

# Report - SF1811 - 2025-03-27

Respondents: 1  
Answer Count: 1  
Answer Frequency: 100.00%

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Please note that there is only one respondent to this form: the person that performs the course analysis.

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**Course analysis carried out by (name, e-mail):**

Anders Forsgren, andersf@kth.se

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**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. I asked for students to take part in a "kursnämnd", but no students volunteered.

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**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.

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**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 third 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 similar to those of last year. One homework assignment on the simplex method, where an implementation is provided. One homework assignment on a transportation problem, giving a link to the simplex method. One homework assignment on portfolio optimization, where Lagrange multipliers and optimality conditions are included. Simplex method was exchanged to use of provided solver plus give explanations. The second homework assignment was given as a transportation problem, asking for giving the link to the simplex method. The third homework assignment included Lagrange multipliers and optimality conditions.

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**THE STUDENTS' WORKLOAD**

**Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?**

Based on the survey the students average workload was 11-12 hours per week. There is a big spread. This is on a level which I think can be expected.

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**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 14%, B 12%, C 15%, D 15%, E 8%, Fx 6%, F 32%. In total 117 students wrote the exam, which is 7 more than last year. There is an increase in the number of students that failed the exam, it was 25% last year. Otherwise, performance is not very different. We had 95 students completing the homework assignments by the time of the exam. In total 100 students received at least one bonus point. Possibly the increased number of Fs could be explained by more students from previous year writing the exam.

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**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 and the exercise sessions.

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**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.

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**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. The changes implemented in the homework assignments made students focus on aspects I find important.

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**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?

Swedish students give higher grade for collaboration. Female students give slightly higher appreciation overall. This is the other way compared to the results of last year. I cannot give a good explanation for these results.

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**PRIORITIZED COURSE DEVELOPMENT**

**What aspects of the course should be developed primarily? 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.

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**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. At times it was quite low. However, I did feel that the students in the classroom were active and found the lectures meaningful.

# SF1811 - 2025-01-10

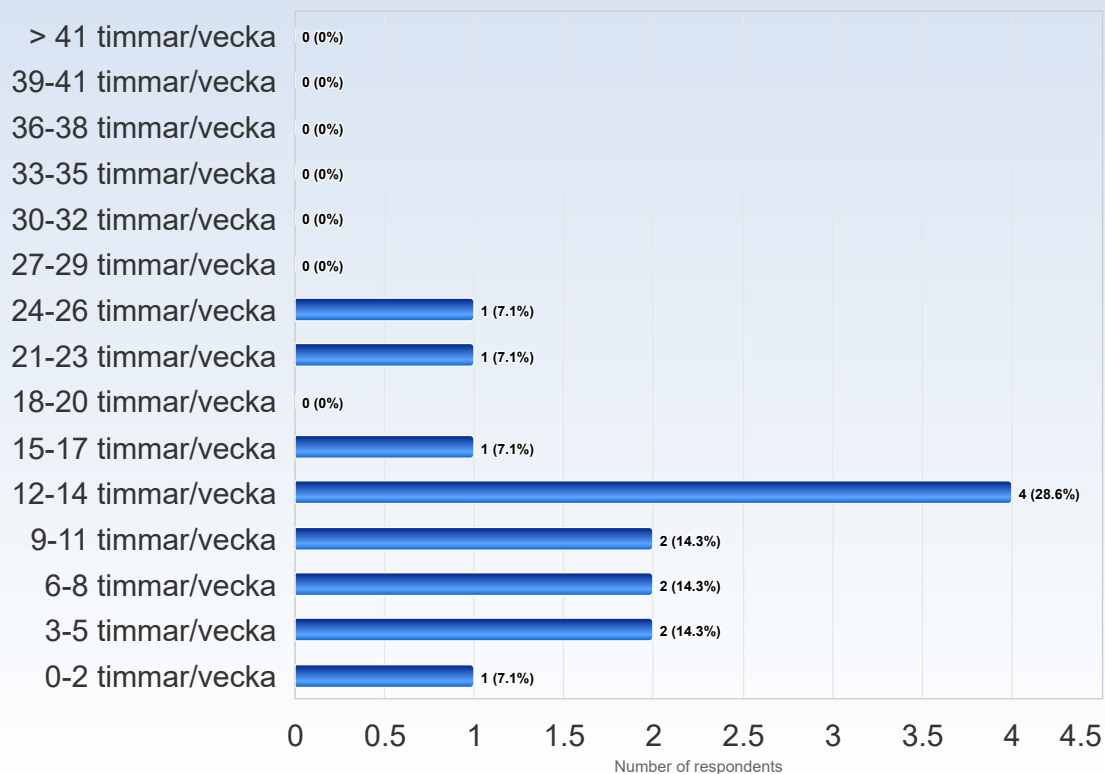
Antal respondenter: 171

Antal svar: 17

Svarsfrekvens: 9,94 %

## ESTIMATED WORKLOAD

On average, how many hours/week did you work with the course (including scheduled hours)?



