



## **ID1206 - 2018-02-20**

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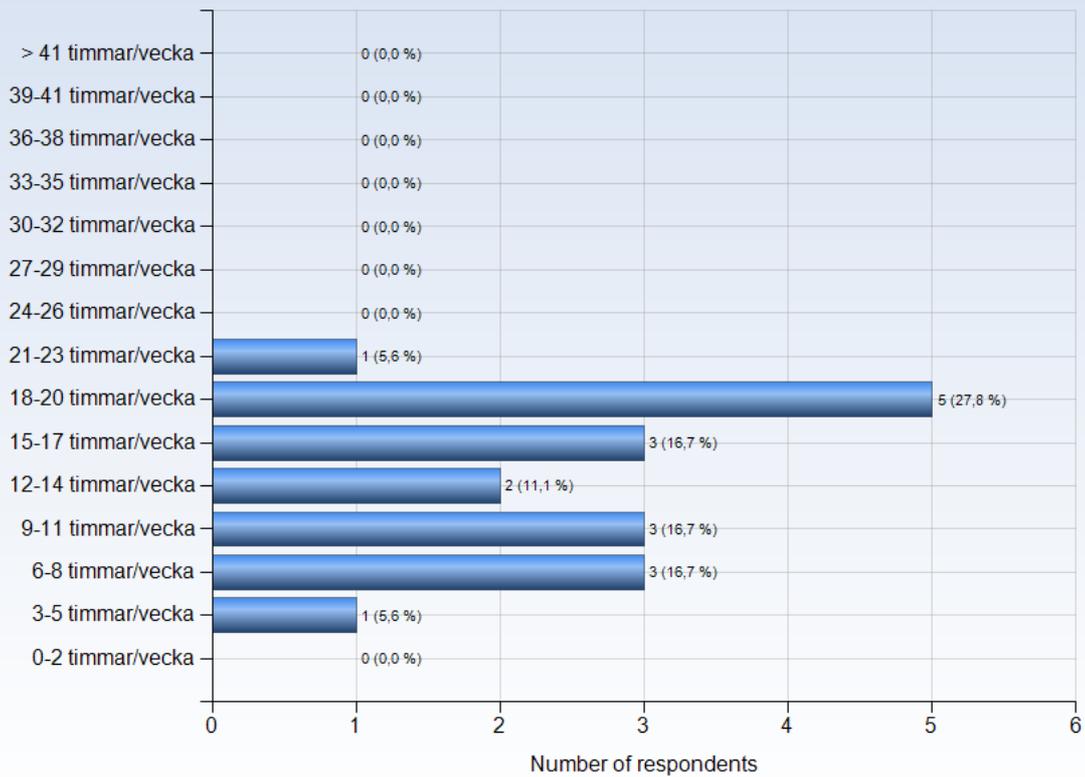
Antal respondenter: 104  
Antal svar: 19  
Svarsfrekvens: 18,27 %

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## ESTIMATED WORKLOAD

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



### Comments

Comments (I worked: 6-8 timmar/vecka)

Didn't attend the lectures but read a lot at home. The course literature was very, very good and I learnt a lot from that.

I should have spent more but could not as i had id1212 which was very demanding and result oriented.

Comments (I worked: 15-17 timmar/vecka)

Behöver länge ner mycket tid på vissa moment såsom virtuellt minne(policy och mekanismer) och concurrency(att förstå och resonera kring).  
24-26tim/vecka är bra.



## LEARNING EXPERIENCE

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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:

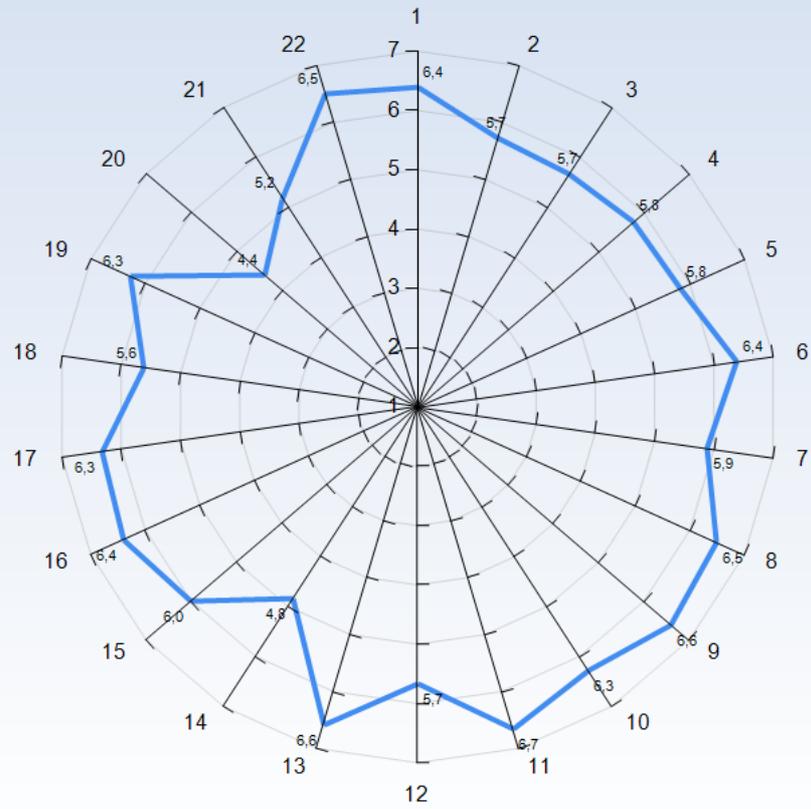
1 = No, I strongly disagree with the statement

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.**

### Average response to LEQ statements - all respondents





## **KTH Learning Experience Questionnaire v3.1.3**

### **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. I understood how the course was organized and what I was expected to do (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 choices*

- 19. I was able to learn in a way that suited me (m)
- 20. I had opportunities to choose what to do (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, intriguing or important
- b) We can speculate, try out 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 yet supportive environment
- d) We feel that we are part of a community and believe that other people have faith 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 sufficient background knowledge to manage the present learning situation
- g) We can learn inductively by moving from specific examples and experiences to general principles, rather than the other way around
- h) We are challenged to develop a proper understanding of key concepts and successively create a coherent whole of the content
- i) We believe that the work we are expected to do will help us to reach the intended learning outcomes
- j) We can try, fail, and receive feedback in advance of and separate from any summative judgment of our efforts
- k) We believe that our work will be considered fairly and honestly
- l) We have sufficient time to learn and devote the time necessary to do so



m) We believe that we are in control of our own learning, not manipulated

n) We can work collaboratively 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.

