Report - SF1811 - 2024-02-01

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):

Anders Forsgren, andersf@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.

Students' opinions have been collected through an LEQ questionnaire. The response rate was rather low. There has been a "kursnämnd", which has met twice during the course.

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.)

I have offered office hours weekly during the course and prior to the exam, and more frequently if requested.

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

This was the second time in a row that I gave this course. I followed the design of last year. Lectures were given in a traditional way. Exercise sessions were given in parallel in two groups. There are three compulsory homework assignments in addition to the final written exam. The homework assignments were changed in order to be more in line with the course contents. In the first homework assignment, the implementation of the simplex method was exchanged to use of provided solver plus give explanations. The second homework assigment was given as a transportation problem, asking for giving the link to the simplex method. The third homework assignment was changed to include Lagrange multipliers and optimality conditions.

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?

Based on the survey the students average workload was around 14 hours per week. There is a big spread. This is on a level which I think can be expected.

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 result on the exam in January was as follows: A 17%, B 8%, C 15%, D 19%, E 11%, Fx 5%, F 25%. In total 110 students wrote the exam, which is 22 more than last year. There is an increase in the number of students that failed the exam, it was 15% last year. There is also a significant decrease in B, from 17% to 8%. Otherwise, performance is not very different. We had 97 students completing the homework assignments by the time of the exam. In total 105 students received at least one bonus point. In total 117 students were active in at least one homework assignment. Possibly the increased number of Fs could be explained by more students from previous year writing the exam.

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

There is overall a positive tone in the comments of the students. Students like the homework assignments, the exercise sessions and the lectures.

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

The outcome of the questionnaire is that the setup of the course is working. I have been able to assist students when meeting them.

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.

My overall impression is that the course has a functioning setup. The student group has a rather diverse background, coming from different programs. Overall, there seems to be a balance that works.

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?

International students give higher grade for collaboration. Possibly, international students chose to a higher degree to do homework assignments jointly with someone else. This is optional.
Female students give lower appreciation overall, in particular regarding feedback and security. Slightly higher, however, in collaboration. I cannot give a good explanation for these results.

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

I could develop the lectures further. Possibly make them more focused and linked to theory questions.

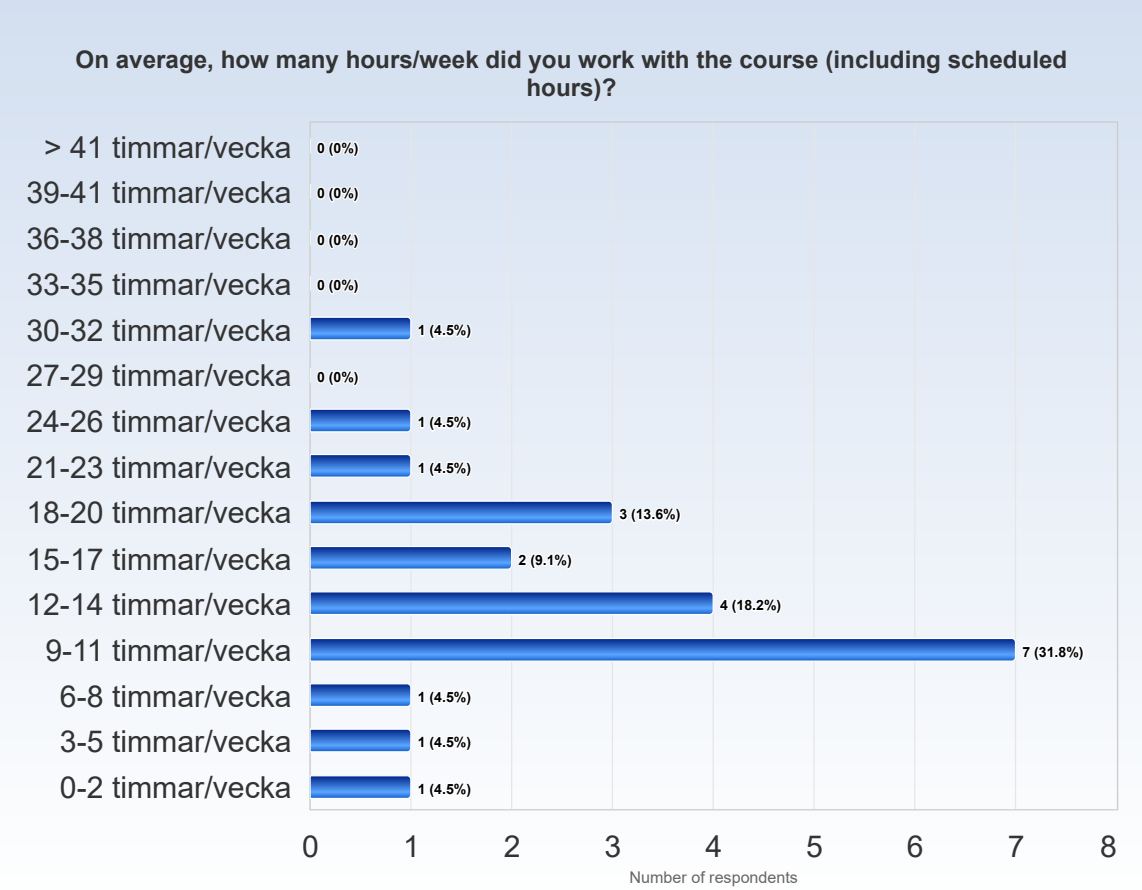
OTHER INFORMATION
Is there anything else you would like to add?