### Comments

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

I was re-registered so I put less hours than perhaps other students that are reading this course for the first time.

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

It is reasonable

Comments (I worked: 12-14 timmar/vecka)

The workload matched expectations with regard to the amount of HP assigned to the course.

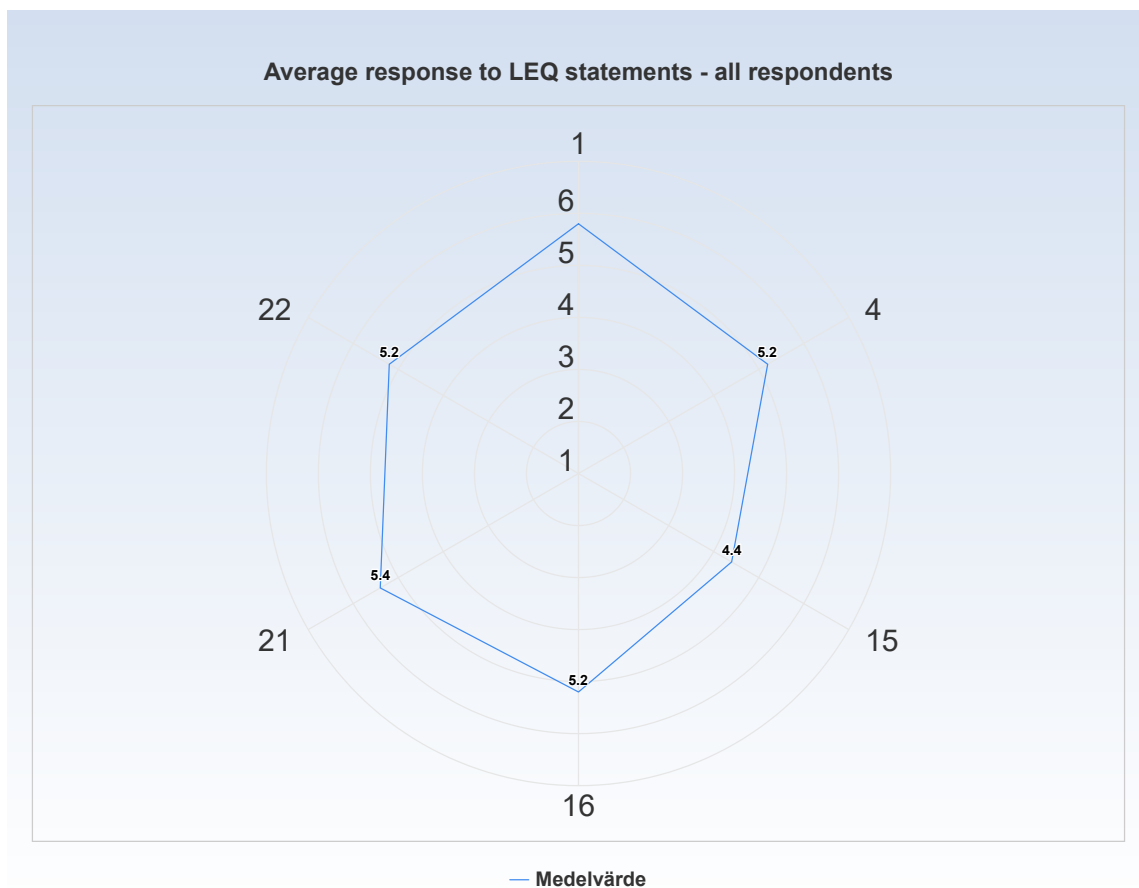
In my opinion the number and the quality of exercise sessions was not enough for cover all the topics in the correct way.

