Report - FSG3122 - 2024-01-26

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):

Outi Tammisola outi@mech.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.

This course analysis considers the course Wave motions & stability, with course codes SG2221 (Master students) and FSG3122 (PhD students).
A LEQ questionnaire was opened after the course for both course codes, and it was not possible to combine them. Only FSG3122 questionnaire had more than three respondents, however, and therefore only those responses became available to me. In addition, the students discussed with me during the lectures of the Waves part, and that feedback is included.

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.)

No specific meetings. The number of participants was only 16 (both Master and PhD students), and therefore we did not think about forming a Kursnämnd.
That can be done next time the course is given.

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

New course responsible (me) and new lecturer for the Waves part.
Apart from this, the content did not essentially change.

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?

Most students who responded worked 3-5 hours/week.
Considering this is a 7.5 credits course going over one period, it is a bit less than I would have expected.
This could be adjusted by giving more challenging project topics for example, as most students had chosen base flows for which a Matlab code was found.
However, other changes have higher priority.

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?

Cannot comment on this in detail, as it is the first time I am giving the course.
After discussions with the previous course responsible before and after the oral exams, the overall grade level seems to be well aligned with previous years.

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

Students in general appreciated the structure of the Waves part of the course, while the Stability part could benefit from som reorganisation of the material and lectures. Some think the course content is well connected real-life problems, whereas others think the connection is less strong and could be further improved.
There were specific comments about the lab instructions which could be more clear. Elements encouraging group work such as the project and lab are appreciated.

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

The students seem to be relatively happy with the structure, e.g. Canvas page, lecture notes and lectures especially for the Waves part.
For students and PhD students who have not encountered waves and stability before, some of the content can be felt as quite theoretical and mathematical.
Although students seemed to appreciate the Waves part in general, my impression is that some parts felt long and could have been compressed to give more space for applications of instability.

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?

Such areas could not be identified based on neither LEQ nor personal communication.

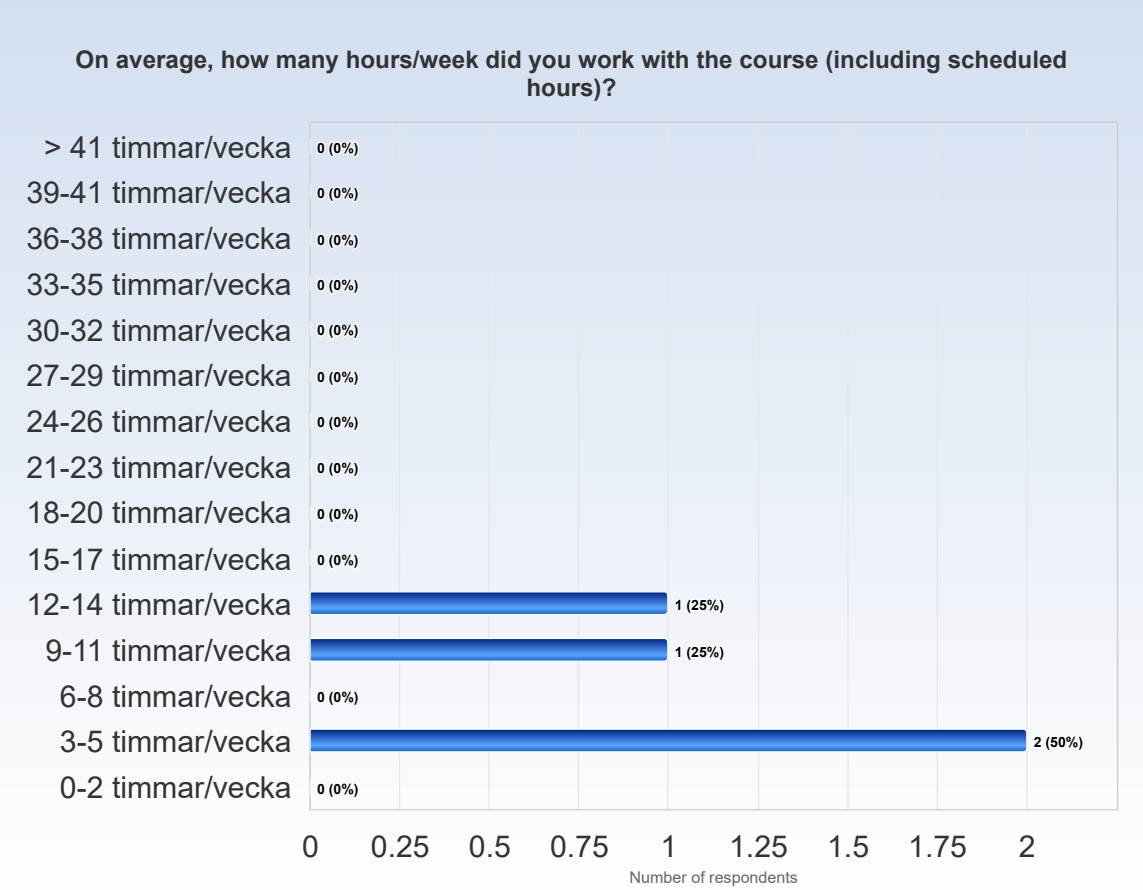
PRIORITIZED COURSE DEVELOPMENT
What aspects of the course should be developed primaily? How can these aspects be developed in short and long term?