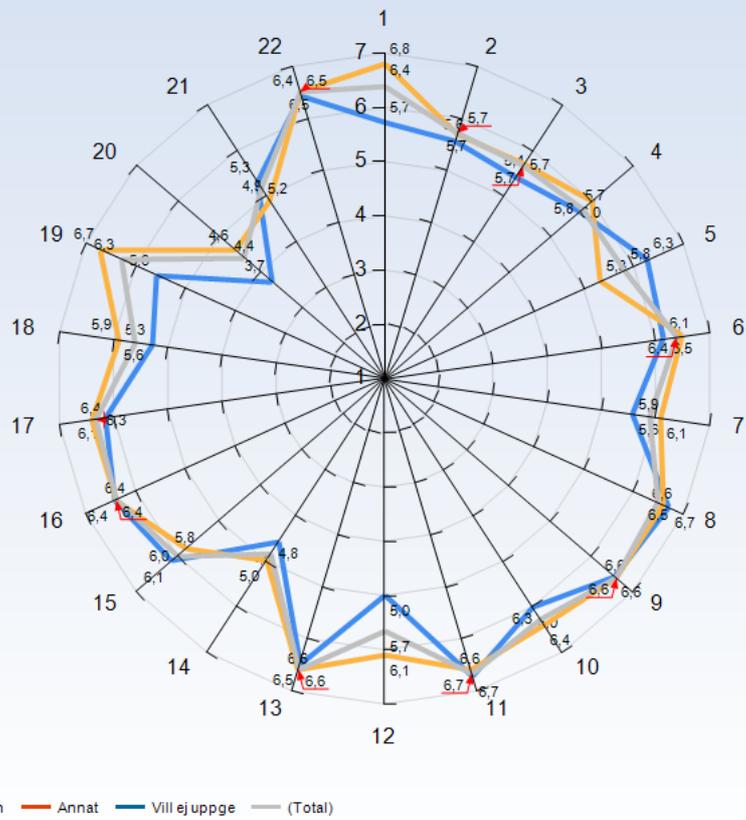
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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

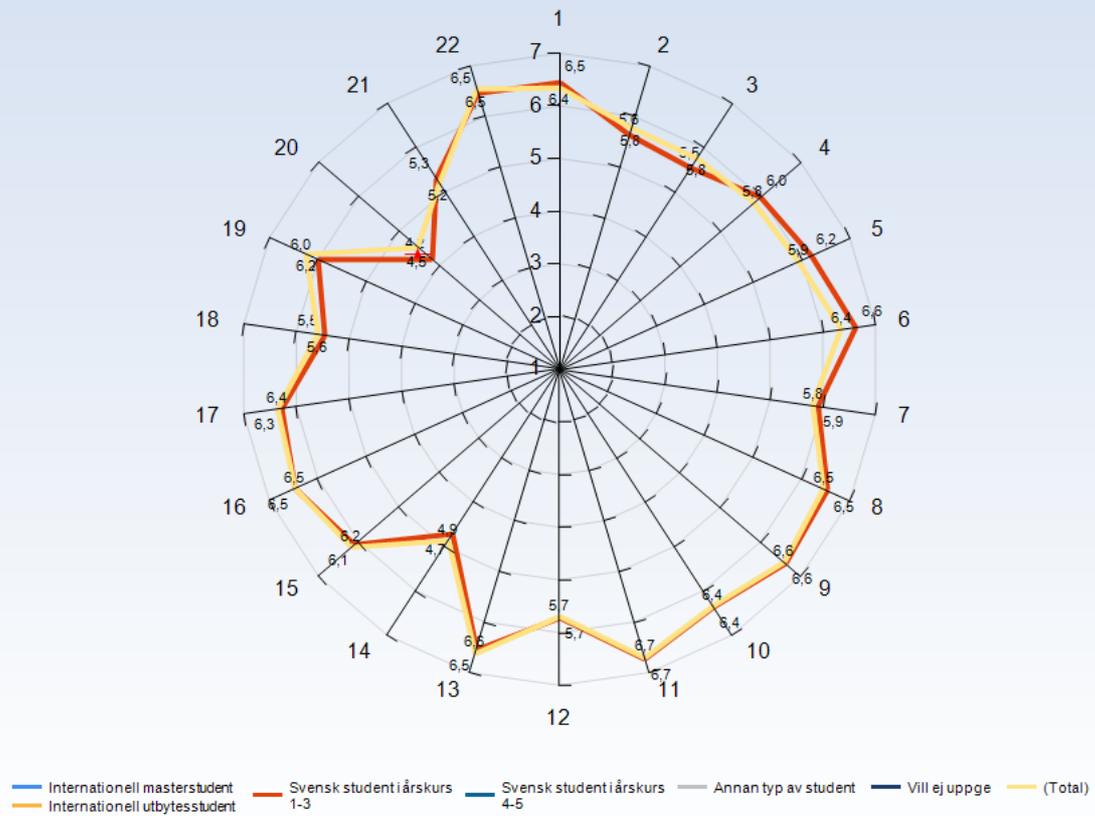


### Comments

Comments (I am: Kvinna)

Average student who gets average grades around C / D.

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



### Comments

Comments (I am: Annan typ av student)

International Bachelor student

Year 3 TCOMK student



## GENERAL QUESTIONS

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### What was the best aspect of the course?

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

Lectures and assignments. The focus on understanding key concepts.

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

Johan, the lecturer, was absolutely great and very inclusive and interactive on his lectures. He kept you interested through the lectures by showing interesting things on the computer and having the class help him do these things, as well as having some clever pictures or comments to keep the mood up.

The course literature. I learnt everything from reading that. And having the A4 page to the exam. Writing that one was a good way to learn about the subjects.

The teacher himself.