# 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.

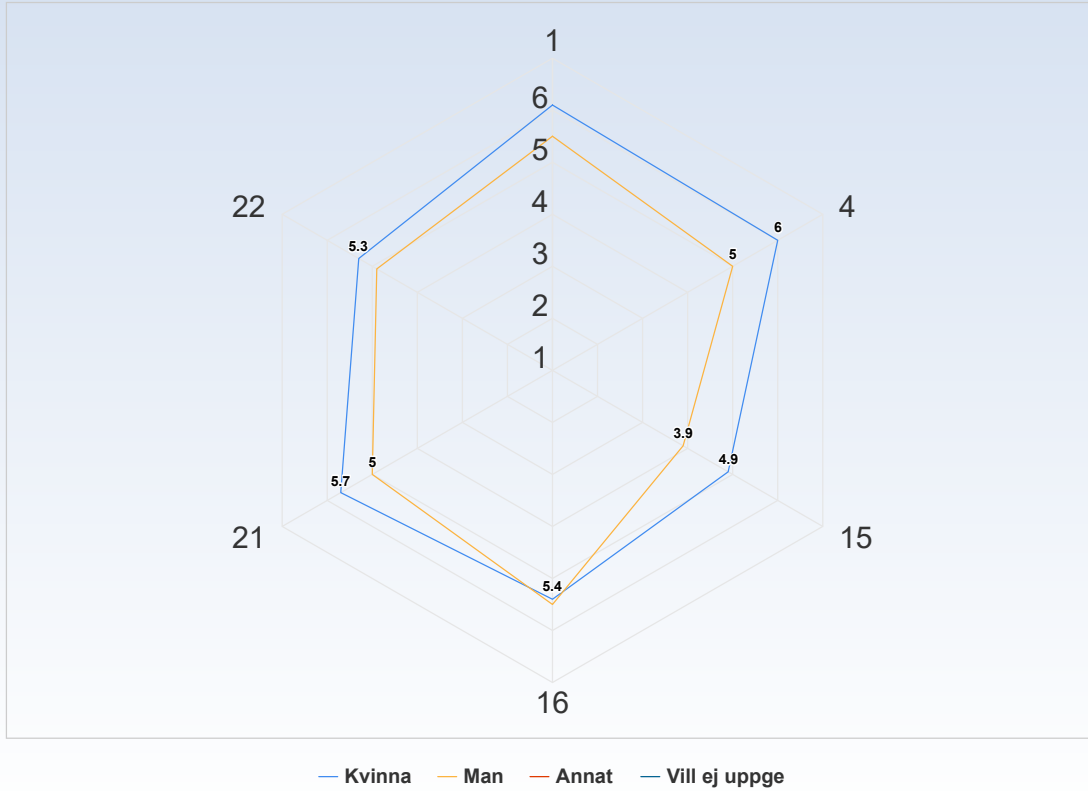
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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.

### Average response to LEQ statements - per gender

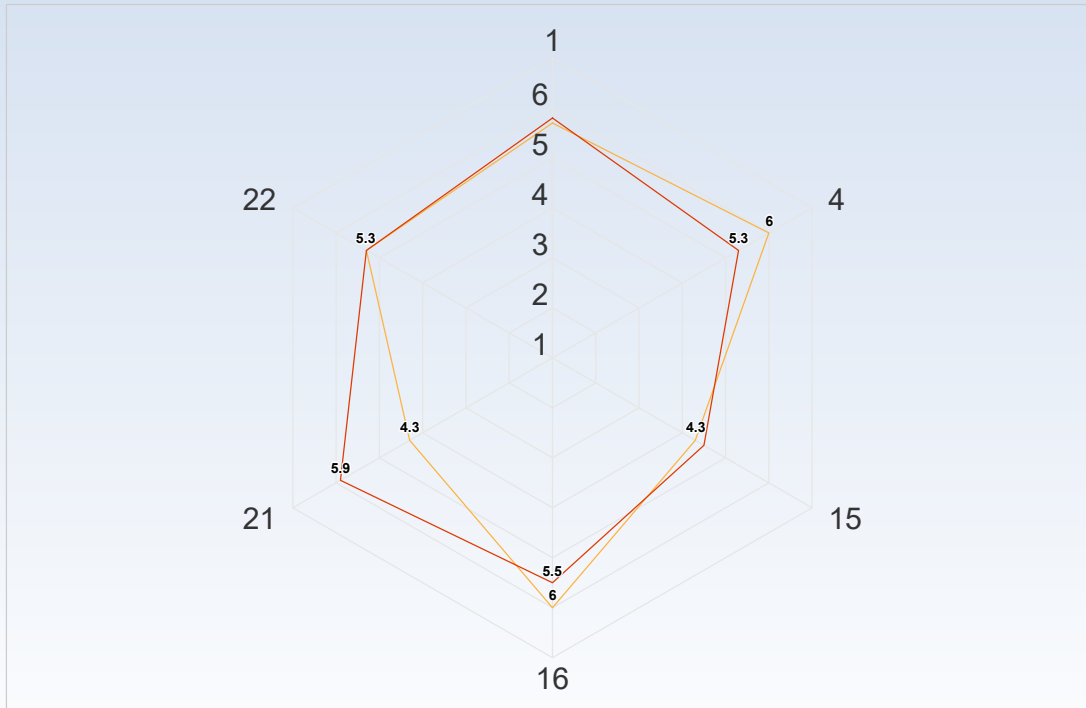


#### Comments

Comments (I am: Kvinna)

I saw no difference in treatment or assessment based on gender

### Average response to LEQ statements - per type of student



- Internationell masterstudent
- Internationell utbyesstudent
- Svensk student i årskurs 1-3
- Svensk student i årskurs 4-5
- Annan typ av student
- Vill ej uppge

#### Comments

Comments (I am: Internationell masterstudent)

The professor prefer to ansewer to the doubts of the swedish students and not the internationals, and in many situations I felt that the professor was not willing to answer or to give a further explanations when any of the internationals students approach to him in class.