As the course has been given in the same form and with the same content for many years now, the main priority will be to go over and update the course content.
It is possible to introduce a more clear link to both applications of stability and state-of-the-art research in the area, possibly through 1-2 guest lectures from industry and research.
I believe this could make the course more attractive to both Master and PhD students.

FSG3122 - 2024-01-18

Antal respondenter: 8
Antal svar: 4
Svarsfrekvens: 50,00 %

ESTIMATED WORKLOAD



Comments

Comments (I worked: 3-5 timmar/vecka)

Very good study pace!

Comments (I worked: 9-11 timmar/vecka)

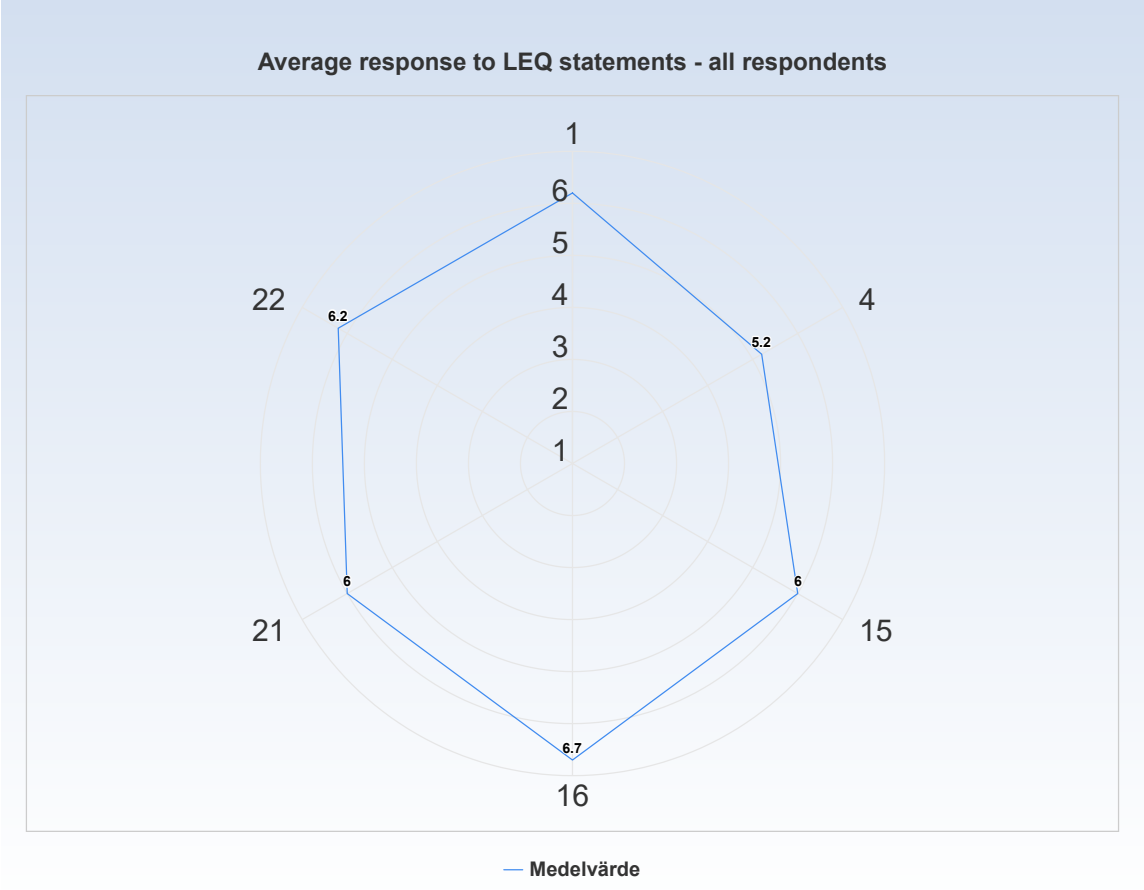
I think it was very busy demanding. This personally did not feel efficient for me.

LEARNING EXPERIENCE

The polar diagrams below show the average response to the LEQ statements for different groups of respondents (only valid responses are included). The scale that is used in the diagrams is defined by:

1 = No, I strongly disagree with the statement
4 = I am neutral to the statement
7 = Yes, I strongly agree with the statement

Note! A group has to include at least 3 respondents in order to appear in a diagram.



KTH Learning Experience Questionnaire v3.1.4

Meaningfulness - emotional level

Stimulating tasks

1. I worked with interesting issues (a)

Exploration and own experience

2. I explored parts of the subject on my own (a)
3. I was able to learn by trying out my own ideas (b)

Challenge

4. The course was challenging in a stimulating way (c)

Belonging

5. I felt togetherness with others on the course (d)
6. The atmosphere on the course was open and inclusive (d)

Comprehensibility - cognitive level

Clear goals and organization

7. The intended learning outcomes helped me to understand what I was expected to achieve (e)
8. The course was organized in a way that supported my learning (e)

Understanding of subject matter

9. I understood what the teachers were talking about (f)
10. I was able to learn from concrete examples that I could relate to (g)
11. Understanding of key concepts had high priority (h)

Constructive alignment

12. The course activities helped me to achieve the intended learning outcomes efficiently (i)
13. I understood what I was expected to learn in order to obtain a certain grade (i)

Feedback and security

14. I received regular feedback that helped me to see my progress (j)
15. I could practice and receive feedback without being graded (j)
16. The assessment on the course was fair and honest (k)