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

The extra assignments were very useful and relevant to the course and really helped with practically catching up with the course content.

Lectures

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

Great atmosphere and the way of teaching of the lecturer really involved students. The book was REALLY good. The subject had the potential of being very boring but the lecturer could make it feel and actual. Like discovering how daily tools that I use every day work under the hood.

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

Interesting material, easy to follow, teacher very good at taking response and improving

Kursboken!!! Jättebra kursbok med kodexempel och en referenslitteraturlista efter varje kapitel som gör att man kan studera egna ideer och på egen hand. Övningarna är också jättebra då de fördjupar förståelse men också ger en verktyg så att man ta sig an områden inom operativsystem på egen hand till exempel efter avklarad kursmoment.

What was the best aspect of the course? (I worked: 18-20 timmar/vecka)

- Kurslitteraturen, som var den absolut bästa jag någonsin haft på KTH.

- Johan Montelius – en fantastisk föreläsare!

The learning outcomes were interesting, no part felt boring or unnecessary.

Johan Montelius!

Den är lätt att följa och man förstår precis vad man behöver göra och vad som krävs.

The lectures, assignments and the course literature were all very interesting and helpful.

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

We implemented an operating system from scratch. It was in Rust, a programming language that I had never worked with before, but the tutorials that we followed were explanatory and so it was nice. Although it is possible in the future Rust to replace other "system programming languages" I would prefer to work with C or C++ since they are more popular at the moment. Nevertheless, I believe it was the highlight of the course.



### What would you suggest to improve?

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

The project was not very well timed. It would have been more valuable to do assignments together, rather than the project.

What would you suggest to improve? (I worked: 6-8 timmar/vecka)

The exam was very well balanced between effort needed and the 6.0 HP it awards. The time consumption of the project is probably slightly off with the 1.5 HP it awards.

The seminars were not good. Didn't get anything from just following a tutorial.

Nothing in particular. go to the lectures. Not all course have such a teacher to actually be benefited from.

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

I think the Rust project should be replaced with the assignments instead because I personally think for this course, Rust seminars were quite irrelevant and since we most of the time did not know what we were doing and what was going on, they were quite waste of time. On the other hand, it would have been a lot more efficient if the seminars were for the assignments instead so that everyone actually gets their questions answered and that we go through them as a class because they were really useful.

Instead of having project on exercise time, it should be assignments. Or else assignments gone forgotten

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

The exam was very standard and varied too little from previous years. The cheatsheet was an excessive help. Some more reasoning-oriented questions would be very appreciated (I know it's hard to write such test) every year. The seminar on the OS were very interesting for people already interested: maybe it should be moved to background and the home assignments (very useful) should have more space.

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

The work division between project/assignments. It is interesting with the project but it takes a lot of time and is hard to follow and understanding. More focus on the assignments which are important for the course. If possible add bonus system, students are much more likely to finish assignments if they get any type of bonus by doing so.

Inför tentan, lunchtimmar eller motsvarande med lärare eller assistent. Att schemalägga hjälp i början av kursen för att komma igång och sedan i slutet av kursen fram emot examinering.

What would you suggest to improve? (I worked: 18-20 timmar/vecka)

Jag kan inte komma på något konkret. Det är en av de bästa kurser jag läst hittills på KTH.

Not a very big fan of the project, took a lot of time that I would have liked to use for the other assignments.

Ta bort Rust Projektet, övningarna var betydligt mer givande. De första delarna av Rust projektet gjordes noggrant av de flesta men desto längre in i kursen desto mer enbart kopierande skedde.

The project (Oppermann's blog) was time consuming and unnecessary. All one did was copy/paste his code and search for bugs which were not really related to the course. I would suggest skipping the entire project and spending those hours going through the assignments instead, maybe making more assignments. I feel I learned a lot from the assignments.

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

The exercises were very important. But because they were not mandatory, I did not pay much attention till the very end. I believe if they would be combined with labs, where students would have to go through the exercises and implement something similar, they would be engaged with them from early in the course. In general the course is designed in such a way that students can arrange their own studying individually. This is very good, but since other courses are "greedy" (with many mandatory labs, seminars etc), students (myself included) tend to postpone studying for this course to the very end. I do not say it as something negative, the course is great.



### 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)

Read the book.

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

Read the book, it's extremely easy (and surprisingly fun for a uni. course book) to read and will teach you everything you need for the exam.

Read the course literature and if you have time go to the lectures and do the assignments that you get handed.

Study early little by little. That would be enough but remember you only scratch the surface of operating systems

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

Start studying as the course starts and do not leave everything for the last minute.

do assignments beside the project.

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

Do all the assignment and read the book cover-to-cover. You'll learn a lot in a short amount of time!

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

Make sure to follow the assignments

Läs kursboken! Förstå och gör övningarna!

What advice would you like to give to future participants? (I worked: 18-20 timmar/vecka)

LÄS BOKEN.

Start reading the book early, it is easy to read and understand.

Läs boken den är väldigt bra!

Lägg mycket fokus på att öva på gamla ex tentor.

Read the course book!

What advice would you like to give to future participants? (I worked: 21-23 timmar/vecka)

Never miss a lecture. Johan is an expert in the field. He is programming live with examples to understand what he teaches in theory, answering all questions, showing different programming examples and enhances the lectures with interesting "geeky" comments. I think we learn a lot through lectures.

Furthermore, I would suggest to do all the exercises, since they present a lot of the stuff not covered by the book or lectures.

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

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

The exam exercise session slides prepared a bit too well for the exam, since only few exam questions were new.

Is there anything else you would like to add? (I worked: 6-8 timmar/vecka)

Skip the seminars and focus on the assignments.

No

Is there anything else you would like to add? (I worked: 9-11 timmar/vecka)

Mandatory seminars were useful and should be continued because sometimes people need a little push to attend even if they know they need to.

Is there anything else you would like to add? (I worked: 12-14 timmar/vecka)

Keep on improving! I heard that the vast majority of students enjoyed this course really much and not only in Kista!