As last year, attendance at lectures was not as high as I had hoped. However, I did feel that the students in the classroom were active and found the lectures meaningful.

SF1811 - 2024-01-11

Antal respondenter: 162
Antal svar: 26
Svarsfrekvens: 16,05 %

ESTIMATED WORKLOAD



Comments

Comments (I worked: 0-2 timmar/vecka)
This was a bit too little should hav gone to more exercises and lectures

Comments (I worked: 9-11 timmar/vecka)
Rimlig arbetsbörda
I sadly had a lot of scheduling conflicts and could not attend as many lectures/exercises as i had wanted to.
The lectures and exercise sessions were good, the course literature was not.

Comments (I worked: 15-17 timmar/vecka)
I feel like the course does take just a lil bit too much hours since it is only a 6 credits course
Reasonable amount of work.

Comments (I worked: 18-20 timmar/vecka)
Hard. Need to spend a lot of time on it.

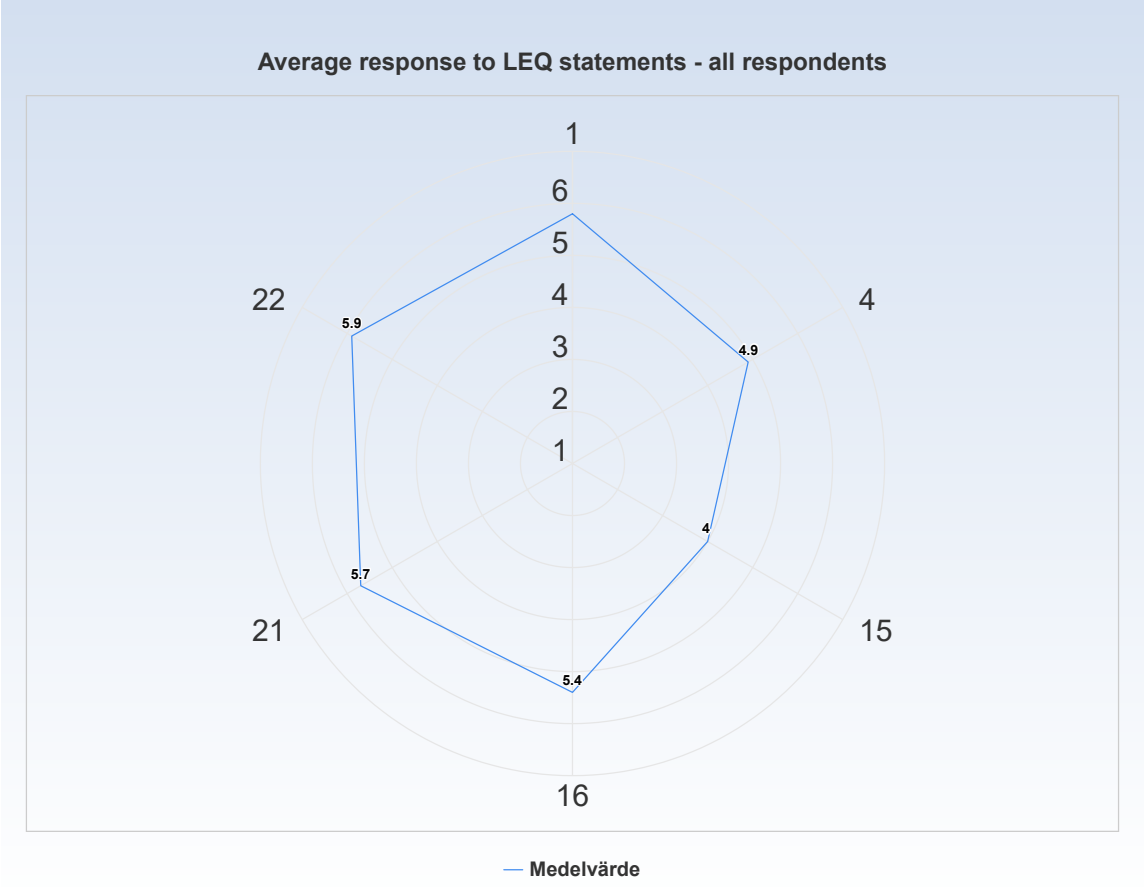
Comments (I worked: 24-26 timmar/vecka)
Needed more time than scheduled