Manageability - instrumental level

Sufficient background knowledge

17. My background knowledge was sufficient to follow the course (f)

Time to reflect

18. I regularly spent time to reflect on what I learned (l)

Variation and participation

19. The course activities enabled me to learn in different ways (m)
20. I had opportunities to influence the course activities (m)

Collaboration

21. I was able to learn by collaborating and discussing with others (n)

Support

22. I was able to get support if I needed it (c)

Learning factors from the literature that LEQ intends to examine

We tend to learn most effectively (in ways that make a sustained, substantial, and positive influence on the way we think, reflect, act or feel) when:

a) We are trying to answer questions, solve problems or acquire skills that we find interesting, exciting or important

b) We are able to speculate, test ideas (intellectually or practically) and learn from experience, even before we know much about the subject

c) We are able to do so in a challenging and at the same time supportive environment

d) We feel that we are part of a community and believe that other people have confidence in our ability to learn

e) We understand the meaning of the intended learning outcomes, how the environment is organized, and what is expected of us

f) We have adequate prior knowledge to deal with the current learning situation

g) We are able to learn inductively by moving from concrete examples and experiences to general principles, rather than the reverse

h) We are challenged to develop a true understanding of key concepts and gradually create a coherent whole from the content

i) We believe that the work we are expected to do will help us to achieve the intended learning outcomes

j) We are able to try, fail, and receive feedback before, and separate from, each summative assessment of our efforts

k) We believe that our work will be considered in an honest and fair way

l) We have sufficient time for learning and devote the time needed to do so

m) We believe that we have control over our own learning, and not that we are being manipulated

n) We are able to collaborate with other learners struggling with the same problems

Literature

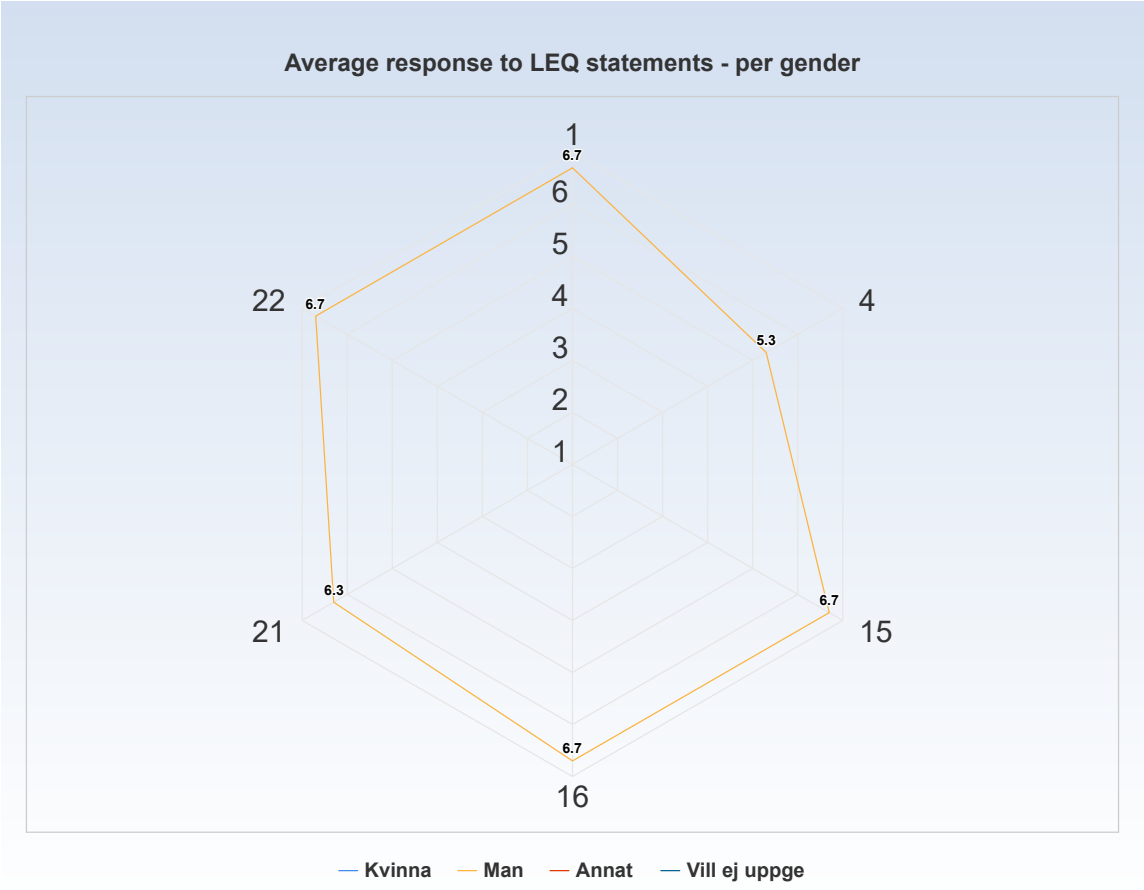
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

Elmgren, M. & Henriksson, A-S. (2014). *Academic Teaching*, Chapter 3, pp. 57-72. Lund: Studentlitteratur.

Kember, K. & McNaught, C. (2007). *Enhancing University Teaching: Lessons from Research into Award-Winning Teachers*, Chapter 5, pp. 31-40. Abingdon: Routledge.