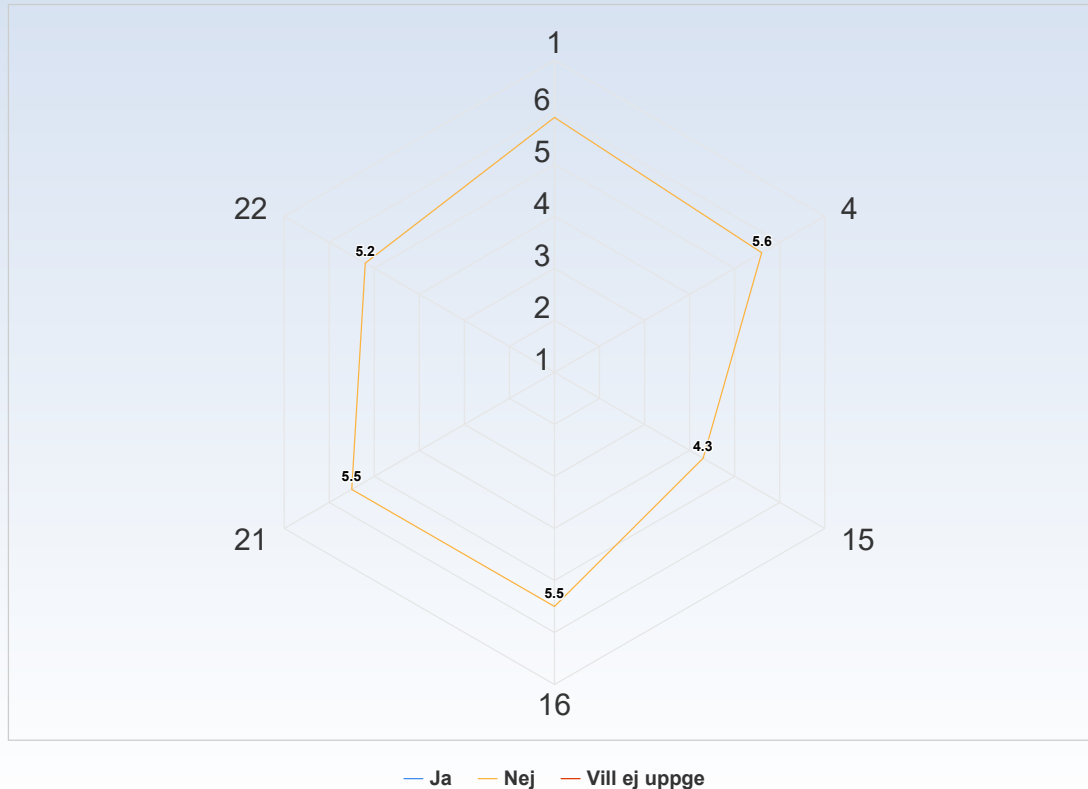
Comments (I am: Internationell utbyesstudent)

my bachelor was not in math

Comments (I am: Svensk student i årskurs 1-3)

It was on a good level, not too challenging or too easy

### Average response to LEQ statements - per disability



## GENERAL QUESTIONS

What was the best aspect of the course?

What was the best aspect of the course? (I worked: 3-5 timmar/vecka)

Lärorikt

What was the best aspect of the course? (I worked: 6-8 timmar/vecka)

I liked the homework assignments. They were a good way to practice continuously.

What was the best aspect of the course? (I worked: 9-11 timmar/vecka)

It was fun to do exercises! And teacher assistant Linn Engström had structured exercises with good explanations and additional information!

What was the best aspect of the course? (I worked: 12-14 timmar/vecka)

The homework assignments were great for learning the course concept.

Learned a lot from the homework assignments

To be honest, nothing sticks out. The course felt like an average KTH course without any major issues (which is great!)

What was the best aspect of the course? (I worked: 15-17 timmar/vecka)

That there were pre-filmed lectures, so that one could re-listen to topics that were a bit more difficult

That there were multiple chances to hand in the homework assignments in case something ended up being wrong, and receiving feedback every time

What was the best aspect of the course? (I worked: 21-23 timmar/vecka)

Interesting to finally to be able to use the math we have been taught

### What would you suggest to improve?

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

Ta bort 2p frågor på del II, svårt att samla ihop 4 poäng då vissa frågor kräver bevis. Känns som att om man presterar bra på den andra delarna och inte får ihop tillräckligt med poäng på del II så misslyckas man.

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

More examples

I understand that this is just the way optimization works, but one really does get tired of the simplex method.

What would you suggest to improve? (I worked: 12-14 timmar/vecka)

Maybe more exercise sessions and maybe a little of explanation of real life examples were the topics covered during the course were used.

Clearer instructions for how the homework assignments are being graded. For example how do I receive two versus one points on the third assignment.

What would you suggest to improve? (I worked: 15-17 timmar/vecka)

To inform the students of points deduction, and what to do to avoid this

What would you suggest to improve? (I worked: 21-23 timmar/vecka)

The instruction to the homeworks were unclear

### 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)

Häng med och förstå och härled bevis i kurslitteraturen. Samla bonuspoäng!! Kan rädda dig på tentan.

What advice would you like to give to future participants? (I worked: 6-8 timmar/vecka)

go to the lectures, they are usefull

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

Go to the exercises! And do recommended exercises from the book as they really do help with the exam.