## 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:

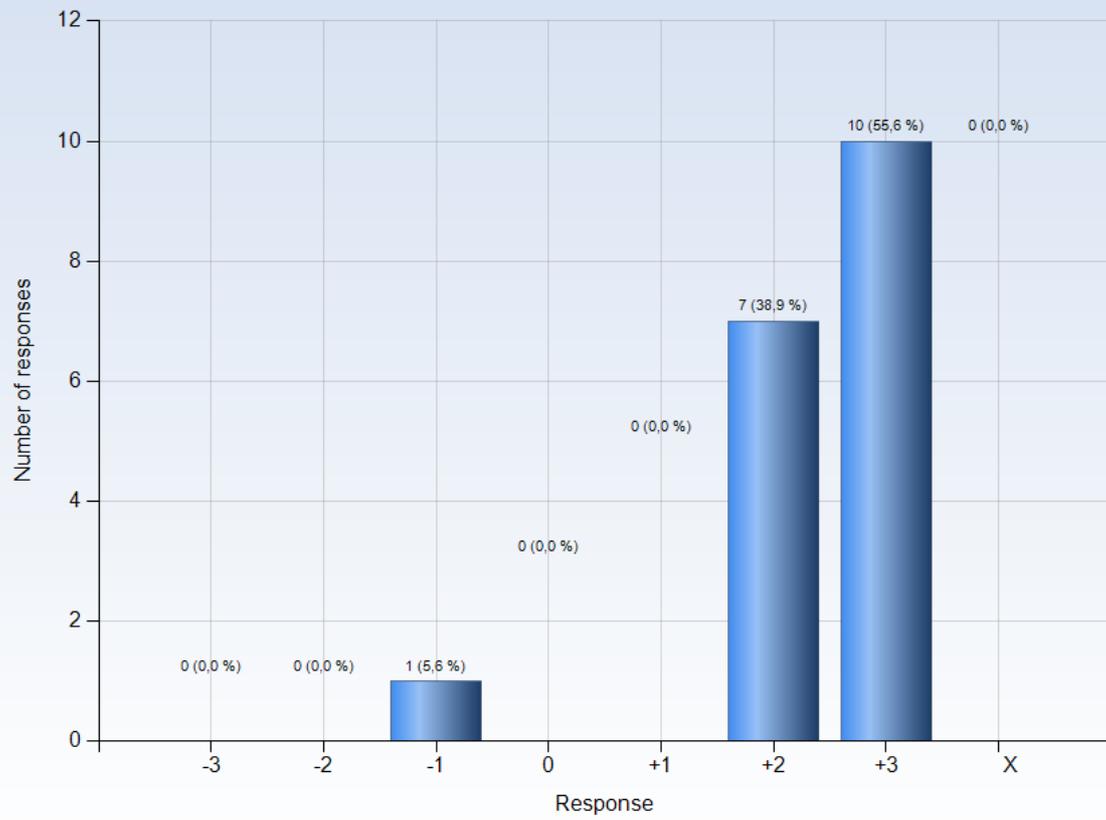
-3 = No, I strongly disagree with the statement

0 = I am neutral to the statement

+3 = Yes, I strongly agree with the statement

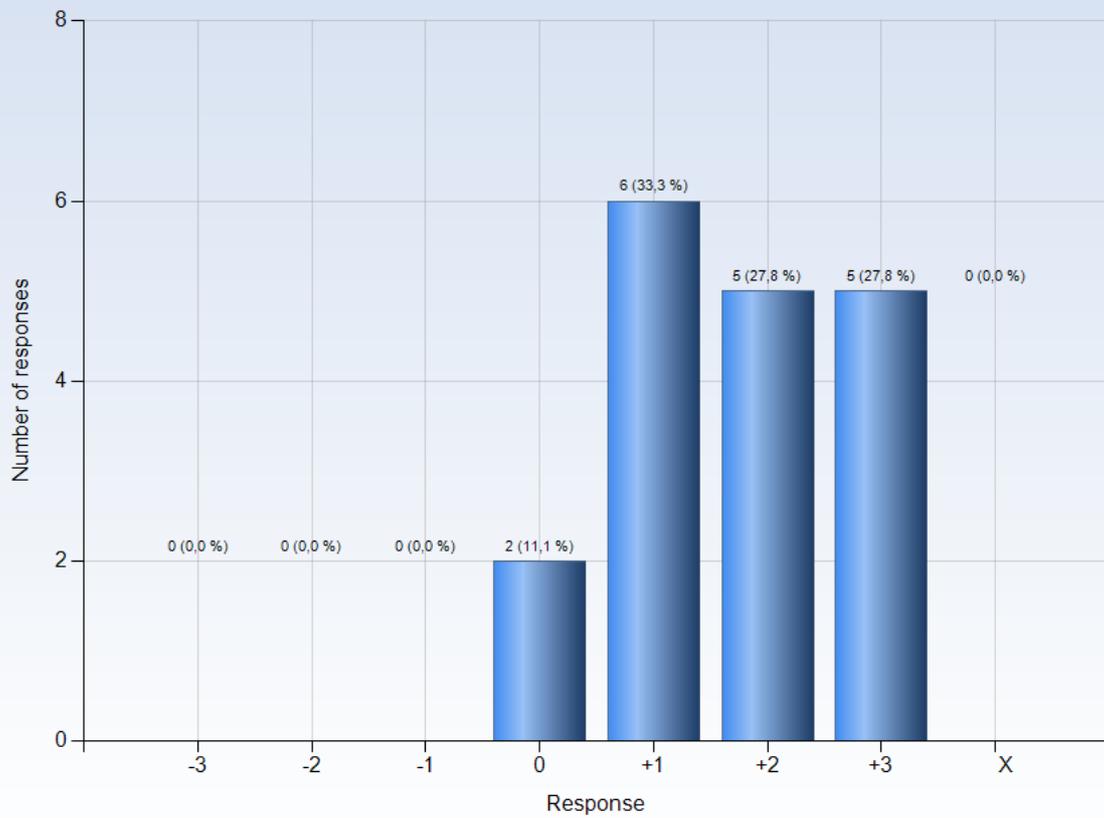
X = I decline to take a position on the statement