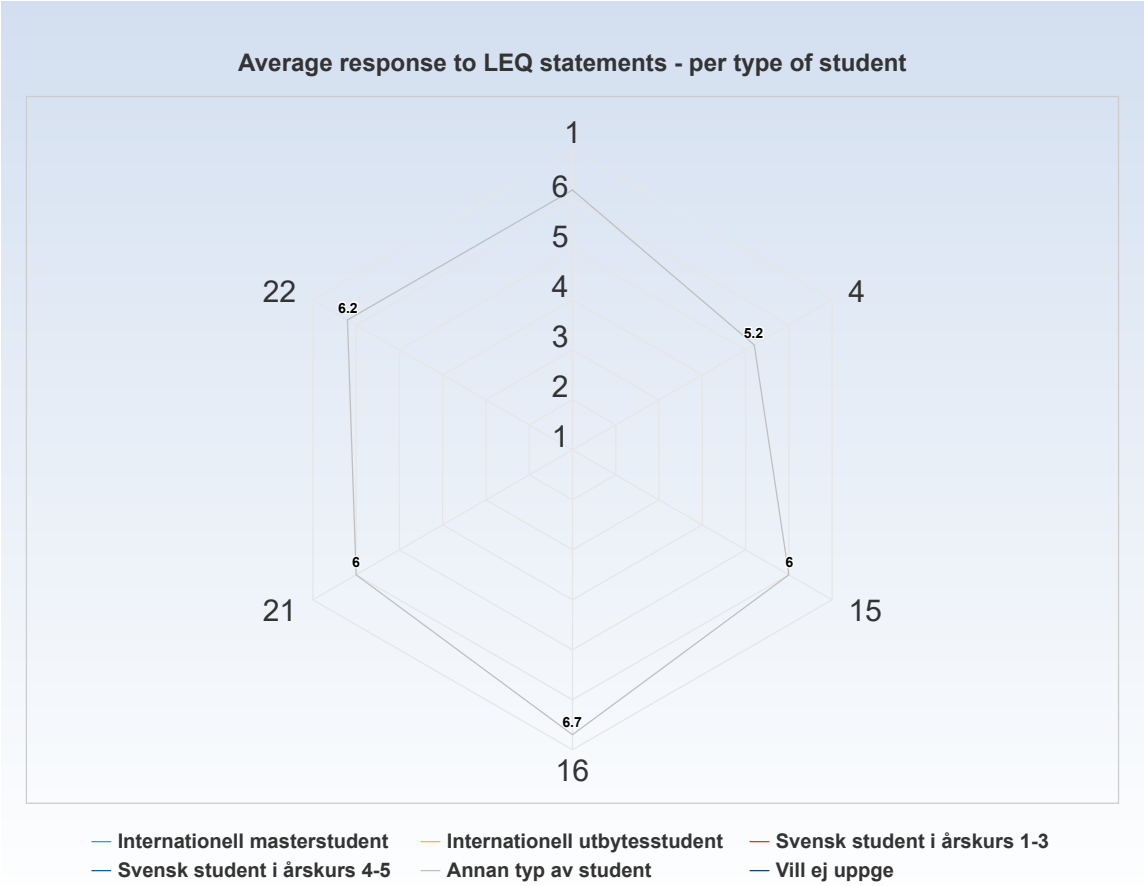
Ramsden, P. (2003). *Learning to Teach in Higher Education*, Chapter 6, pp. 84-105. New York: RoutledgeFalmer.



Comments

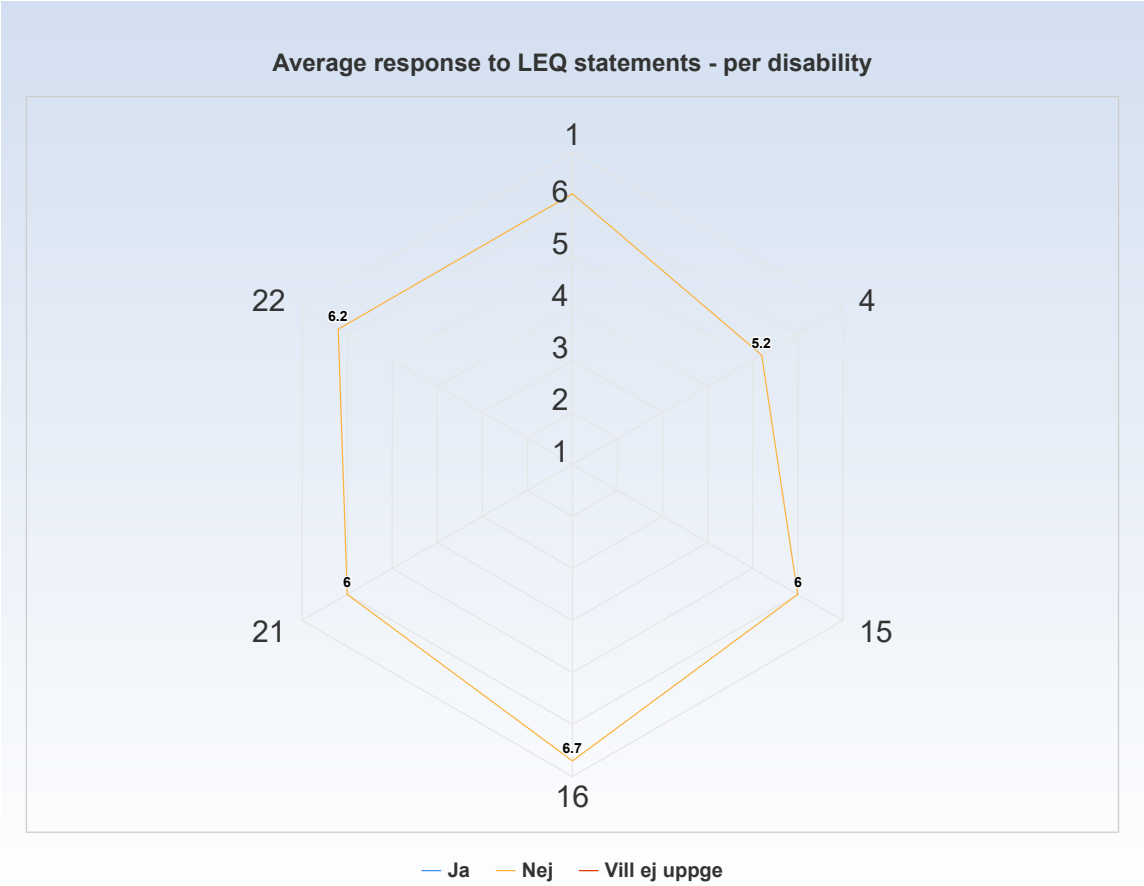
Comments (I am: Kvinna)