What advice would you like to give to future participants? (I worked: 12-14 timmar/vecka)

Don't study the theory questions (if you want to maximize your grade; they can still be good to look at if you are interested/for understanding). Instead you might as well learn all the methods taught in the course which you will need in the exam anyway, which will allow you to solve the alternative to the theory questions.

Practice a lot of exercises

Try to really understand the homework assignments, it will contribute to a better understanding of the course overall and make you work with the material frequently over the course.

What advice would you like to give to future participants? (I worked: 15-17 timmar/vecka)

To go to the exercise sessions

### Is there anything else you would like to add?

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

som sagt, 2p frågorna borde tas bort.

## SPECIFIC QUESTIONS

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## RESPONSE DATA

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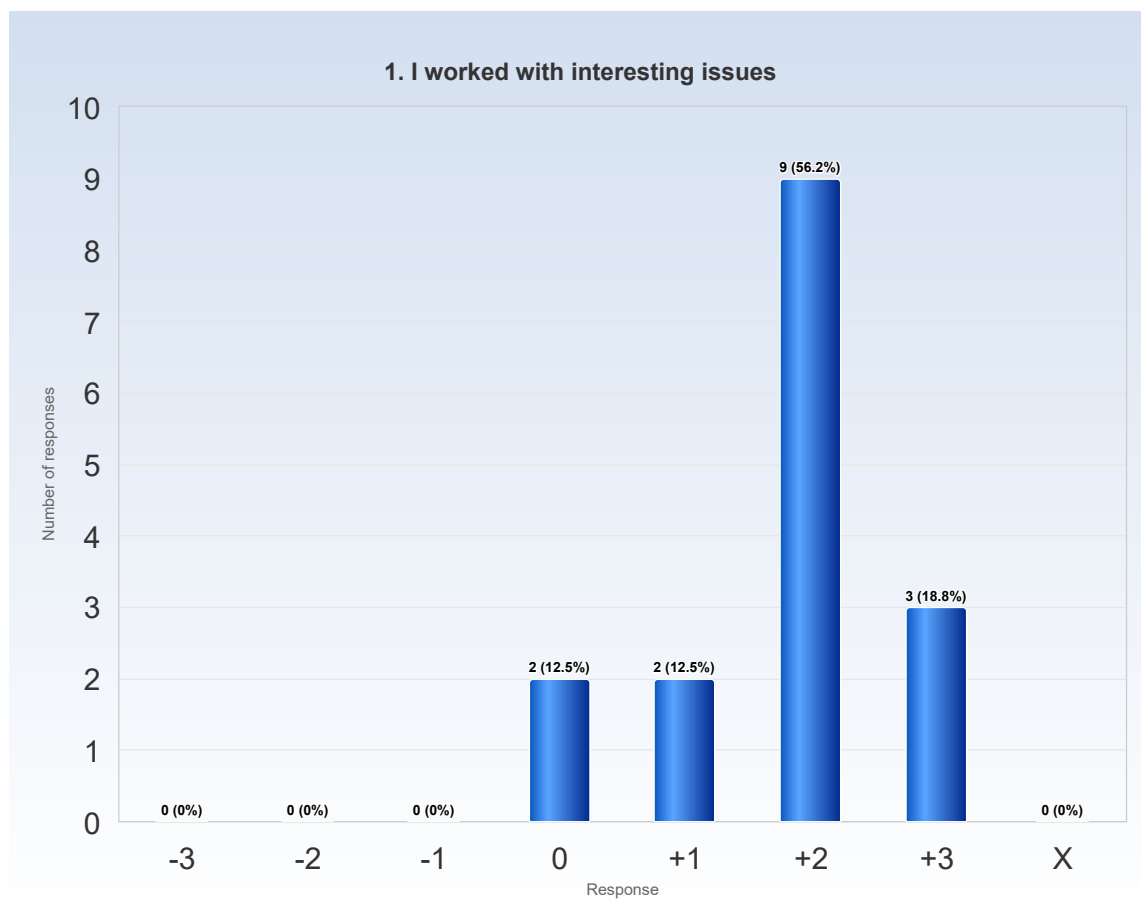
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

