



Report - HN2023 - 2021-05-10

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 process was continuous throughout the course, using:

- Three voluntary surveys: at the beginning, in the middle of and on the final seminar day of the course, focusing on the students goals, expectations, ambition, learning, collaboration, as well as on what was challenging and what was valuable.
- 9 voluntary Short Reflective Written Assignments, one at the end of each course day focusing on learning and collaboration,
- Two Individual Assignments via CANVAS: at midterm and at the end of the course, focusing on discussing and reflecting on different themes related to the course.
- Discussions with the students and the project groups continuously during the course
- KTH LEQs Course Evaluation Questionnaire on the final seminar day,
- Additional meetings when warranted
- In addition, an optional feedback meeting after the course ended was offered. This, to discuss the course and the project between the students in each group and the teachers.

The course design and its learning activities, e.g. seminars and workshops also included themes on diversity, e.g. regarding cultural and educational background.

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.)

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 - Additional meetings when warranted.
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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.

This is a Challenge Driven Education (CDE) course, where the students work with a real societal project in part of the course, trying to contribute to achieving the United Nations Sustainable Development Goals (UN's SDGs). The course design includes lectures, workshops, seminars, laboratory work, supervision, reflections and other assignments, and an applied project, where the students are required to be the driving force and collaborate with different stakeholders. The course design also includes deliverables and assignments such as presentation of the progress of the project, project diaries (approximately one each) and reflective assignments. This course design was chosen to provide theoretical knowledge and experience-based knowledge and skills on solving challenge based problems with focus on the United Nations Sustainable Development Goals (UN SDGs) and ergonomics in product development. Topics included:

- The sustainability concept, SDGs, and challenge-driven development
- Physical, system, and cognitive ergonomics, the HTO-perspective, Injury risks and their effects, and risk management,
- Design Thinking and Ergonomics methods
- Creativity, group dynamics, collaboration, project management, and evaluation methods

The course was designed with nine teacher-led course days "in class", which this year, in contrast to the previous year due to the Covid-19 pandemic, mainly took place via Zoom. Only the laboratory work sessions (2 sessions, each 2 hours), took place on campus. The nine course days were scheduled approximately to every second Thursday. Many of the learning activities included reflections, e.g. on the collaboration, team work in the course and the learning process.

This year was the second time the course was given. The main change compared to last year was that the course was only given for students studying in Sweden, and in contrast to the previous year not for students at both KTH and at the Botho University in Botswana. In addition, the students solely worked on a Swedish societal challenge. The main reason for this was to develop evaluate the possibilities for and establish a Botho University course in which this course would be a part. This takes time. The plan is that in the autumn 2021 also students from Botho University will follow the KTH-course's learning activities as part of a CDE Botho University course.

The examiner, after consulting the KTH Disability Coordinator (Funka), decided on adapted examination for students with documented special needs, e.g. prolonged exam writing time.

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?

Five of the courses in total eight students filled in the LEQ. (One of the students, from another university in Stockholm, was not eligible to fill in KTH:s LEQ.) The responses from the five students regarding how much time they spent on the course varies very much - from 9-11 hours to over more than 45 hours. The calculated average for the five student's who answered the LEQ is 25 hours per week, which is considered as high for a 7.5 credit course that runs the whole autumn term. This is noted by the course management and will be considered in the course design the coming year. On the other hand, there was only one comment in the LEQ about the workload: "It was not too many hours comparing to other courses".

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?

Out of the eight students who followed the course this year, all have passed all three examinations (TEN 1 - 3 credits, PRO 1 - 3 credits and ÖVN 1 - 1.5 credits) after the Easter re-exam period and thereby passed the whole course. The students acquired the following final grades: A - 6 students, B - 1 student, C - 1 student. Six of the seven students who wrote the exam at the end of the course (January 2021) passed it. Two students wrote and passed the written exam in the Easter period exam. In comparison to the previous year, there are no significant differences in the students' results.



STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

The feedback from the students during the course and on the LEQ open questions in general signal that they liked the course and its design and that they express that they learned a lot, e.g. by practically working with a real societal challenge in an applied project.