No problems in this regard.



Comments

Comments (I am: Annan typ av student)
PhD student.
PhD student
No problems in this regard.



GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 3-5 timmar/vecka)
The waves part. It was very interesting and well structured. It was clear that Outi spent time preparing this and we all very much appreciated it.
1. The well-structured lecture notes and slides. 2. Guidance and instruction regarding lab session and course project. 3. Group work makes the study process interesting and motivated 4. Oral exam provides a very good chance to discuss and share the knowledge with examiner.

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)
It covers interesting topics with a direct correspondence in real life.

What would you suggest to improve?

What would you suggest to improve? (I worked: 3-5 timmar/vecka)

Now that Luca Brandt has left there is not really anything to say about improvement. I think what we all would have wanted is an organized and structured teaching method. We were all very disappointed and frustrated.

With regards to the Lab, a lot of people including me have complained about the lab PM being confusing. I understand it has probably been the same for the past 10 years but it is time for teachers to actually read it for themselves and realize how bad it is. The PM is confusing with regards to what is expected of us. It is written in mediocre English and lacks clear explanations on for example what is included in the Linear Stability results (what variables? What do they represent?). I know a lot of stuff can be figured out on our own but it is disappointing that even something as simple as describing properly what tools we are given was not done. It shows how little importance is given to teaching at KTH.

Some people complained that the waves part maybe was a bit too long but that was not my impression.

+ The stability part could be more clear in terms of material.

What would you suggest to improve? (I worked: 9-11 timmar/vecka)

The way it is conveyed in class is purely mathematical. It felt like we had nothing to do with any waves, because all we dealt with was equations. I think it is very important to connect the physics side to the derivations/theory we work on. At that point, if we could talk about some real life examples, (a tsunami that happens in some parts of the world, for example) it would be much more interesting.

What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 3-5 timmar/vecka)

1. Take the notes and keep focus on the lecture.
2. Derive the equations by yourself.
3. Do not start your project unless you understand everything on the code

What advice would you like to give to future participants? (I worked: 9-11 timmar/vecka)

You should participate in the classes.

Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 3-5 timmar/vecka)

I want to make it clear that Outi was great in the waves part. Also the TAs for the lab were great. They should not be blamed for any of the above criticisms.

Also we did not have any students representatives during the course. Having student representatives (kursnämd) would have opened the opportunity for discussion during the course and potentially solved problems without having to wait until the end of the course.