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

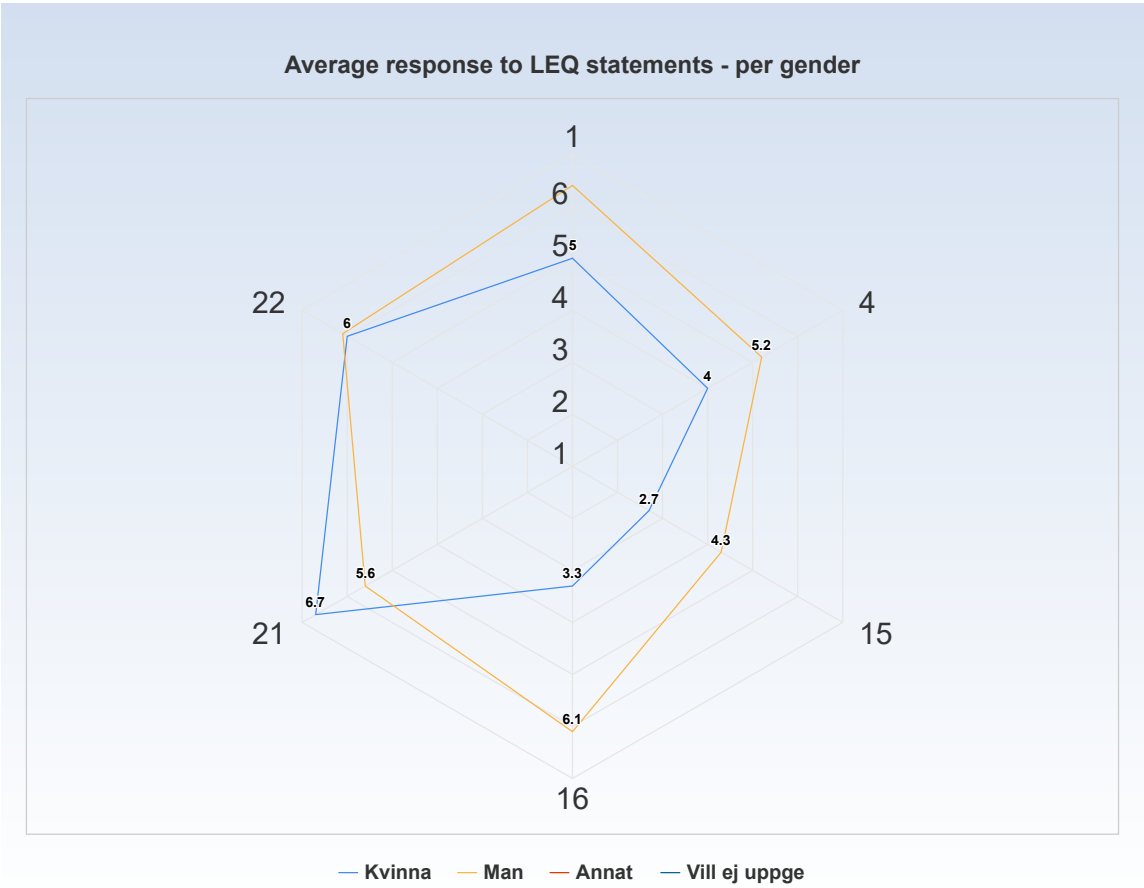
Bain, K. (2004). *What the Best College Teachers Do*, Chapter 5, pp. 98-134. Cambridge: Harvard University Press.

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.

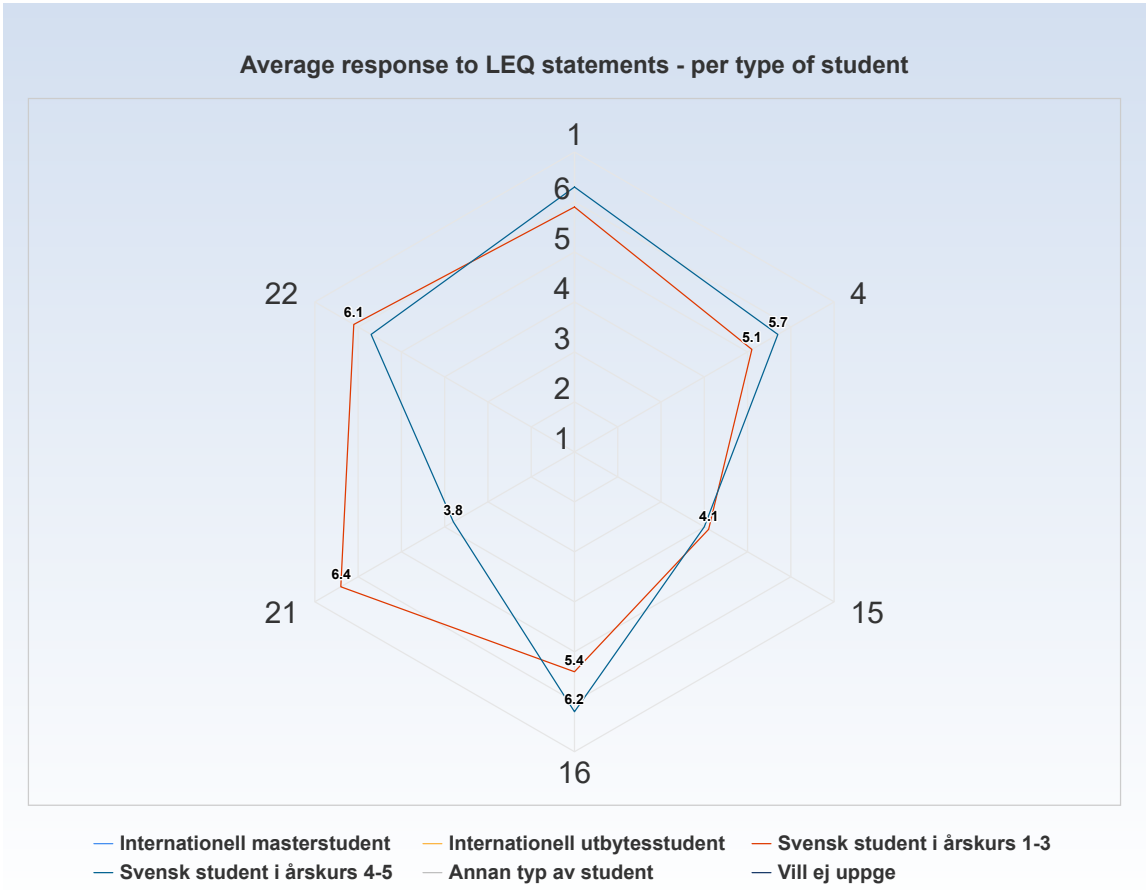
Kember, K. & McNaught, C. (2007). *Enhancing University Teaching: Lessons from Research into Award-Winning Teachers*, Chapter 5, pp. 31-40. Abingdon: Routledge.