### 1. I worked with interesting issues



Comments

## 2. I explored parts of the subject on my own

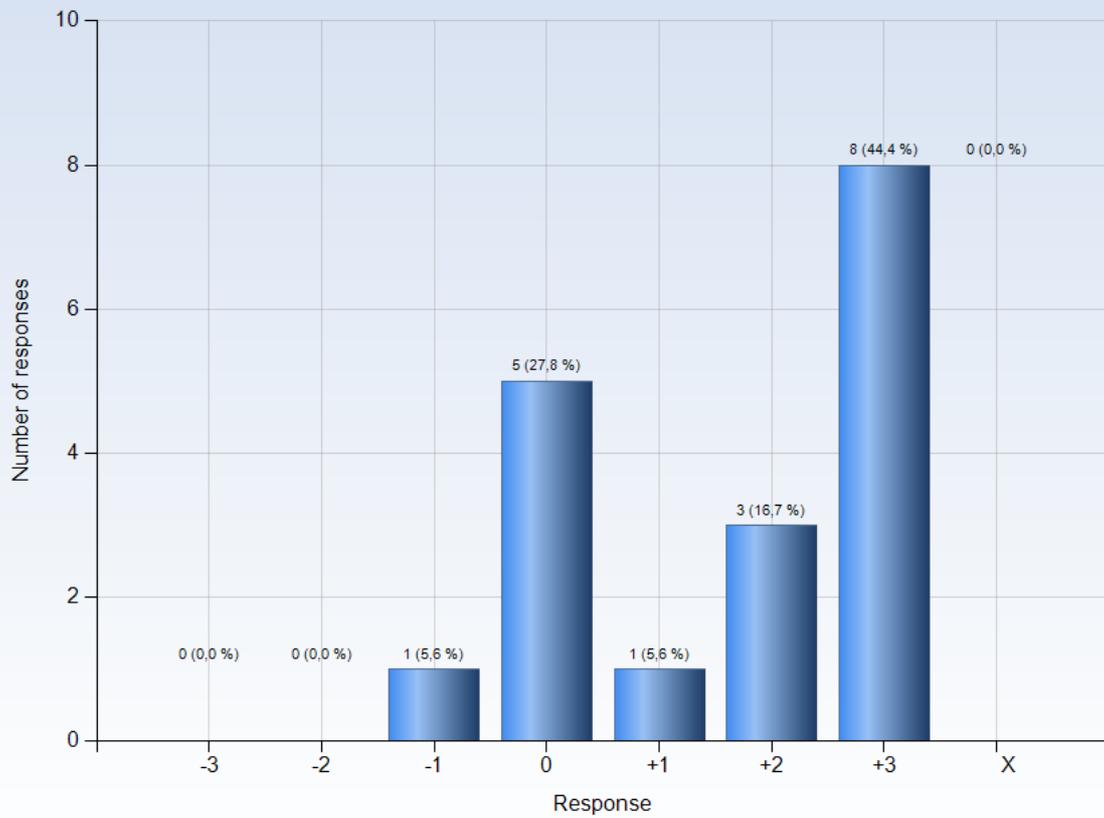


### Comments

Comments (My response was: +3)

Upptäckte linux kernel programmering:-)

### 3. I was able to learn by trying out my own ideas

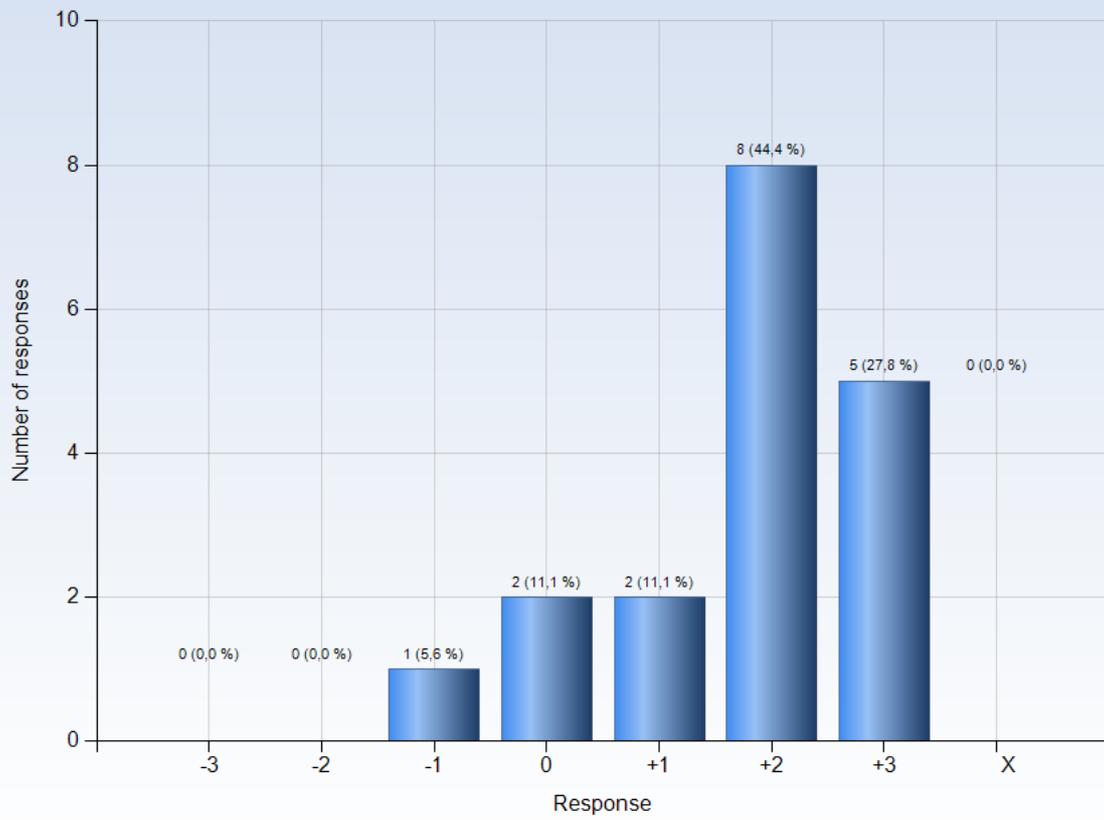


#### Comments

Comments (My response was: +2)