The answers from discussions during the course and to the open general questions in the LEQ indicated that the students perceived the best aspects of the course were the topic and the course design – e.g. “Working in a challenge-driven project, learning design thinking concept, and dealing with the UNSDGs directly” and “to learn how to reason about the main topic”. The answers on what they suggest to improve mainly deal with rather having half day teacher-led learning activities every week instead of a full day every second week, e.g. “Having more lectures (for 2-4h) every week instead of having 8hs lectures each two weeks.” This has been considered and the course design changed, so when the course is given next time (autumn 2021) there will be teacher-led learning activities approximately a half day each week instead of a full day approximately every second week. Advice from the students to future course participants included to be engaged in the course from the beginning, e.g. “Participate the group work actively!”

SUMMARY OF STUDENTS' OPINIONS

Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

Based on discussions with the students and reading the LEQ, I as course leader, perceive that the students found the course interesting, that they learned a lot and that they appreciated that they took the course. All 12 topics included in the LEQ survey were rated on a seven-graded scale where 1 = “No, I strongly disagree with the statement”, 4 = “I am neutral to the statement” and 7 = “Yes, I strongly agree with the statement”. The average scores in the LEQ ratings was 6.2, with the lowest score (5.6) for the statement “I was able to learn from concrete examples that I could relate to”. Although this is on the “positive” side of the rating scale, it is somewhat surprising. One hypothesis to this is that the course design adopted to pandemic conditions led to less contact with real stakeholders and end-users than would have been the case without the pandemic. However, generally seen, no weak areas are displayed, e.g. not in the overview diagram “Average response to LEQ statements - all respondents” in the LEQ questionnaire report.

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.

Short version: “Good”. Also, given the changes made to the course in its 2020 run due to the pandemic, with almost only learning activities via Zoom, my overall impression is that the students were offered a course rather well adopted to the Covid-19 situation. In addition they all reached the learning objectives.

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?

During the autumn 2020 almost all scheduled learning activities were converted to digital activities at KTH. It would have been preferable to have on-campus lectures, workshops etc., but the feedback from the student is that they are rather content and happy how the course worked out. This year 7 out of the 8 course participants were students in our international Master's Programme “Technology, Work and Health” and one was a PhD student from Karolinska Institutet and there was a rather large diversity in the student group with students from Sweden and other continents, students identifying as women and as men. No significant differences were noted between national and international students, between female and male students, or between students with or without disabilities.



PRIORITIZED COURSE DEVELOPMENT

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

The feedback from students and the discussion with teacher colleagues at both KTH and at Botho University have led to three main suggestions for short term course development aims, which are planned to be implemented the coming course round (2021):

- 1) Change the name of the course so it becomes "Ergonomics in Challenge Driven Product Development". This has now been accomplished and new course code provided: CH2008.
- 2) To provide the KTH course as a 7.5 KTH credits course again but to and run it with students from both KTH and from Botho University, where the latter take a Botho course equivalent to 10 KTH credits whereof the KTH course forms 75 % . This design enables the students to work in mixed groups from both universities with a Swedish and a Botswanan challenge.
- 3) Change the course design so it has scheduled teacher-led learning activities 2-4 hours approximately every week (Thursdays before lunch) instead of 6-8 hours every second week.

In addition, the students' workload will be monitored and already now, some smaller changes in assignments and other course deliverables are planned for the coming course round.

One long term aim is to enable also students from other programmes at KTH to take the course.

OTHER INFORMATION

Is there anything else you would like to add?

It has been exciting, challenging and rewarding to develop and carry out this course in comparison to other more traditionally designed courses I have developed and run at KTH. For example, I received KTH's Global Development Hubs Teacher Award 2020 for the development of and running this course. I interpret the award as me being a representative for all the colleagues at both universities who put a lot of creativity, effort, skill and knowledge to make this challenge driven course possible. I believe that, to equip our students with competences needed to help solving the challenges we face and will face in the future, it is important to train the students' skills to work with real, open-ended societal challenges and also in multicultural collaborative contexts. I hope and believe that this course contributes to that. The collaboration with colleagues both at KTH and at Botho University, as well as with stakeholders in Sweden and in Botswana and with students at both universities has been very stimulating and increased our competences and networks. It has also brought much joy and I believe it contributes to equipping the students with important skills in their future working lives and for them to be able to contribute to the UN SDGs.