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



Comments

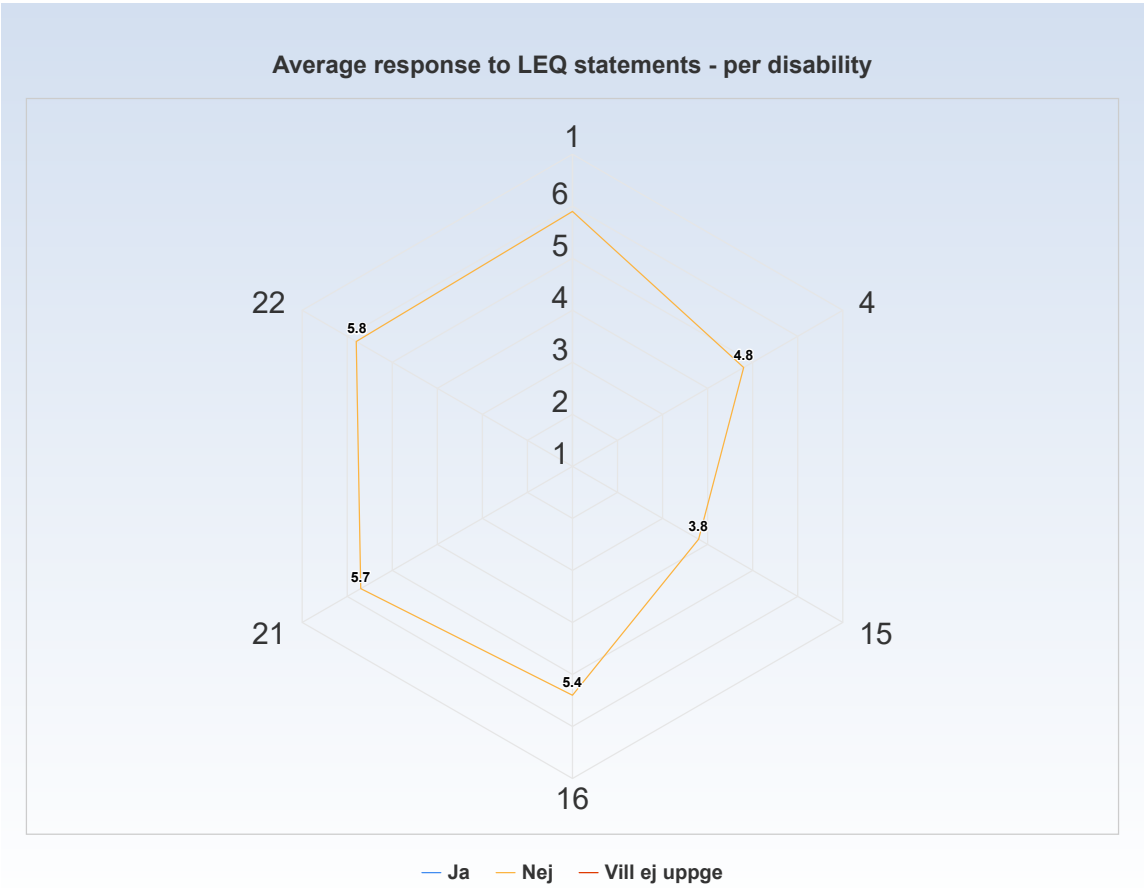
Comments (I am: Man)
No comments



Comments

Comments (I am: Svensk student i årskurs 4-5)

No comments



Comments

Comments (My response was: Nej)
No comments

GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)
The mathematical approach (almost everything was proved). Professor has been very helpful

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)
I liked the lectures
Övningarna
Interesting material
The homeworks

What was the best aspect of the course? (I worked: 12-14 timmar/vecka)
I liked homework 3.
Exercises and labs! And Anders is funny :)
Mycket bra föreläsningar och stimulerande inlämningsuppgifter! Uppskattade verkligen konkreta exempel
Labbarna var givande och formelbladet var bra.

What was the best aspect of the course? (I worked: 15-17 timmar/vecka)
Both the lectures and the exercise sessions were very well taught and the teachers were very available
When Anders explained the idea behind algorithms/optimality conditions. Though I did get a bit lost sometimes in the actual proofs, and I usually don't.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)
The homework forced me to start studying the course in a timely manner and also made me well prepared for the exam.
The content taught in this course is useful and helpful for my research.
The different methods I got to learn, which can be handy.