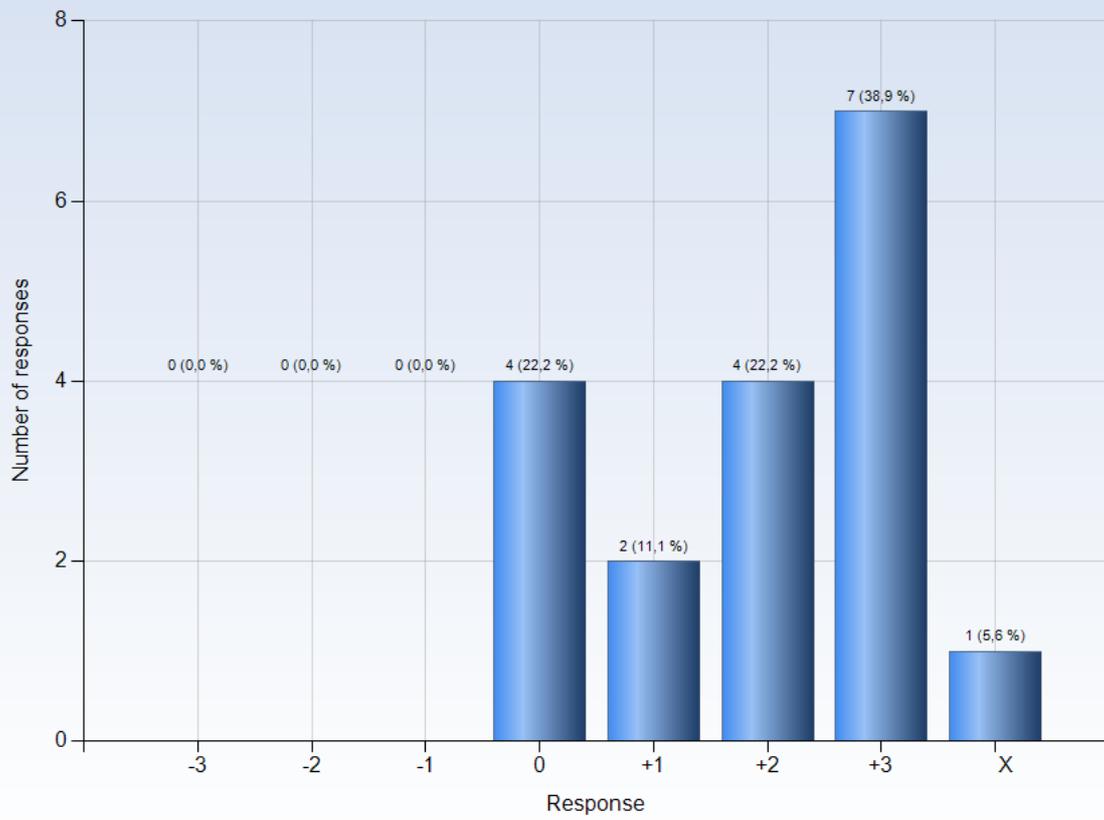
Efter kursgångens slut kan man experimentera med egna ideer. Övningar och kursbok med kodexempel samt referenslista ger utomordentligt material för vidare studier i det man är intresserad av.