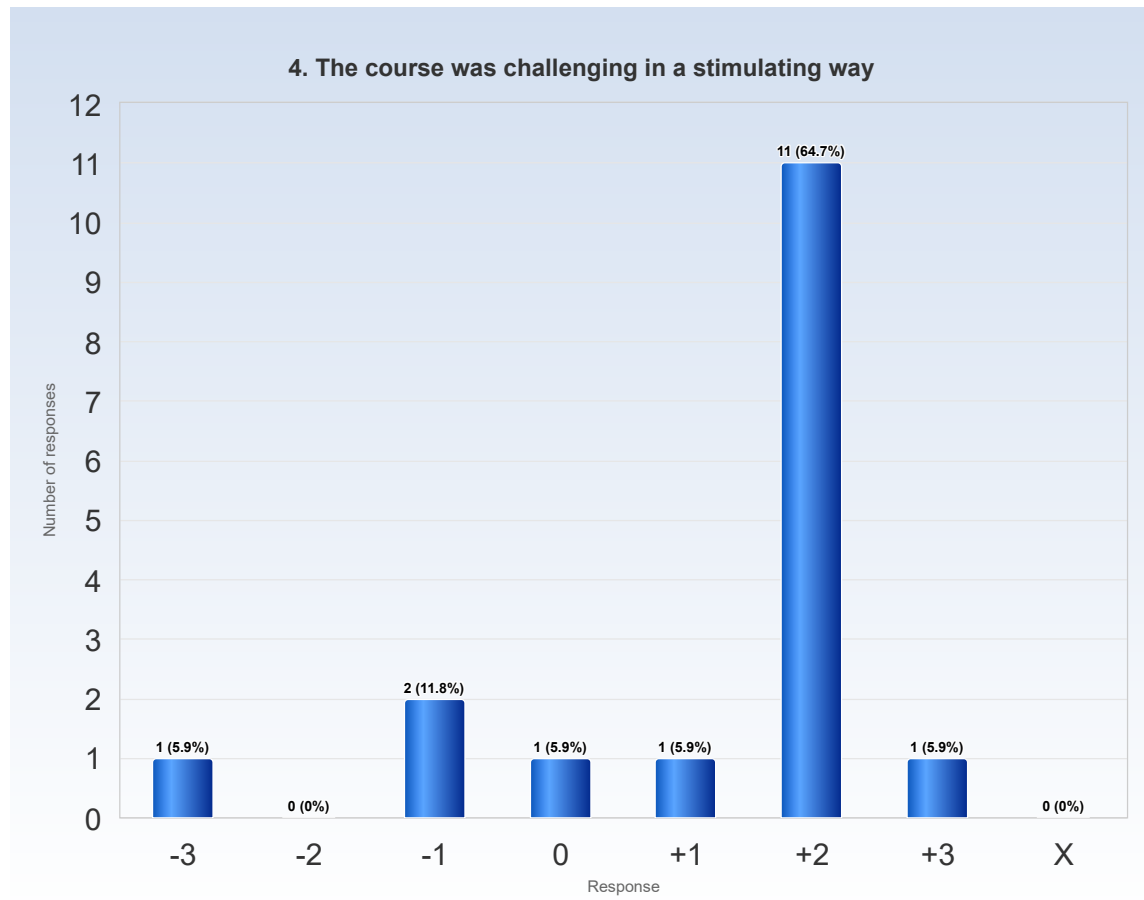
X = I decline to take a position on the statement



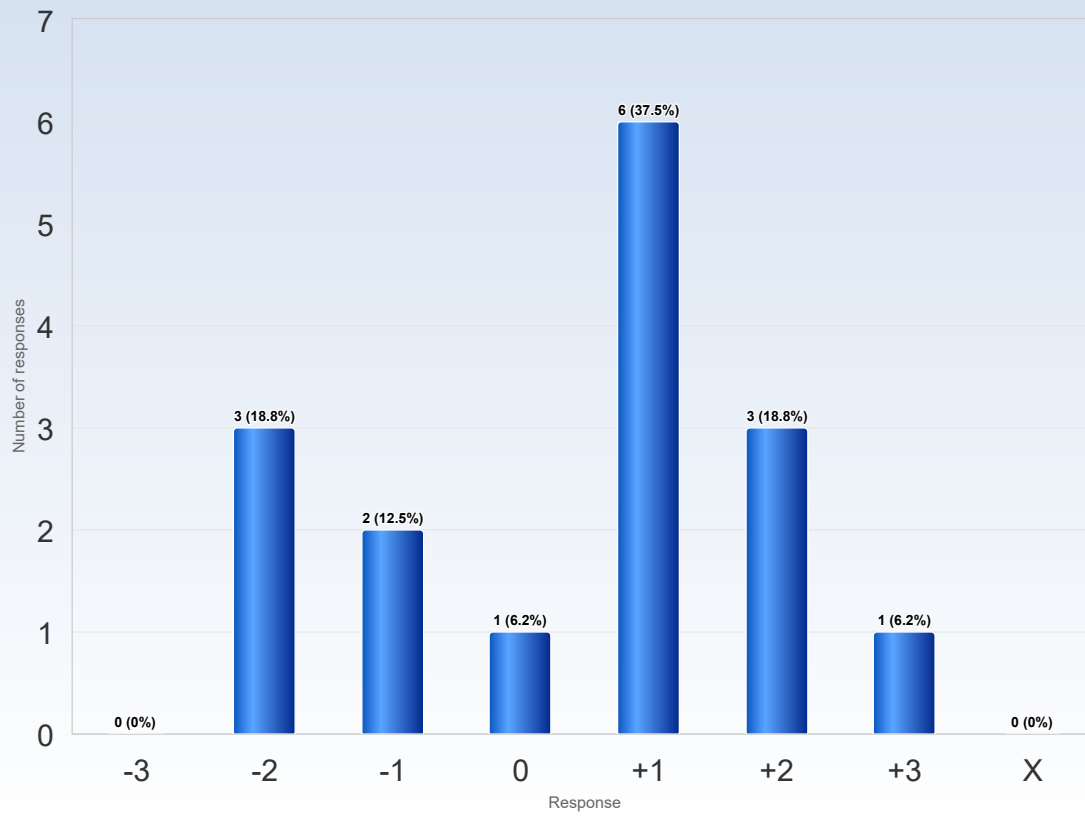
Comments

Comments (My response was: +2)