What was the best aspect of the course? (I worked: 30-32 timmar/vecka)
Övningarna

What would you suggest to improve?

What would you suggest to improve? (I worked: 6-8 timmar/vecka)
It's not strictly necessary, since the compendium is very well done, but it would be nice to have some notes from the lectures in case a student has to miss one

What would you suggest to improve? (I worked: 9-11 timmar/vecka)
Rätt facit till tentorna
I would have liked to do more on the programming assignments.
The course literature ASKS felt rather disconnected. I experienced it as lacking in connective tissue between the different sections, and not very pedagogical.

What would you suggest to improve? (I worked: 12-14 timmar/vecka)
I think the course is good as it is.
Lab1 and lab2 are very similar, perhaps a lab on nonlinear problems would be better? Now it was LP LP QP but no NLP.
Fler rubriker på tavlan under föreläsningarna

What would you suggest to improve? (I worked: 15-17 timmar/vecka)
A little bit more of lectures about the coding part of the course
I think the exercise sessions could run at a higher pace sometimes. Also I think the lecturer, in this case Anders, would do well not to only write mathematical statements on the board, but also text to help guide the audience. He always explained it in words, but sometimes it was difficult to catch up if you didn't get it at the time.

What would you suggest to improve? (I worked: 18-20 timmar/vecka)
I feel that I only really learned to handle inequality constrained non-linear problems. Perhaps devote an additional lecture to equality constrained non-linear problems.
The lectures need to be improved to be understood easier.
Can't think of something right now.

What would you suggest to improve? (I worked: 30-32 timmar/vecka)
Att övningarna går igenom fler tenta problem innan tentan

What advice would you like to give to future participants?

What advice would you like to give to future participants? (I worked: 9-11 timmar/vecka)
Gå på övningarna
The standard go to the lectures and exercise session. Start with the homeworks early, they might require some time spent thinking it through. Brush up on your linear algebra for the exam.

What advice would you like to give to future participants? (I worked: 12-14 timmar/vecka)
Start with the homeworks in time. They help you also keep up with the course as they cover a big part of it.
Do the labs! And make sure you understand the formula sheet!!
Gå på övningarna

What advice would you like to give to future participants? (I worked: 15-17 timmar/vecka)
Follow the exercise sessions
Do the homeworks in time, it helps.

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)
Don't rush the homework assignments. They are well structured to help you in learning the course material.
Spend much time on it.
To continuously work with the course, e.g. assignments during the course.

What advice would you like to give to future participants? (I worked: 30-32 timmar/vecka)
Gå på övningarna

Is there anything else you would like to add?

Is there anything else you would like to add? (I worked: 9-11 timmar/vecka)
Nej
Fun and interesting course.

Is there anything else you would like to add? (I worked: 12-14 timmar/vecka)
No.

Is there anything else you would like to add? (I worked: 18-20 timmar/vecka)
Although I understand that optimising over Z rather then R is another course, I would have found it interesting if you presented just some results from discrete optimisation.
No.
No