#### 4. The course was challenging in a stimulating way



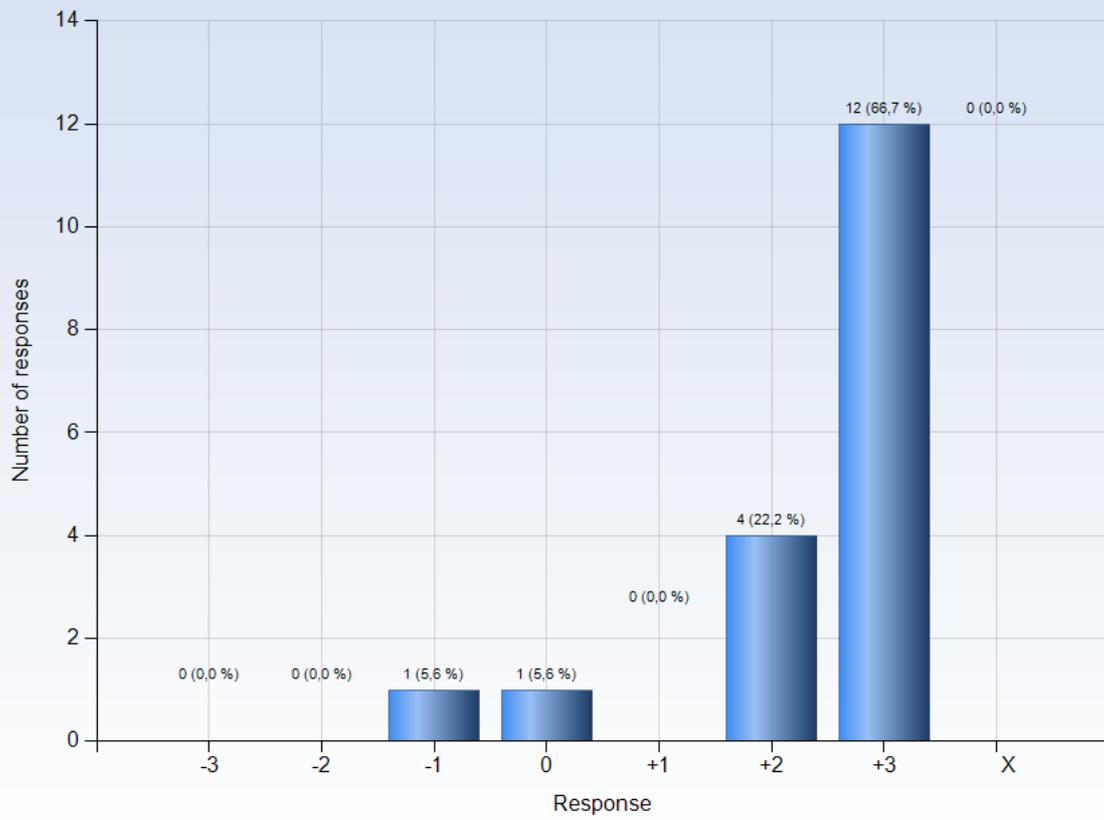
Comments

### 5. I felt togetherness with others on the course



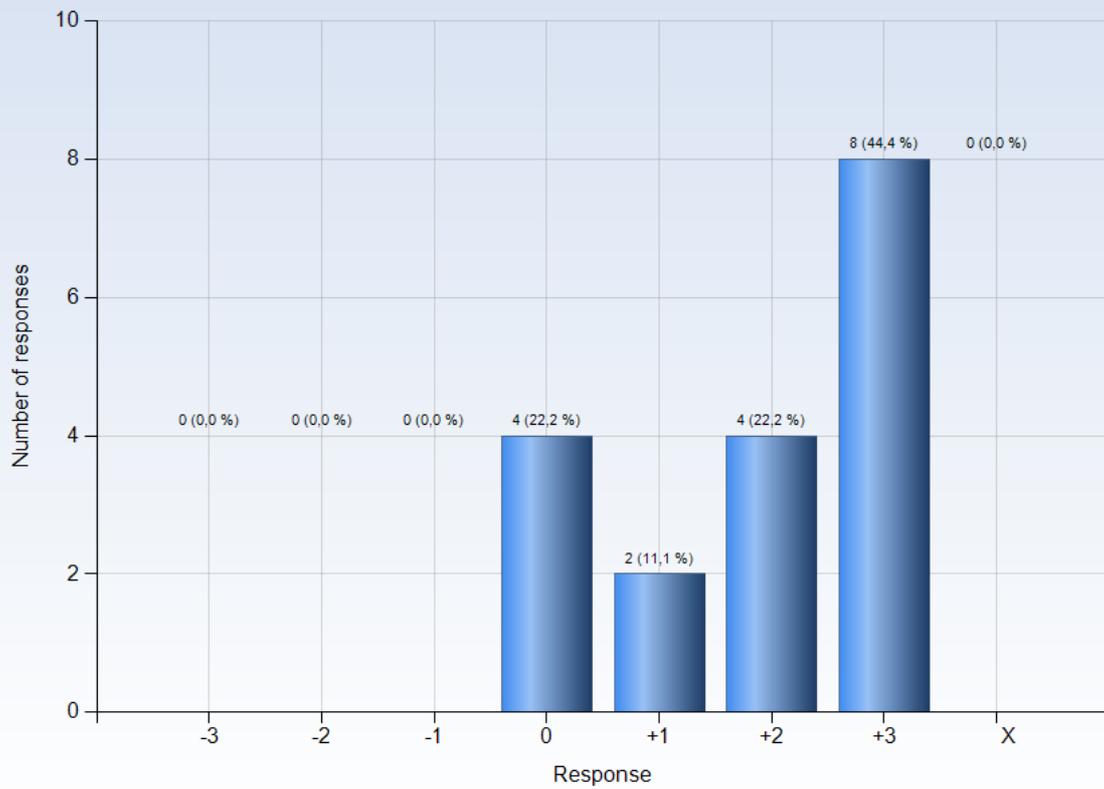
Comments

### 6. The atmosphere on the course was open and inclusive



Comments

### 7. The intended learning outcomes helped me to understand what I was expected to achieve

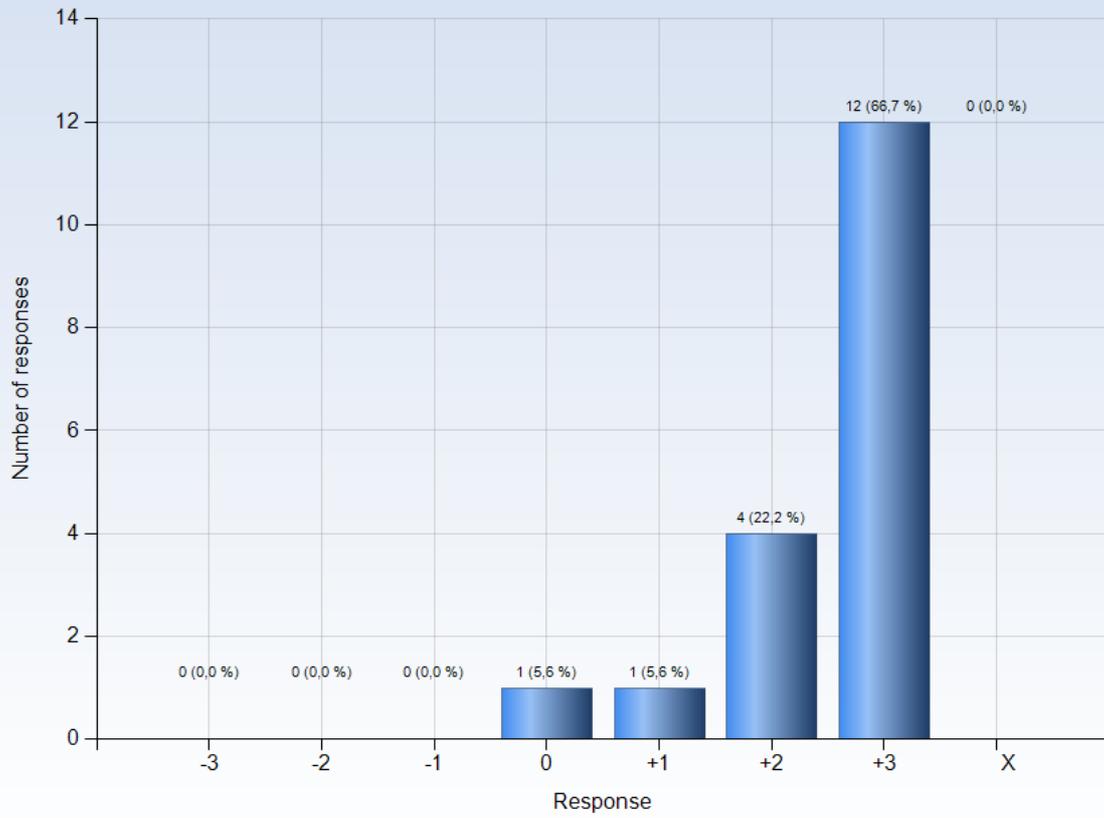


#### Comments

Comments (My response was: +2)

