from the library.
Attendance to non-mandatory sessions was low. These sessions included detailed explanation of learning outcomes, grading criteria, and examples proposing how to address major concerns. Similarly, it was apparent that students were not familiar with the material necessary for working in each module.
This year included a larger number of individual reports than previous ones. This was problematic for both assigning supervisors and providing timely feedback. Similarly, the larger number of individual reports required booking additional sessions for presenting half time and final results than those planned originally.

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?

Strong areas included
1.⬚I worked with interesting issues (6,80)
16. The assessment on the course was fair and honest (5,50)
22. I was able to get support if I needed it (4,50)

Weak areas included
12. The course activities helped me to achieve the intended learning outcomes efficiently (3,80)
19. The course activities enabled me to learn in different ways (3,80)
15. I could practice and receive feedback without being graded (3,20)

PRIORITIZED COURSE DEVELOPMENT

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

Future work for supporting student learning includes

Developing student feedback literacy. This could involve the design of learning activities that help students make sense of information various sources, and their work on learning strategies. Specifically, teaching and learning could focus on appreciating feedback from diverse perspectives, making judgments, managing affect, and taking action.

Distributing modules along the course instead of having all teaching and learning opportunities at the start of the course. Accordingly, students can raise concerns and discuss solutions to problems that correspond to the completion of their work.

Mandatory written reflection and peer feedback originating from the reading of preparatory material in Canvas prior to every teaching and learning opportunity. This could help students familiarize with essential terms for learning the principles of academic writing that can help avoid fatal flaws. Additionally, students can practice writing and receiving feedback continuously.

There is a need for grouping students in thesis projects and reducing the number of projects. This is important for limiting the workload of the examiner and supervisors. After discussions with the examiner, the suggestion is having group thesis exclusively in the next offering of the course.

Maintaining a continuous discussion involving supervisors, examiner, and course responsible prior to and during the course. The intent of this is that of sharing best practices, generating consensus on learning outcomes and grading criteria, and motivating corrective actions.

OTHER INFORMATION

Is there anything else you would like to add?

N/A