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.
All students were invited to be part of the course committee. Two students volunteered for this. The course committee has met once during the course with the course coordinator, and will meet once after the course evaluation is completed to discuss the course analysis. Also, all students were invited to give feedback directly to the course coordinator and there has been possibility for students between and after lectures to ask, discuss, give comments about the course.

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.)
Course committee meetings
- One meeting with in the middle of the course period. Practical concerns were brought up concerning getting access easily to lectures in zoom, how to compensate for missed attendance, certain functionalities in canvas etc. We also discussed procedure to select projects, which was stressful for most of us and some students were a bit disappointed.
- One meeting planned after completing the course evaluation, to discuss the course analysis
- All students have been able to meet with the course coordinator between and after lectures

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

The course had a new course plan this year. This mainly involved clarification of intended learning outcomes (ILO) and assessment criteria. It also added one new ILO concerning uncertainty. One examination module was removed compared to last year (Critical review 0.5hp, which is not included in the project). The course design however remained the same as under the previous course code (AG2800)

The course examination consists of the following parts:
- PRO1 - Project work, 5,0 hp, betygsskala: A, B, C, D, E, FX, F
- TEN1 - Home exam, 2,5 hp, betygsskala: A, B, C, D, E, FX, F

Scheduled learning activities
- Lectures: 20 h (added one to cover uncertainty, all on zoom this year, recorded and posted on canvas)
- Computer labs: 12 h (x2, since we split the course in half for labs)
- Supervision meetings with project groups: 4 h/group
Own studies, estimated time
- Attending lectures and studying course literature: 1 week
- Completing home exam: 5 h
- Project work: 3.5 weeks
- Critical review and final revision of report: 0.5 week

This year about 75 students attended the course, the same high number as last year. The course was also run entirely with distant learning. This generated a lot of extra work for teachers, but overall my impression is that we managed to deliver the course within resources available.

A major challenge was having computer labs online, using KTH remote lab solution. This was a bit inconvenient to students because of slow remote connection but overall it worked out well.

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?

About 45% spent 15-25 hrs/week, which is reasonable. 20% spent 12 hrs or less, and 11% spent 30 hrs or more on the course. This probably reflects quite well the different ambition levels of students. This is mirrored by the variety of comments from students in the course evaluation, where some find the course moderately demanding and some say that it should be worth more than 7.5 credits.

There is always a risk of uneven work distribution in group projects, so that more time is spent by a few students. The course design tries to prevent and minimize that risk, but most time is spent outside class and planned independently by groups, so this is difficult to supervise.

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?

Student performance is similar to previous years, which is a good achievement under the certain circumstances of distance learning

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

Positive feedback fro mstudents:
- course is well designed
- inclusive
- demanding but meaningful
- good combination of theory and practice
- good canvas page
- good support from teachers
- good lectures
- good design for social interaction with teachers and other students
- well adapted to online

Things that students would like to change:
- stressful start of the course
- improve group formation process (more managed by the teacher)
- de-motivating to not be able to improve the grade of the report after the final seminar
- too much focus on the report instead of content
- would like to have more invited lecturers from industry
- should be worth 10 credits
- not all lectures were relevant
- more exercises should be included
- final seminar would be good to run before exam week
- canvas page design can be more simple
- more feedback from teachers on report at mid term
- improve grading criteria
- remove grading of students in relation to others in the group
- place last supervision meeting later in the course
- some questions in the exam were a bit unclear
- the course project was a lot of pressure

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

The list of recommendations to future students include very insightful comments. One gets a sense that the students grasp the purpose of the course design, why things are organised in a certain way etc. Most feedback from students are very enthusiastic, bot concerning teachers /supervisors, course design, social work environment. It is however perceived by some as stressful. It takes a lot of time (not confirmed though by the reported number of working hours, which for most is around or below 20 hrs/week) but all say that they learned a lot.

Opinions from the first course committee meeting was that there were mainly some practical issues to solve. Apart from that the course was running well at the time.

Opinions from second course committee meeting (after finalized course)............

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.

Positively surprised that it was possible to deliver the course 100% digitally. It was stressful, required some creativity, but turned out well. The only change apart from online teaching was to add "uncertainty" to ILOs, incl a lecture about this and questions on the home exam. This seems to have raised the level of understanding about uncertainty and how to handle it a bit compared to previous years.

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?

Female/male: No significant difference observed in course evaluation

International/national students: No difference related to international/national master's students, but rated higher than average by exchange students. A specific comment in this regard was that the course work environment was inclusive

Students with/without disabilities: Not reported in the course evaluation

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

Students suggest some improvements, many of which have however already been considered previous years but need to be balanced against available resources.

A desired improvement, that has been considered for many years, is to include more calculation exercises as preparation for the exam. Adding this is a matter of time and resources. The course working time does not allow more than minor course development and this has not been seen as a high priority. It will still be considered for next year. Ideal would be to give some (maybe compulsory?) calculation assignments to go through at short seminars, possible including peer correction (there is no time for teachers to do additional correcting). A further development could be to replace some parts of the home exam by these assignments+seminars+peer correcting.

Process for selecting projects with more involvement by the coordinator could be developed. Maybe done in two steps, to give students more time to reflect on what they want to work with. This is necessary of the course will run online next year as well. It must still allow students to influence project topics, as this is highly appreciated. It is also is good for learning to work on topics that you enjoy

Suggestions from the last course committee meeting:
-Add time to project supervision for asking simapro related modelling questions. This would have to be at the expense of less supervise time in the computer lab. Not clear what is the best priority for both teachers and students.
- Require simapro demo and tutorial to be completed (require submission of results?) before first supervision meeting, to ensure that all students are on track by then. Otherwise there is a risk that some students in a group will lag behind the rest, leading to very uneven learning
- Scheduler in Canvas did not work well for some students. Change to doodle or other scheduling tool (´supervisors can set up their own doodle)
- Add more lectures about LCA career path (we have a bit of that, maybe add more?)
- Explain better to students why we do not let them raise the grade of projects after final seminars and final revisions