



Report - MJ2412 - 2021-07-22

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.

The course are attended by KTH students, UPC students and UNITE! university alliance students. The KTH students are given the course evaluation (LEQ) survey that they can fill in on Canvas Learning Management platform and the UPC/UNITE! students who do not have the possibility to fill in the course evaluation on Canvas were given the opportunity to fill in the evaluation offline and to submit their feedback by email. The equality and fairness including gender aspect and students with disabilities are addressed in the survey questions "The assessment on the course was fair and honest", "Please comment on the course from this (gender) perspective", "Please comment on the course from this (disability) perspective" and an open ended question "Is there anything else you would like to add?" allows the students to freely express themselves.

Three weeks were given to the course participants to respond. In total 18 answers were submitted online and 2 were sent in by email. The response rate was 26%, the slight drop in response rate as compared to 32% from 2020 may be due to that there were more UPC/UNITE! students in 2021 who didn't have online access to the evaluation survey.

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.)

Due to the COVID pandemic, many physical meetings were moved to other forms of communication platforms. Students were encouraged to send in by email or to book individual online meetings for additional discussions on the course. Two of UPC and UNITE! program students have sent in their appreciation of the course management by email after the course completion.

COURSE DESIGN

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

Due to COVID pandemic, a number of changes have been made. All lectures and tutorials have been moved online with live meetings through Zoom. The physical lab sessions have been cut down to smaller groups of max 5 students where all precautions with hand sanitizer and masks were provided. The exams were changed to take home exam with randomized input to minimize copy-pasting among the students and an additional essay section in the exam was put in place.

Wind module has now been changed to include a specific exercise tutorial session to train the students for the project.



THE STUDENTS' 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?

This 6 ECTS course was given over a period of 8.5 weeks, the expected work level would be 6ECTS/1,5ECTS*40 hr= 160 hr. From the students' response of average 12 -14 hr work/week, a total of 12*8,5=102 hr to 14*8,5=119 hr were spent by the students. The comments from the students vary from "no need to study or exercises" to "We had lectures 3 or 4 times in a week and we had also to work for the project-SEE". The difference between the different work load announced by the students is possibly due to their various background. Energy engineering students would find the course less demanding while students with other majors would require more self study.

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 this year's intake, 52% obtained an A, 39% obtained a B, 4% C or D and 4% F. As compared to the previous year, the percentage of students obtaining an A has more than doubled, the percentage of students having a B has increased by half, while the share of C and D have been reduced drastically by ten folds. This significant increase in students' success is mainly due to the change of on campus exam to take-home exam with an essay part that require more subjective input.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

Positive feedbacks are, "This course made me be sure about wanting to work on renewable energies and give my contribu(tion) to inverting global warming.", another student wrote "That was I think the best course I've attended here at KTH so far - thank you so much, learned a whole lot of new things!". The choice of teachers was also appreciated: "The fact that it has professors that are experts on their areas and don't just teach for a living.", "The variety of technologies and the feeling that it was 'the real deal' that we were working on!" Furthermore the project, the lab and the solar part were liked by the group.

The suggested improvements are on Canvas platform as it is "not so user friendly", online lecture interactivity and the lower weighting of the essay. Requests on more labs and fewer topics but deeper into the fields are also suggested. Finally the wind lectures with the external lecturer were suggested to be updated. As a flection, Canvas will be continuously updated with functionalities by the service provider, the online lectures due to COVID will be shifted back to face to face lectures in 2022 according to the health authorities and KTH, the essay will be tuned down for less weight. Arrangement will be made in 2022 to start new courses that will delve deeper into the different technical fields.

SUMMARY OF STUDENTS' OPINIONS

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

The questionnaire outcome has been mainly positive with suggestions as shown in the previous section. Very useful comments from the students to the future batches of course participants are "Do exercises throughout the course.", "Give your best in the projects." and "Enjoy it".

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.

Since the last course offering, the students feedback on 7. The intended learning outcomes (ILOs) helped me to understand what I was expected to achieve and 14. I received regular feedback that helped me to see my progress have increased by 0.5 to 1 point out of 7. This is mainly due to the fact that all ILOs have been presented by the course responsible and teachers at the start of each module, a regular active Q&A from the course responsible and teachers to the students questions also marked the appreciated overall impression given by the course responsible to the students.



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?

In general, female students provide up to 1 point higher evaluation score than the male students. The positive comment on "I felt really inclusive in this course and I enjoyed collaborating with my group members" shows the inclusivity of the course and the way the activities in the course pull students together no matter the gender, culture and disabilities.

Comparing the scores provided by the master level students to that of the exchange students, the international exchange students gave 0.4 to 1.9 points higher scores in all the 22 indicators. See figure "LEQ per type of students". This is a direct acknowledgement of the course responsible looking out for inclusion of students no matter their background. An extra short presentation on KTH rules and regulations was indeed given during the kick-off session addressing some of the major caveats and pitfalls encountered by exchange students as seen over the past years: registration for the exam, no show at the lab, project work during their off time, etc. This helped the students and raised the score from the international exchange students.

PRIORITIZED COURSE DEVELOPMENT

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

A specific comment came out from one of the students, "The exercise on wind power would preferably have been placed earlier in the course to get more time to understand the important concepts and to implement them in the project. /.../ The extra/additional assignment on the lab was very difficult and very hard to grasp (Calculating the equilibrium concentrations). I would have preferred a solution/tutorial session to that after the deadline of the lab-reports to fully understand it. Otherwise great course, thank you!". The near future development for the up coming intake will be to move the wind exercise to an earlier stage and to provide a hands-on tutorial on the bonus assignment in the lab so that more students will be able to make the bonus calculation.

OTHER INFORMATION

Is there anything else you would like to add?

In general the students are very satisfied with the course, the comment on "the best course I've attended here at KTH" has been conveyed to the different teachers contributing to the course and has made their days. The overall level of students review score has increased by 1 point since Assist. Prof. Justin NingWei Chiu took over the course in 2019, and it has been on the same good level since 2020.