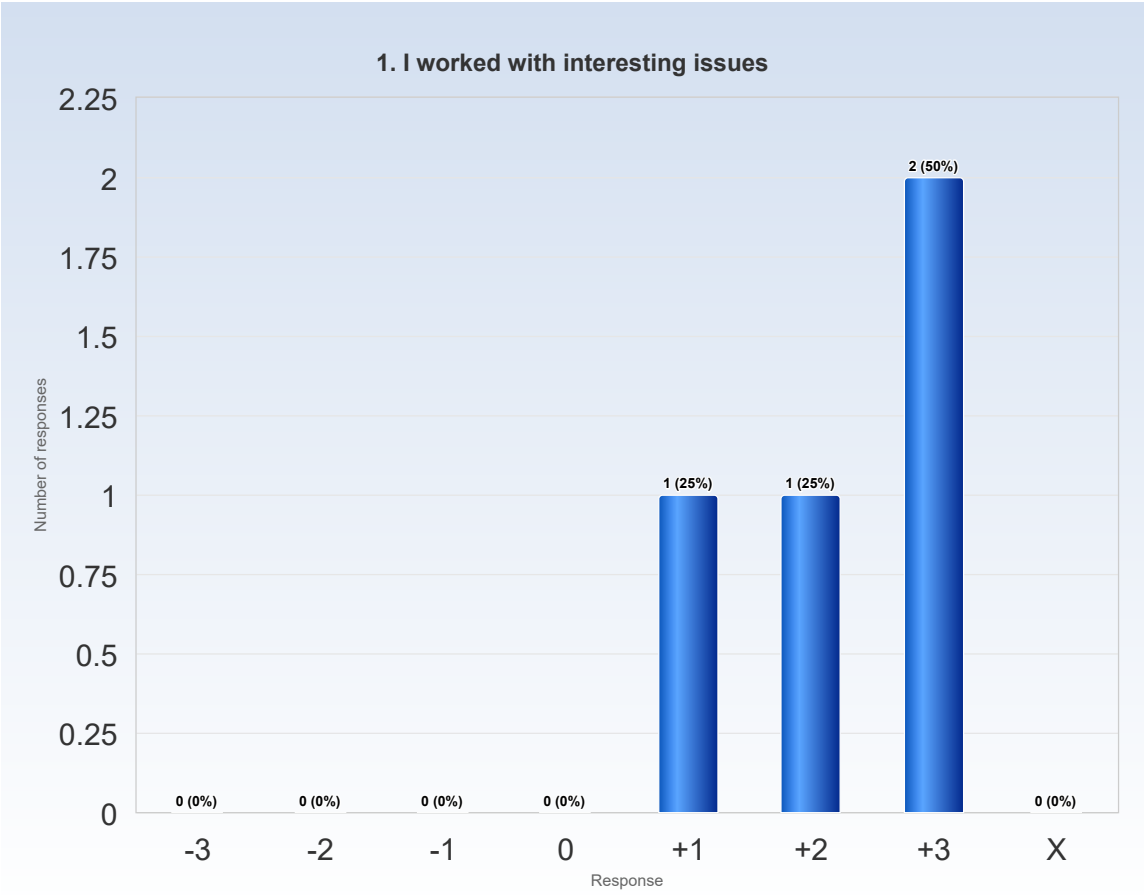
SPECIFIC QUESTIONS

RESPONSE DATA

The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement
0 = I am neutral to the statement
+3 = Yes, I strongly agree with the statement

X = I decline to take a position on the statement



Comments

Comments (My response was: +1)

The issues were interesting but the way they were conveyed in class was purely mathematical and theoretical. We haven't really talked about any physics, did endless derivations instead.

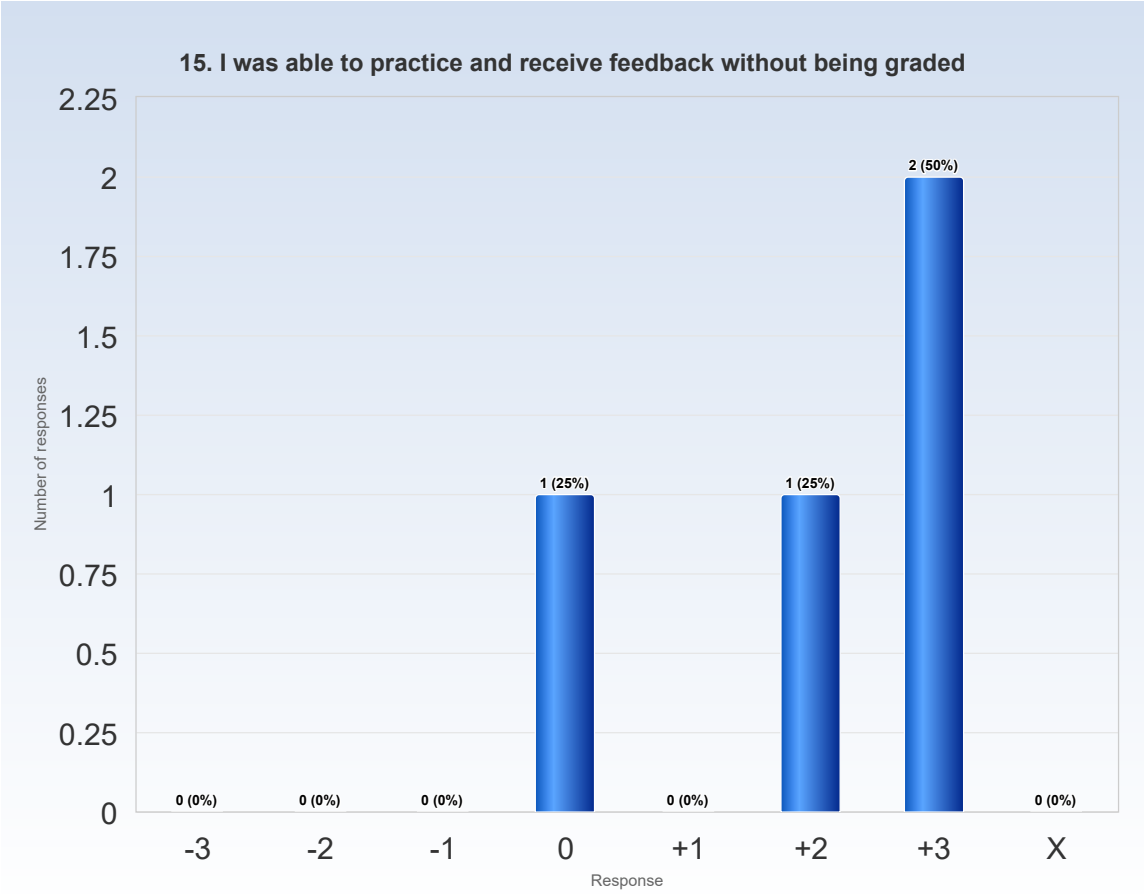
Comments (My response was: +2)

The waves part was very interesting. It was organized and well prepared. The stability part was the exact opposite. It could have been an interesting subject but unfortunately the teaching for this part was not at the level one would expect from a teacher at KTH. Very disappointing.

