**FACULTY
OF SCIENCE**

COURSE ANALYSIS

Date 2021-03-11

Department of Biology
Education- Bachelor's and Master's
level

Main Teacher: Anna Runemark
Number of students: 24
Number of answers: 15
Grades: 0 Fail (U), 11 Pass (G), 13
Pass w distinction (VG)

Course Analysis BINP28 Processing and analysis of biological data, spring 2020

Summary of the course evaluation

Overall the students were semicontent with the course (grade 3.1). The students appreciated the combination of lectures and exercises and literature, but suggested improvement regarding communication and support from teachers during exercises, and a revision of the evaluation form where performance during exercises is graded.

Comments from the teachers team

The teachers on the course considered that it was a steep learning curve to take over the course with logistical challenges due to too few computers and space and a much larger student cohort than previous years. The main course responsible who has developed and know the material has been replaced, and all teachers were new to their tasks. We also underevaluated the number of assistants needed for the new, larger cohort, which resulted in too little time for some exercises. As new course responsible, this evaluation has taught me the importance of clarifying the learning goals, methods and expectations for the course to the students, as well as the help-to-self-help practice during the exercises.

Evaluation and changes made since the previous course

After the previous course the scores dropped. We tried reorganizing the snake-make exercise in response to comments

from previous evaluations, but this led to the variant calling exercise that was combined with snake-make this year was experienced as chaotic.

Suggested changes for the next course

1) Before course start, explain examination basis (rather than just having the guidelines available on line). Explain how the final grade will be calculated (variant calling, amplicon sequencing, project, exam). Tell the students that example exams are available, and tell them when they can ask questions on these. Explain the literature (or absence of) and how the course will be held and what is intended to be learnt. Provide learning goal guidelines at outset, including specifying that learning to work on linux machines is a goal.

2) Explain the strategy of trying to help-to-self-help sometimes in the beginning, including encouraging the students to seek solutions in compendia, use "man" for the command and google solutions.

3) Explain that no instructions are provided on how to install software as this is an active learning goal to independently find the necessary information and perform the installation.

4) Change the rules for obligatory presence to mornings only to reduce the resistance to the high obligatory presence. Explain why it is obligatory at the start of the course, and how to report in advance and provide solutions to exercises to the responsible teacher if you cannot make it.

5) Provide a start-of-the-exercise slide, and inform the students that there will be wrap-up discussions in the mornings after the exercises are finished so both fast and slow students can attend and get a better understanding of

what is expected that they take away during the exercises. Provide learning goals for all course components.

6) Have a walk-through of what the exercise entails prior to each exercise. Provide an example with input and output. Prepare a guide with correct answers to all exercises.

7) Ask the students to present their figures when they are finished with exercises and discuss them individually before students leave.

8) Add more assistants, and give them time to prepare so that they have gone through the exercises and know the solutions.

9) Add catch-up hours every week with several teachers/assistants present when students can get help with things they have not yet finished. And be clear on why/that teachers may not be always be able to stay long after hours even if there are students who have not finished.

10) Make Snake-Make a separate exercise to reduce the challenges associated with merging it with the variant calling exercise and ask Nikos Tsardakas Renhuldt to teach as a main teacher.

11) Ask Homa Papoli Yazdi to teach the transcriptomics part.

12) Shorten the amplicon sequencing session through removing the snake-make component to give better room for the other exercises, including the project.

13) Reduce the number of MSc-project and project presentation occasions to one.

14) Change the examination format to be partly exam (45%), partly two hand-in tasks that will be graded with points (45%) and partly the project (10%). Explain that students aiming for pass with distinction should be able to finish the optional exercises within the scheduled hours.

15) Add a voluntary lecture on how to write a scientific paper to prepare for project and MSc-writing during a Thursday afternoon.

Other teachers involved in the course

Eran Elhaik, Dag Ahrén