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):
Lauren Sara McKee, mckee@kth.se

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, using 12 of the standard evaluating questions. We added an additional specific question about our lab project, which was organised significantly differently this year compared to 2019. We also asked students to rate the five themes of the course from 1-5 on how interesting they were, and how much new information was provided in each module.
Students were able to tell us their gender, disability status, and status as an international student, if they wanted to.

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 comprised many lectures and lab sessions where students were free to discuss course topics with their teachers. In addition, three of the five themes included an exercise (övning) session, where there was a lot more free discussion about what students were expected to be learning, and how they were expected to be able to apply their knowledge to critique published work and design their own experiments. Finally, at the end of the course, the responsible teacher held an exam-prep session, which was a very informal session for students to ask about exam format, grading criteria, etc, and where students were given a large number of practice questions to help guide their revision.

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

The course presents five themes, covering all aspects of medical and environment microbiology, with a focus throughout on the importance of modern genomic and metagenomic sequencing technologies. New for 2020 was a module on the use of metagenomics for clinical diagnostics, with guest teachers from Karolinska hospital and the Swedish health agency.
The biggest change compared to 2020 was in the lab project. This year, the course began with a session where all students proposed a metagenomic study for the whole class to perform - examples included a study of the microbes found in probiotic foods, a study of the microbial community in clean vs polluted waters around Stockholm, a comparison of the oral microbiota of vegans and meat-eaters, and a study of the microbial soil community in forest sites with different histories of forest fire. The whole class voted on which project to puruse, and ultimately it was decided to take a field trip to Tyresta national park for soil sampling.
In the course evaluation, many students commented that this was a great fun way to start the course, and that it kept them very engaged in the lab project, because it was a real research exercise that they had helped to organise. Some mentioned that the planning and sample collection were a little chaotic, so we on the teaching team will work hard to improve our organisation and communication for next year.

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?

In the evaluation, students said that workload varied week-by-week, but most felt they had worked for 9-14 hours in a typical week. We feel the workload is reasonable for an advanced level course. Compared to 2019, we made sure that deadlines were spread through the whole course instead of all coming at the end, so we feel that there has been an improvement in this aspect.

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?

Students impressed us a lot with their lab reports and with their performance on the R programme computer work, where they performed detailed bioinformatic analysis of their metagenome sequencing data. In-class exercises where students discussed recently published articles were also very impressive.
87% of students passed the final exam first time. In 2019, 95% of students passed first time, but overall the passing grades are higher this year than last year, so we believe that the 2020 exam was a more reliable assessment of student performance.

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

With very few exceptions, students found all of the course material to be interesting and to be mostly novel information that they were able to relate to their earlier studies, so we are very happy about this. Students have asked for our guest teachers to give lectures that are better integrated into the overall course, so we will work to improve our communication with them for next year.
Many students commented that the lab project was the most enjoyable part of the course, and we are proud to have given students a realistic experience of designing and performing a research study, including analysis and presentation of data.

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

Overall, we are very pleased with the results of the course evaluation. Aside from a few specific complaints about one exam question or one particular class, all students who completed the evaluation seem to have enjoyed the course greatly, and we feel this is reflected in their performance on course assignments and the lab project.

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.

We teachers are very happy with the course evaluations, and we all had conversations with students during the course that told us they were enjoying the exercises, the reading material, and especially the lab report. In the Human Microbiome theme, we read some quite controversial papers and I was pleased to see students become very invovled in discussions about these difficult papers. We are pleased with student performance on the exam, and with the thoughtful comments that students made on the evaluations. Finally, we are very happy that the new system for planning the lab project was so successful - although we acknowledge that we need to improve our own organisation and communication around this for next year.

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?

From the LEQ evaluations, no significant differences in course perception are obvious for these student groups. Many students expressed in the evaluations and during the course that they were pleased to have easy communication with their teachers - I am hopeful that students felt they could get in touch with me and the other teachers if they were unhappy.

PRIORITIZED COURSE DEVELOPMENT

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

We will focus on improving general organisation and communication during the course. We will also better communicate with guest teachers about what is expected of them, to better integrate their classes into the whole course.

More significantly, we plan to change how the final exam is organised. So far, we have had two separate parts on the exam: Part A is multiple choice and a pass is required, while Part B asks for longer answers and determines the final grade. Next year, we will stop separating these, so that every question contributes to the final grade. This will address the concerns that a few students had about the multiple-choice questions being too heavily weighted this year and in 2019-

OTHER INFORMATION

Is there anything else you would like to add?

I want to thank all of our 2020 students for a great course, and for taking part so enthusiastically in the lab project and in-class exercises. It was really fun for us teachers to see all of your excellent project ideas at the beginning of the course - I wanted to do all of them!! I also really enjoyed debating the quality of microbiome research with students in the Human module, where we discussed the limitation of certain experimental approaches - it was fantastic to see students takin a strongly critical eye to published research, and making great recomemndations for improvements or follow-up work.