Comments

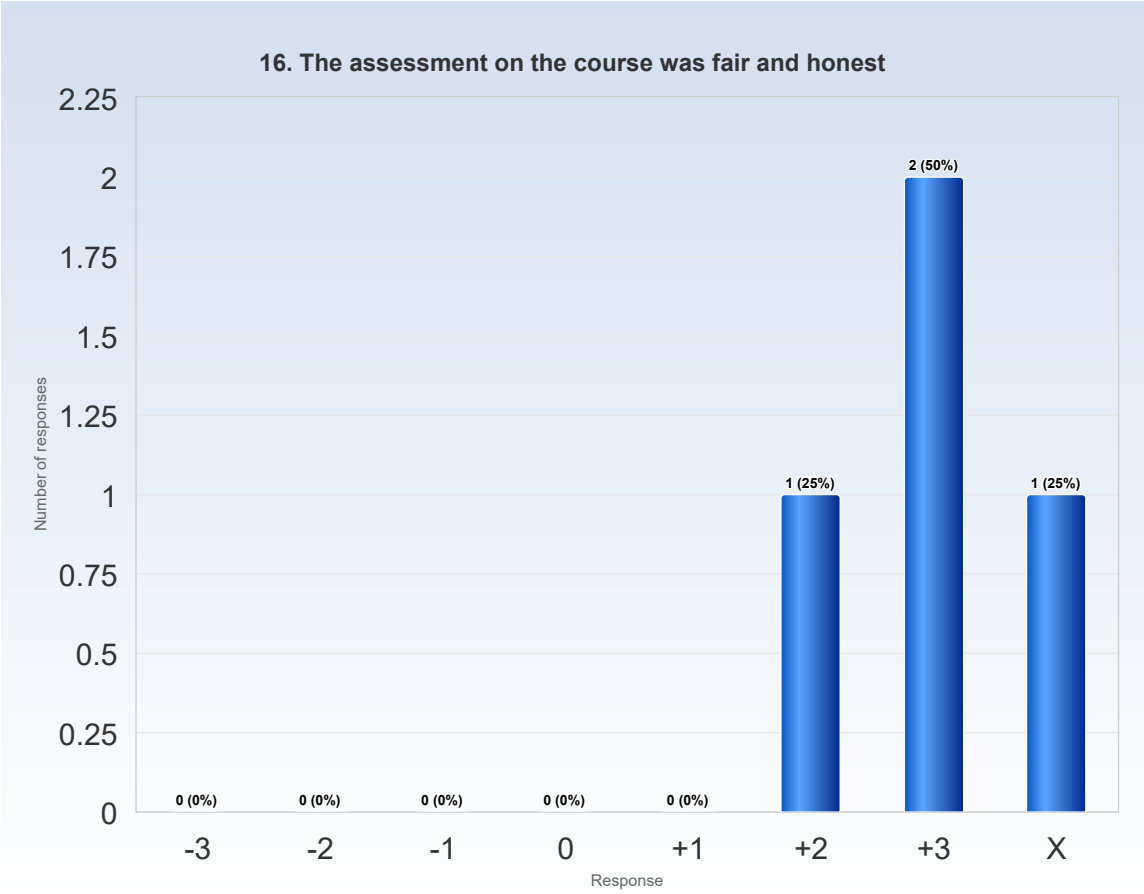
Comments (My response was: -2)

The waves part was challenging in a good way. The stability part was honestly extremely disappointing. The teacher was clearly knowledgeable and proficient in this field, but the teaching was unorganized, confusing, lacked structure and frankly it seemed like the teacher did not want to be there. I don’t think this kind of teaching should be allowed at KTH.