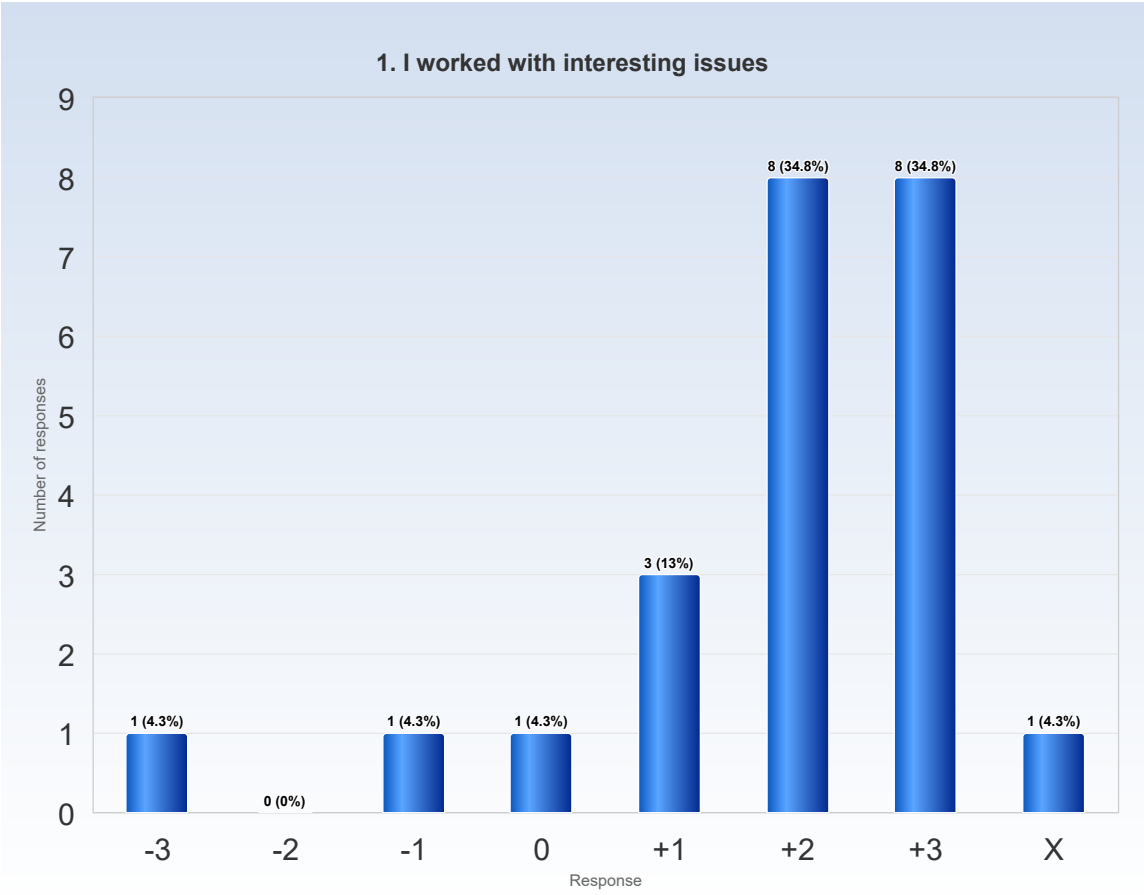
SPECIFIC QUESTIONS

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



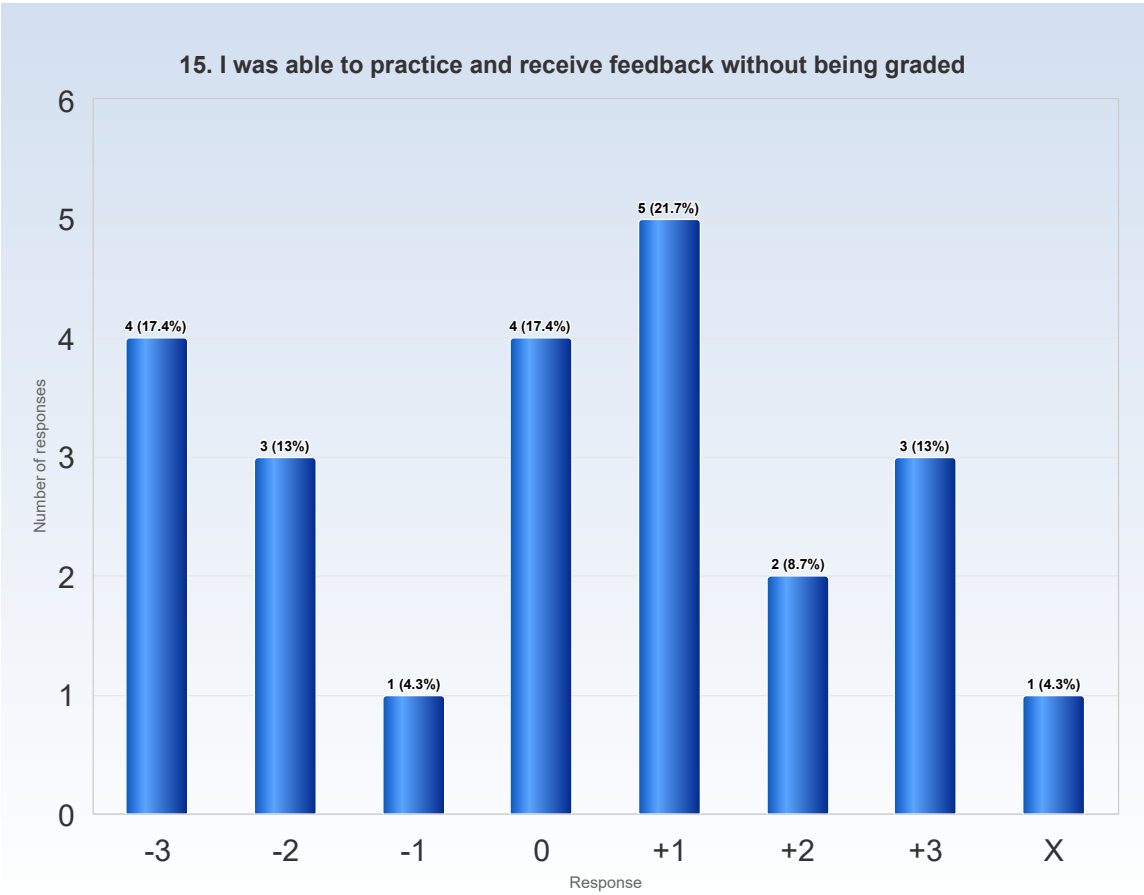
Comments

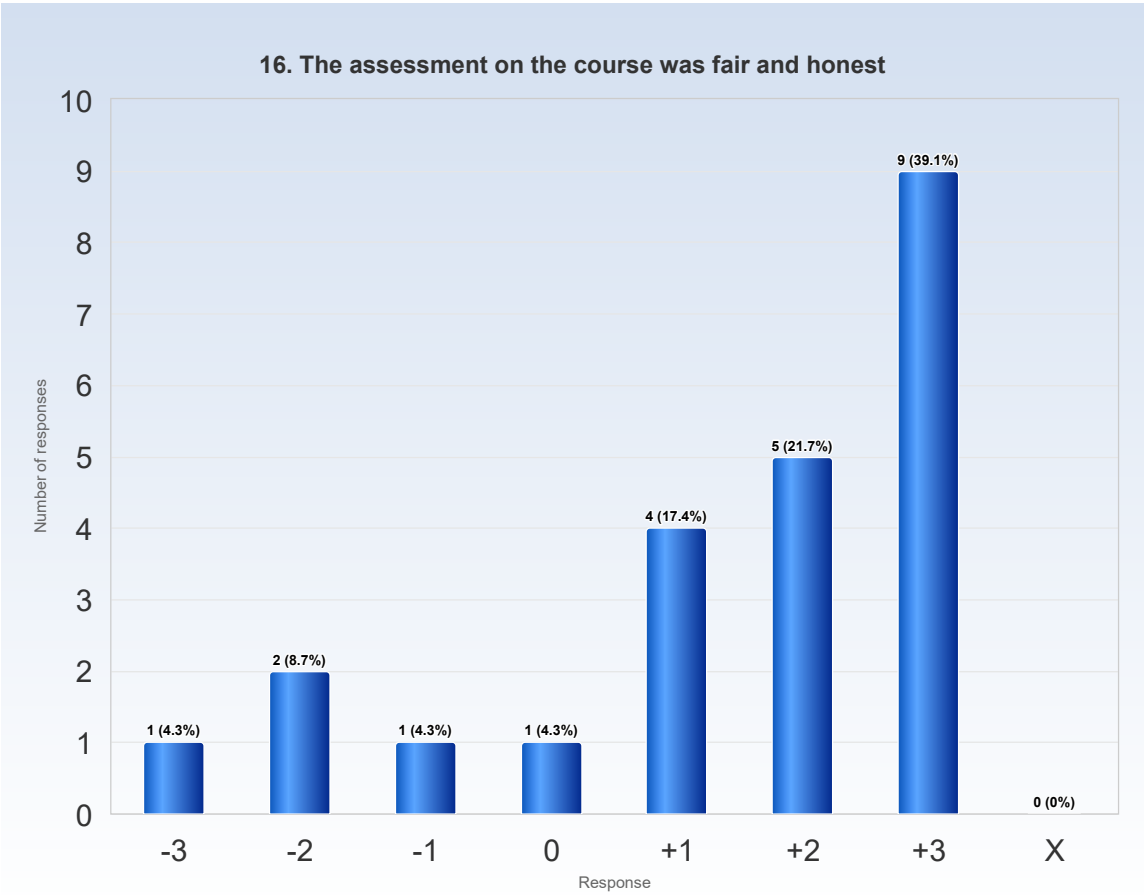
Comments (My response was: +1)
I think the topics were a bit basic, but then again it was a basic course. But it'd have been fun to gain some insight into what is possible with optimization, perhaps a project would have provided this?

Comments (My response was: +3)
The homeworks, especially the last one was an interesting application of the material covered in the course.

Comments

Comments (My response was: -1)
It was hard during the course, but when I studied to the exam I understood