Im interested in the topic so I find it always interesting, but the professor did not help to make it more interesting



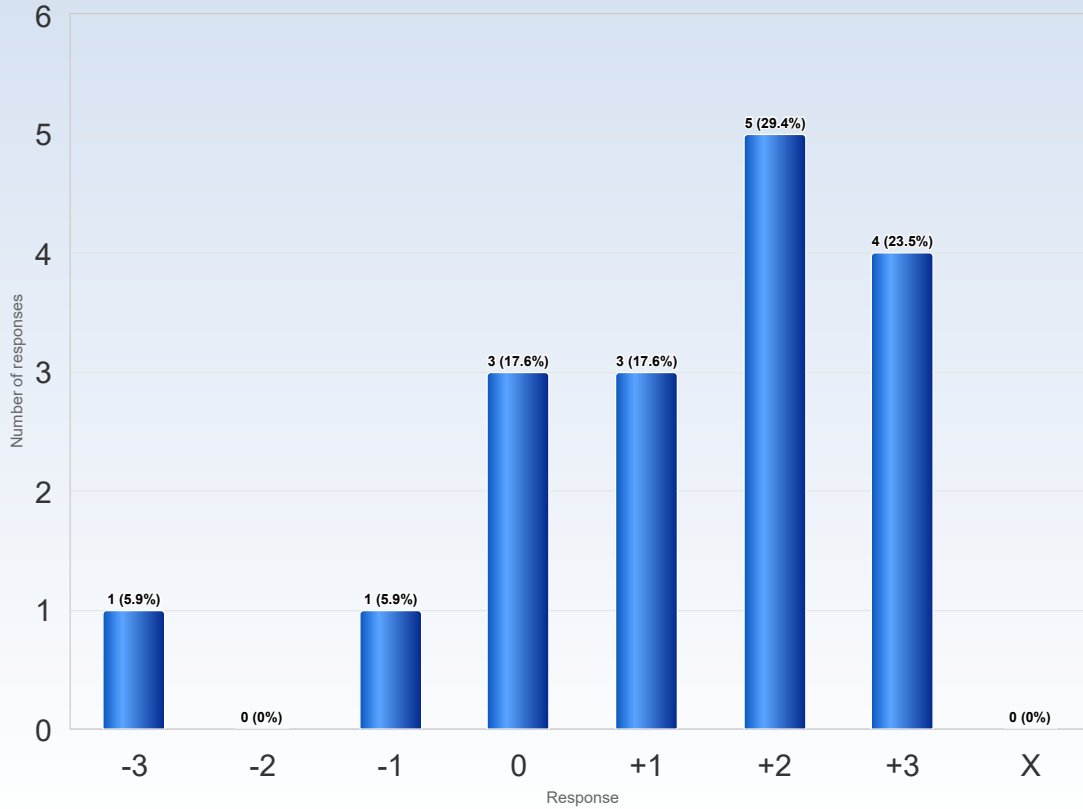
15. I was able to practice and receive feedback without being graded



Comments

Comments (My response was: -2)  
No, as with most KTH courses

### 16. The assessment on the course was fair and honest



#### Comments

Comments (My response was: -3)

The exam is so bad its not normal the knowledge requirments for F is the same as for a B

Comments (My response was: -1)