Comments

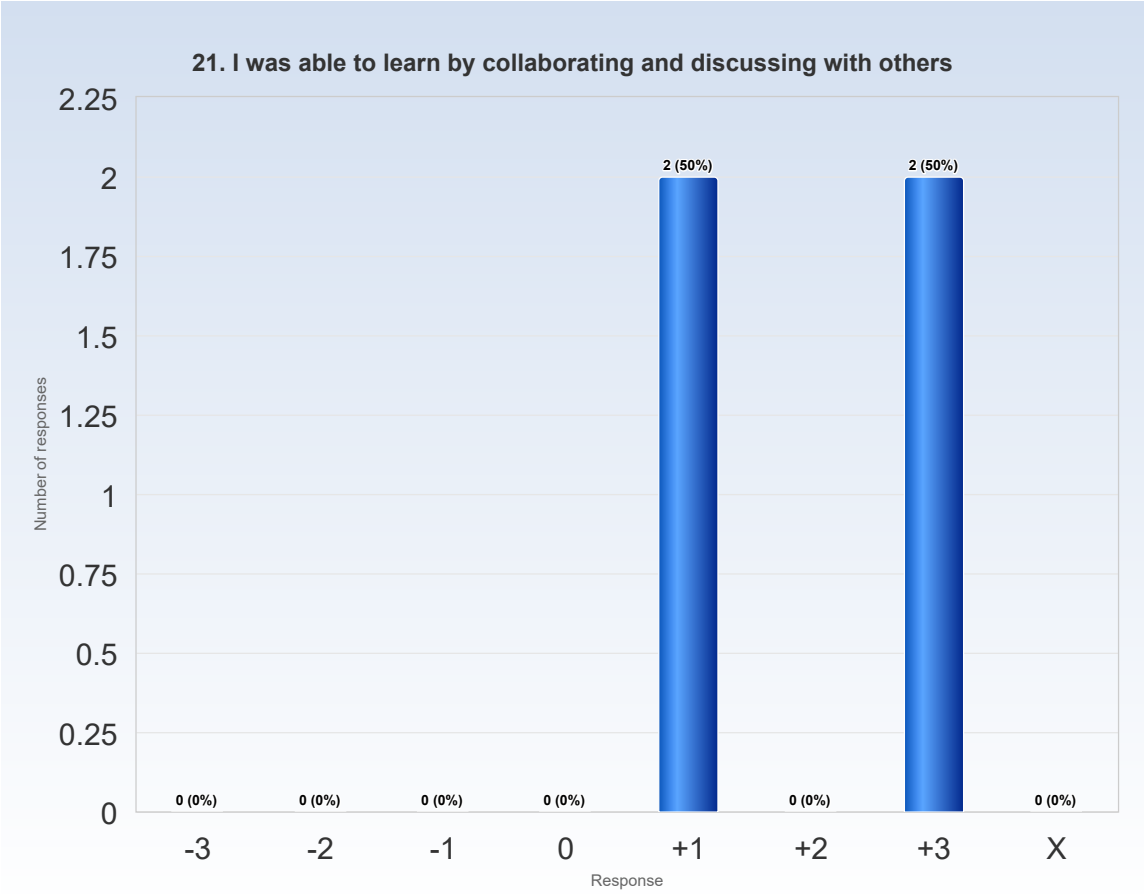
Comments (My response was: +2)
Yes but did not actively seek help.



Comments

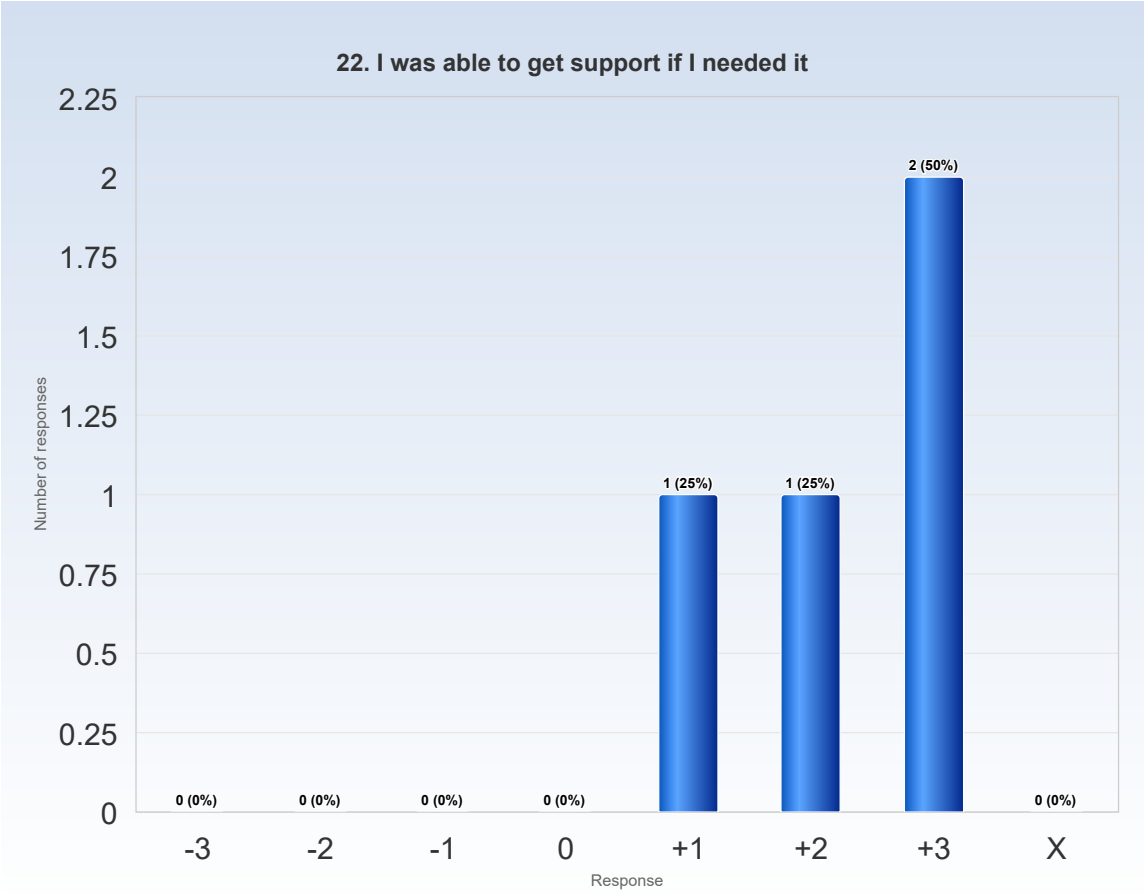
Comments (My response was: +2)

The assessment seemed fair with regards to the course's intended content and learning outcomes.



Comments

Comments (My response was: +1)
We had to learn the stability part on our own time. So yes, I studied with my peers and we tried as best as we could to answer each others questions.



Comments

Comments (My response was: +2)
Yes but did not actively seek support.