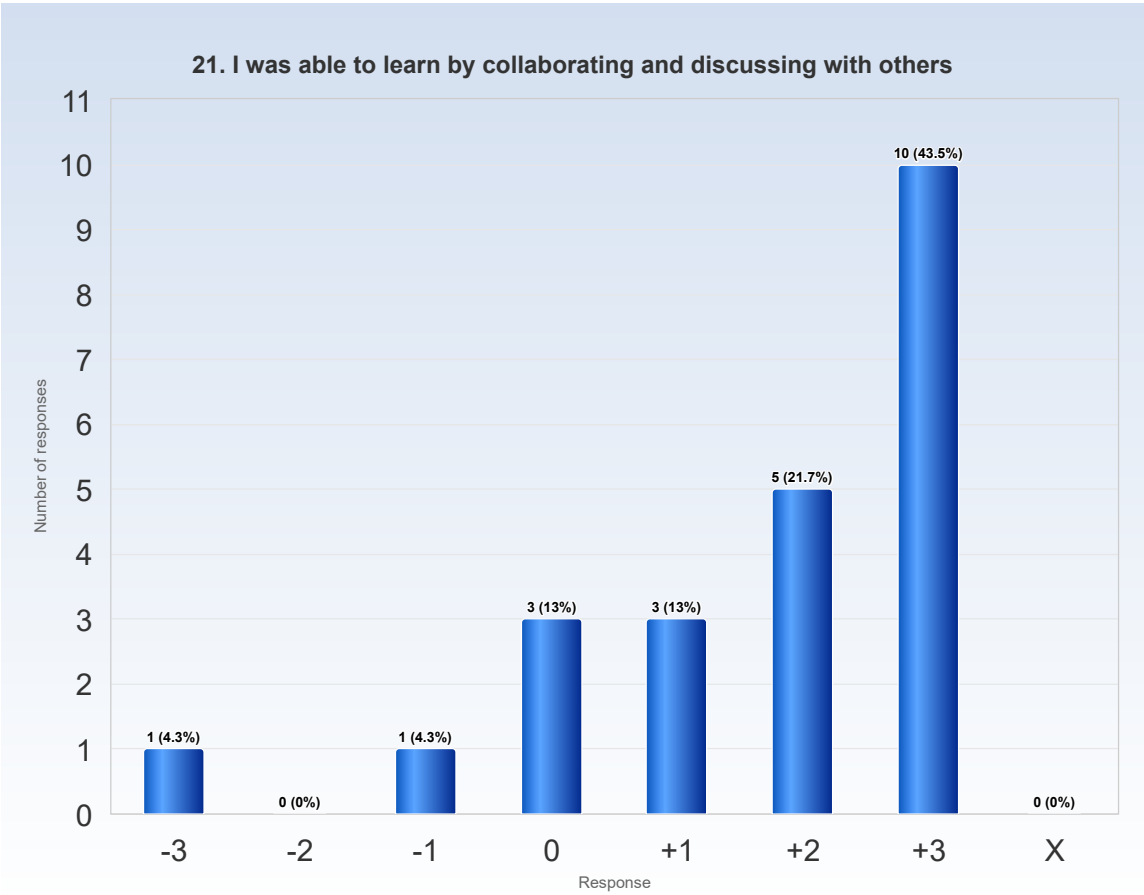

15. I was able to practice and receive feedback without being graded
Number of responses
Response
0
1
2
3
4
5
6
-3
-2
-1
0
+1
+2
+3
X
4 (17.4%)
3 (13%)
1 (4.3%)
4 (17.4%)
5 (21.7%)
2 (8.7%)
3 (13%)
1 (4.3%)

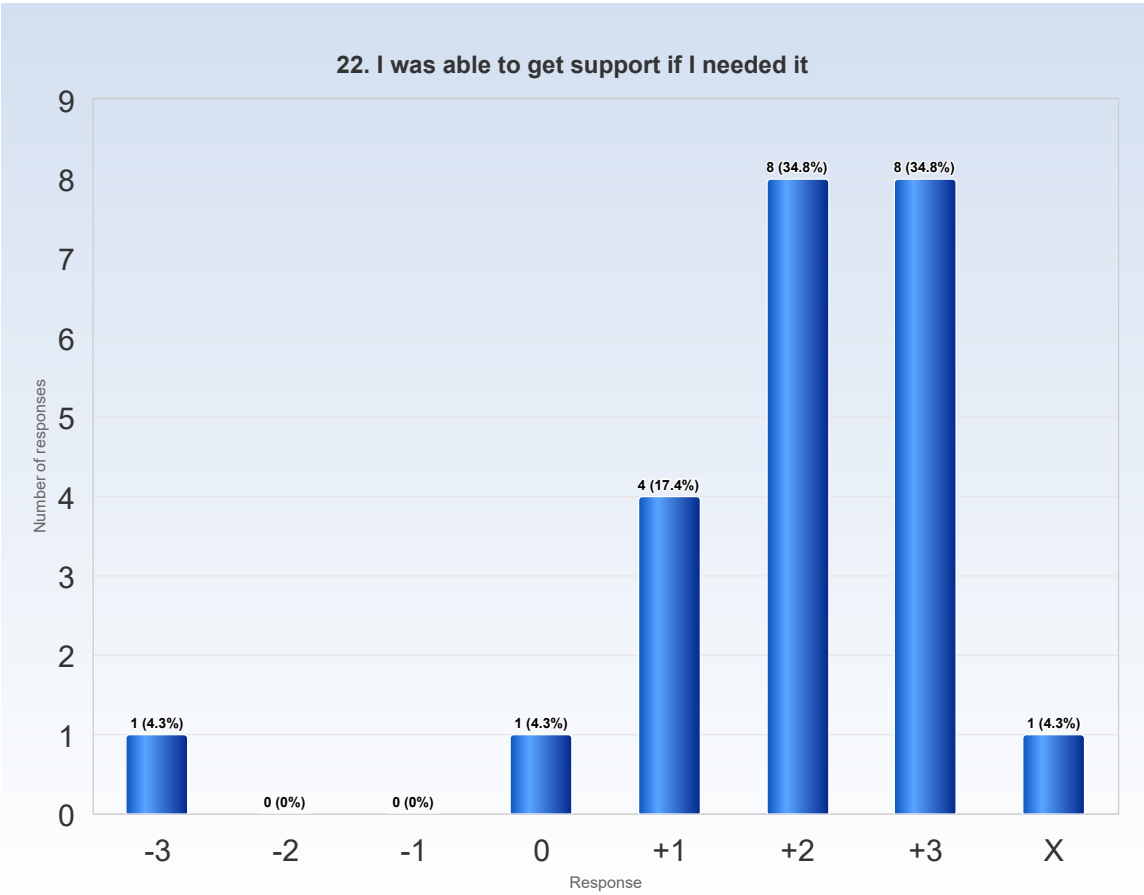


Comments

Comments (My response was: -2)
Depending on who was graded the HW

Comments (My response was: -1)
The grading of the exam was kinda harsch


21. I was able to learn by collaborating and discussing with others
Number of responses
11
10
9
8
7
6
5
4
3
2
1
0
1 (4.3%)
0 (0%)
1 (4.3%)
3 (13%)
3 (13%)
5 (21.7%)
10 (43.5%)
0 (0%)
-3
-2
-1
0
+1
+2
+3
X
Response



Comments

Comments (My response was: +3)
Great help from tas and the professor