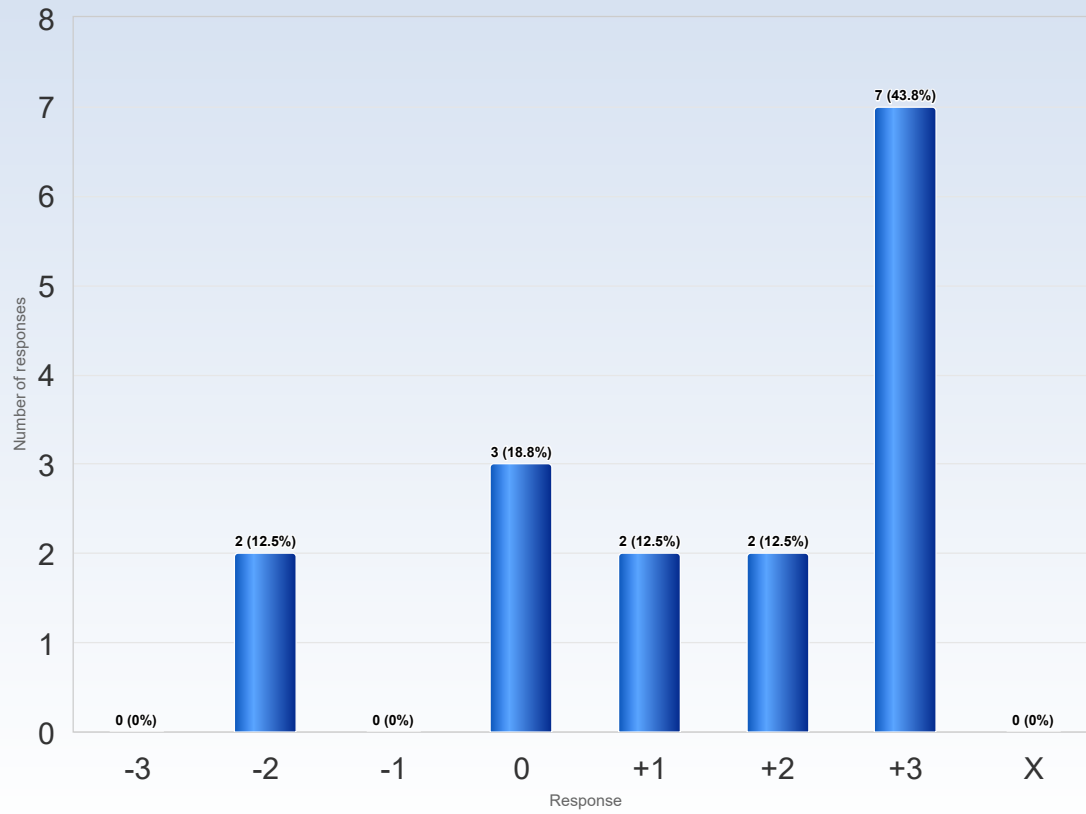
Difference between the TAs in the assignment grading

Comments (My response was: +1)

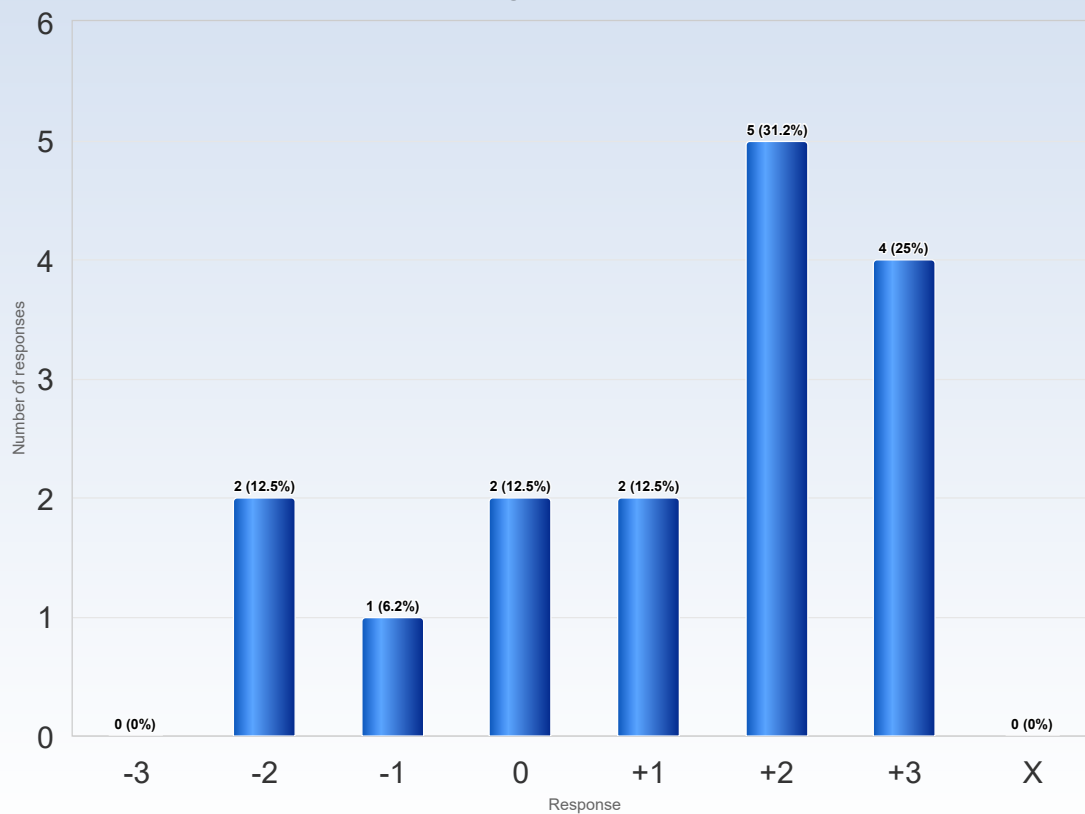
The assessment on the home assignments were fair, but I do not feel like deducting points on the exam is entirely fair

Somewhat stringent grading in the homework, otherwise okay

### 21. I was able to learn by collaborating and discussing with others



## 22. I was able to get support if I needed it



### Comments

Comments (My response was: -2)  
Önskade det fanns räknestugor

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