Report - CB1030 - 2020-11-13

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 an online LEQ course evaluation survey, consisting of 12 standard evaluating questions. Students were able to tell us their gender, and disability status, if they wanted to. We had 26 students out of 72 answered course evaluation survey, giving a response ratio of 36%.

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, we had 5 in-classroom seminars and 2 online flipped classroom sessions, where students were free to discuss course topics with teachers. The students were also encouraged to contact the examiner and course responsible by email or via Canvas if they have specific questions to the course topics or administrative issues.

COURSE DESIGN

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

This course is developed through collaboration between the philosophy division and the CBH school. The teachers are Johan Berg (johan.berg@abe.kth.se), Martin Rissler (mrissler@kth.se), Henrik Lundvall (henrik12@kth.se), Amparo Jimenez Quero (amparojq@kth.se), and Qi Zhou (qi@kth.se). The course is consist of the following teaching and learning activities: (1) an introduction lecture on how the course is structured and how intended learning outcomes are assessed, (2) 8 pre-recorded online video lectures covering topics of scientific knowledge, scientific inferences, observation and measurement, experiments, models, statistics, explanations and causes, research ethics, (3) 2 online flipped classroom sessions discussing topics taught by video lectures, (4) 5 seminars including I. Definitions, operationalizations and hypotheses, II. Designing a scientific study, III. Interpretation, analysis and evidence, IV. Research ethics, and V. Critical discussion of examples of biotechnology research. The pre-recorded lectures are given by Prof. Till Grüne-Yanoff. For each video lecture, there is an associated quiz, testing your understanding of the content. For the seminars, there are preparation quiz and preparation for in-class discussion of questions relating the course concepts. The attendance to the seminars is compulsory, and we have offered additional seminars and compensation exercises due to the Covid-19 situation. The home written exam consists of two parts. The first part of the exam primarily tests your ability to account for, or describe, course concepts as well as the ability to apply these concepts to biotechnology example cases. This part contains two questions of this nature and invite brief essay style answers. The second part of the exam is intended at testing your ability to critically analyse and discuss course concepts and their application. Both seminars and written home exam are graded as Pass/Fail.

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 student's workload from the 26 students was mostly 6-14 hours per week, this was comparable to the expected level for the course of 3.5 credits (93 hours/9 weeks). Some students spent a lot of time with the quizzes associated with the video lectures to achieve the correction threshold 14 out of 15. Since we don't have bonus system with video quizzes, we will modified threshold in the future. In general, both students and we teachers believe that the course workload was reasonable.

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?

The students are very successful on the course although we are in the difficult pandemic period. They followed the online video lectures and associated quizzes very well. They were very active in the discussion in the in-classroom seminars and online flipped classrooms. They impressed us a lot with their written home exam. They provided correct accounts of concepts and theories, and presented independent and well-argued discussion of the definitions and applications of concepts and theories to specific cases in biotechnology field. 71 out of 72 students passed written home exam fist time.

STUDENTS´ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

In general the students appreciated the pre-recorded video lectures that allow them to have access to the content at the beginning of the course and note-taking at a suitable speed. Some of the students have pointed in the interest of tackling philosophical and ethical issues from a Scientific perspective.
The seminars and the quizzes were appreciated by the student in order to fix the theory of the course by more practical cases. It seems by the students answers that the course structure was adequate since the combination of pre-recorded lecture, quizzes and seminars helped them to follow the content of the course in a good tempo.

The students suggested to improve several aspects:
- Have more biotechnology examples during the seminars in order to associate the philosophical concepts to more specific cases.
- A lack on the feedback from the quizzes was mentioned by some students. They mentioned the importance to understand the incorrect answer and not repeat the quizzes until have pass it.
- Some students suggested more interactive seminar but understanding the problems due to COVID this year, it seemed for them risky to have campus seminars.

As an addition to the general questions the students mentioned the difficulties for the normal development of the course due to COVID-19, so some students were feeling uncomfortable attending the seminar on the campus even thought they found them interesting and helpful. The students also added that all the teachers should have a more similar set up for the seminars.

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

From the specific questions:
"Worked with interesting issues" more than 75% of the students answered that they agree with this statement. From the comment we again understand that more biotechnological examples were expected during the course.
"The course was challenging in a stimulating way", in this case 64% agree with this statement while 36% disagree. In the comments some students mentioned frustration about the quizzes set up.
"The intended learning outcomes helped me to understand what I was expected to achieve", for this question 88% of the students were natural or agree with the statement. Only a 12% of the students that answered the questionary seemed to disagree with this statement.
"I was able to learn concrete examples that I could relate to", in that statement the big majority of the students (80%) agreed.
"Understanding of key concepts had high priority", from the 80% that agree in this statement, more than the half strongly agree that the learning of key concept was a priority .
"The course activities helped me to achieve the intended learning outcomes efficiently", here again students seemed to agree (80%) of the answered agree in different degree with this statement.
"I was able to practice and receive feedback without being graded", here the opinions were more diverse but but almost 60% of the students agree and in the comments they pointed again in the interest of the seminars for this case.
"The assessment on the course was fair and honest", 42% of the students were neutral or disagree. From the comments they mentioned again the non feedback from the quizzes or that the final assessment was not being sent by the time they took the survey.
Most of the students agree that in that "their background was sufficient to follow the course" and 80% of the students agree with "the course activities enabled them to learn in different ways". Finally it seems that collaboration and discussion with other students allow them to learn during the course, 88% of the students agree in this point, and 60% of student thought that they had support when needed during the course, while 8% disagree and 32% were neutral regarding this point.

In general the students opinions of the course were supportive and very relevant. The general concern was the presence of more relevant biotechnological examples in the seminars and while explaining the concepts. They seemed to appreciate the course set up but needed more feedback from the quizzes as well as more dynamic seminars.

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.

This is the first time that we are offering the course with the goal to apply concepts, theories and methodology of science to examples from the field of biotechnology and conduct a critical discussion of the methodology of examples of biotechnology research. Students appreciated the structure and organisation of the course in general. We teachers found that students were very open for discussions in the seminars. They did the quizzes before the seminars and were well prepared for the discussions in classroom. We noticed that most of the students took the time to watch the video lectures, and some even made a word list to follow the philosophical concept taught in the lectures and seminars. We encourage our future students do the same.

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 the students answered between 5-6 to the Learning Experience Questionary (LEQ).
-In the aspect of the variation and participation the male students seemed to be more neutral with the statements while female students agreed strongly with them. In another hand male students agree better with the statements about feedback and security than female students.
- More differences were showed regarding international and Swedish students. International students were more confident about their background knowledge was sufficient to follow the course. Contrary the challenging and belonging aspect were more in agreement with the Swedish students. In the same way, national students seemed more confortable with the goals and organization of the course, as well as with the understanding of subject matters. From the answer we could understand that the belonging to the system help in the general understanding of the course organization to the national students compare with the International ones.

PRIORITIZED COURSE DEVELOPMENT

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

We identified a few aspects we should develop and implement in the next round of the course in P1 of HT21.

1. Organise the introduction lecture at the start of the course.
2. Adjust the threshold for quizzes associated with video lectures and arrange specific feedback sessions for quizzes.
3. Develop more specific examples of biotechnology research for the seminar 5.

For long term development:

1. Develop and integrate biotechnology examples into the seminars 1 to 4 in collaboration with KTH Division of Glycoscience.
2. Provide lectures (video or in classroom) to introduce the background knowledge for the examples that we develop and use in the seminars.