



## **COURSE ANALYSIS**

**COURSE:** CB1000 – Sustainability and project management – 3,0 hp

**COURSE RUN:** HT21

**COURSE ANALYSIS** performed by Cristina Al-Khalili Szgyarto ([caks@kth.se](mailto:caks@kth.se))

### **1. GENERAL INFORMATION ABOUT THE COURSE**

The course teaches and trains students skills within: (1) project management, leadership and how to conduct a project pre-study, (2) sustainability and ability reflect on and adopt a standpoint that critically evaluates societal and ethical aspects on questions and problems within biotechnology. The course is part of a learning progression and provides basic knowledge within sustainability preparing the students for coming courses on System and life cycle analysis, Advanced microbiology and metagenomics, Environmental toxicology, Environment bioprocess design, Clinical applications of biotechnology. Both sustainability and project management are topics relevant for the Master degree project course.

### **2. COURSE DESIGN**

The course is given during the fall semester P2 and is compulsory for all students enrolled in the Medical Biotechnology master program and the Industrial and environmental biotechnology master program that have not studied the KTH bachelor program including sustainability and project management. The course comprises 4 workshops on sustainability, 4 lectures on project management and a project work performed in groups. The workshops on sustainability adopt a flipped-class teaching strategy whereas project management comprises interactive lectures followed by practical training during the project work. The examination of students is performed through a handed in exercise comprising a project report and presentation of the project. The project concerns a pre-study and project plan on how to start a company performing COVID 19 diagnostics.

### **3. STUDENT'S WORKLOAD**

The work load was considered reasonable by the students. However one week two workshops were scheduled and the students experienced the time between rather short as extensive preparations were required for the workshops. This year students enrolled were mainly from TIMBM and TMBIM but also from other programs. Although not all students were studying biotechnology they were able to fulfill the learning outcomes.

### **4. STUDENTERNA'S RESULTAT**

100% of the students passed the course and completed the project work and the presentation. The course continuously tests students learning outcomes and actions are taken to ensure students reach the learning outcomes within the course framework.

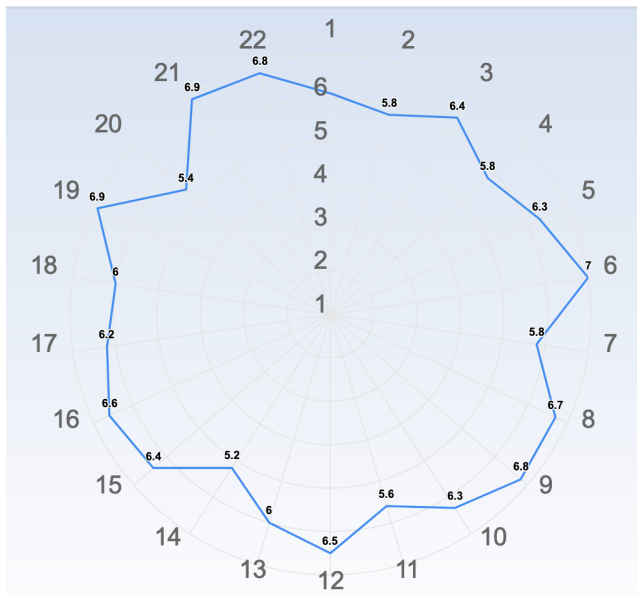
### **5. COMMENTS FROM THE STUDENTS**

The course is overall experienced positively. However the students would like to go deeper into the subject in particular project management and link it better to the project they perform in groups.

## 6. ANALYSIS

The course evaluation is based on the answers from 56% (9) of the students on LEQ questionnaire. Overall students are very positive to the course.

- 6.1 The students consider the course interesting (grade 6 question 1) and provided with the opportunity to explore the subject (5.8 to question 2) on their own. Students are also positive with the possibility to reflect on the subject (grades 6.4 to question 18).
- 6.2 The students are positive with the opportunity to test own ideas and the course feels partly challenging in a stimulating way (grades 6.4 to question 3 and 5.8 to question 4).
- 6.3 The students experience fellowship with other course participants (6.3, question 5) and think that the atmosphere is inclusive (grades 7.0 question 6).
- 6.4 The students feel that the learning objectives help them to understand what they are going to learn (grade 5.8 question 7) and that the course structure supports their learning (grade 6.7 question 8) somewhat. The students experience that they understand what the teachers described (grade 6.8 question 9) and that they learned from examples (grade 6.3 question 10).
- 6.5 The learning activities included in the course support the students' learning (grade 6.5 question 12) and that they understand what they are expected to learn to get a special grade (grade 6.0 question 13).
- 6.6 Students experience that they receive enough feedback from teachers regarding their progress (grade 5.2 question 14). they feel that they could practice and get feedback on it (grade 6.4 question 15).
- 6.7 The examination is considered fair (grade 6.6 question 16) and their previous knowledge was sufficient (grade 6.2 question 17).
- 6.8 The students feel that they could receive support in their learning (grade 6.8 question 22) and could learn through interaction and discussions with others (grade 6.9 question 21). They also feel they could influence the course's learning activities (grade 5.4, Question 20).



1. I worked with interesting issues
2. I explored parts of the subject on my own
3. I was able to learn by trying out my own ideas
4. The course was challenging in a stimulating way
5. I felt togetherness with others on the course
6. The atmosphere on the course was open and inclusive
7. The intended learning outcomes helped me to understand what I was expected to achieve
8. The course was organized in a way that supported my learning
9. I understood what the teachers were talking about
10. I was able to learn from concrete examples that I could relate to
11. Understanding of key concepts had high priority
12. The course activities helped me to achieve the intended learning outcomes efficiently
13. I understood what I was expected to learn in order to obtain a certain grade
14. I received regular feedback that helped me to see my progress
15. I could practice and receive feedback without being graded
16. The assessment on the course was fair and honest
17. My background knowledge was sufficient to follow the course
18. I regularly spent time to reflect on what I learned
19. The course activities enabled me to learn in different ways
20. I had opportunities to influence the course activities
21. I was able to learn by collaborating and discussing with others
22. I was able to get support if I needed it

Figure 1. Answer LEQ Course evaluation questionnaire. Statement rated with grades 1-7 (1 = No, I completely dissociate myself from the statement, 4 = I am neutral to the statement, 7 = Yes, I completely agree with the statement)

## **7. COURSE DEVELOPMENTS**

The overall experience of the students was positive. Analyzing the answers received from the students it is clear that there is a discrepancy between the answers received from female and the ones received from male students. The answers from the males are more positive whereas the answers from females course participants are more negative. This aspect needs to be assessed further.

### **Planned improvements for next course round**

1. Adaptation of the course to students experience requires changes to the project management teaching. The learning activities will be moved to campus teaching to provide opportunities for better interactions and discussions in the subject.
2. A perspective on project management within research will also be added to the course. In addition example will be provided for how to write a project plan.
3. The workshops require extensive preparation from the students. A change will be made to slightly diminish the course work load.
4. The course schedule will be kept as last year as the students were able to work at a good pace.