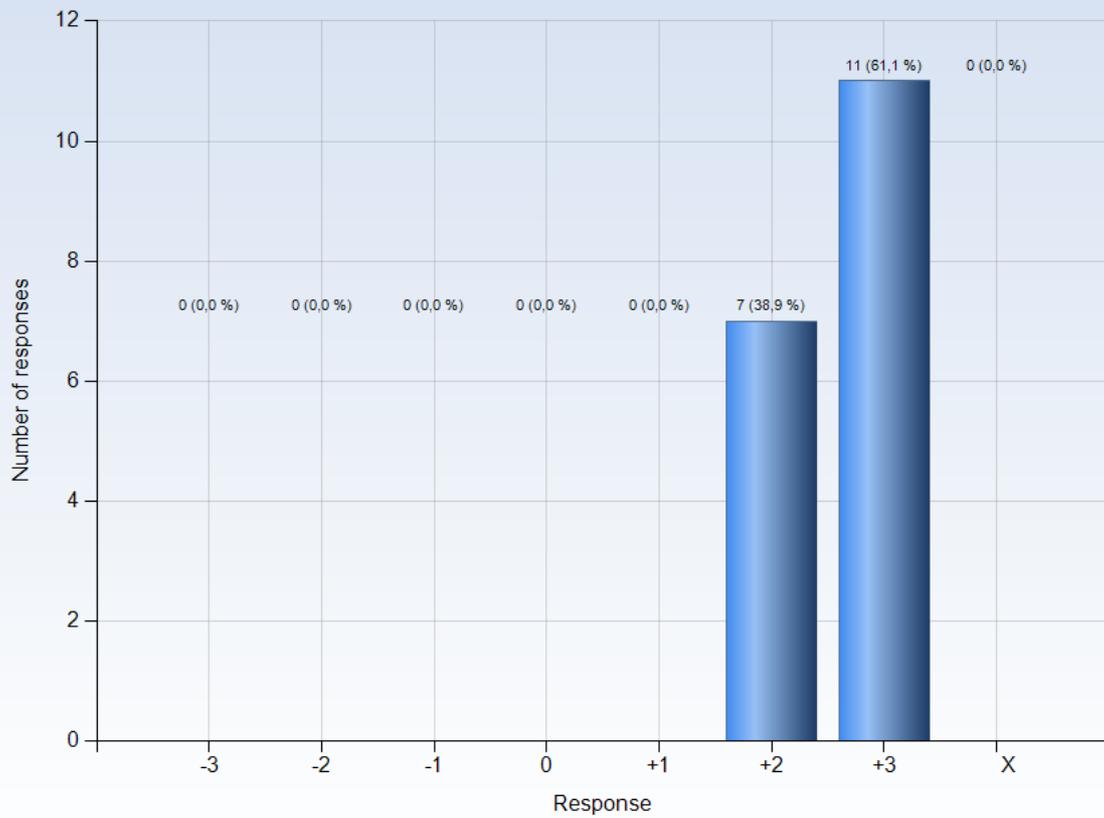
Förstå övningarna och nyckeln. Och förstås läsa den utomordentliga kursboken. Även lämplig bredvidläsning.

8. I understood how the course was organized and what I was expected to do



Comments

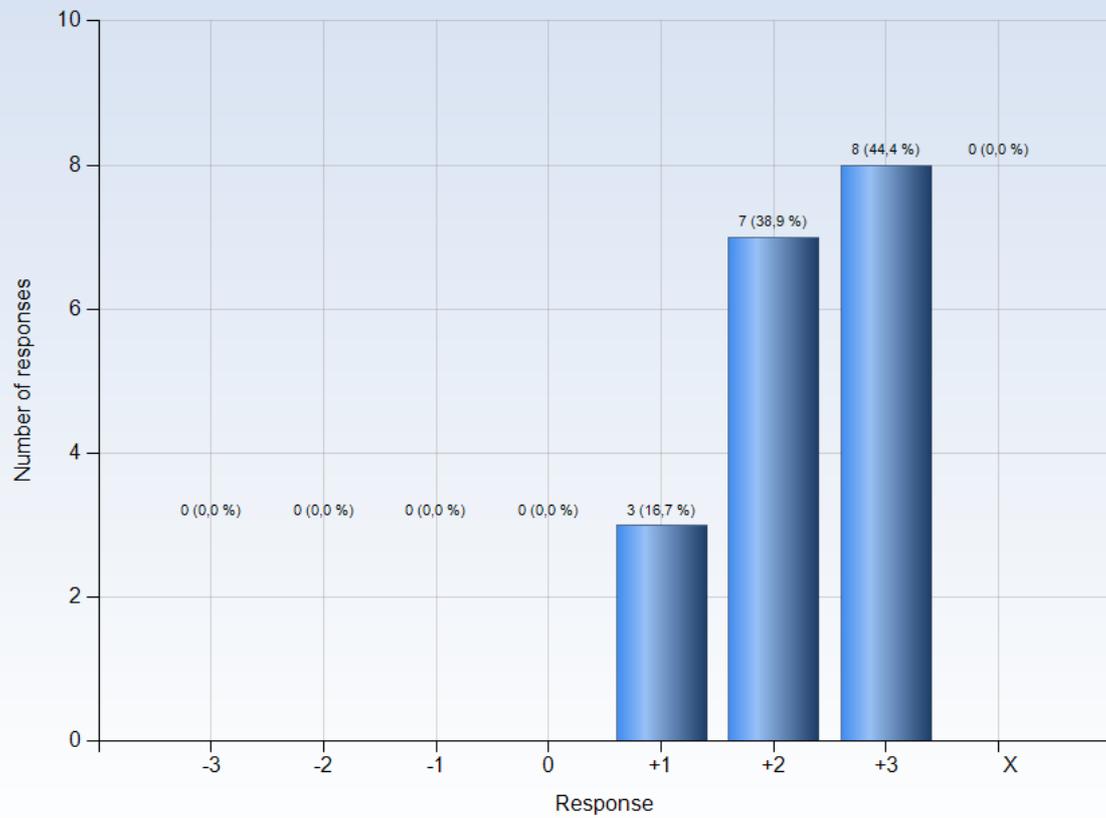
### 9. I understood what the teachers were talking about



#### Comments

Comments (My response was: +3)  
Johan är en fantastisk föreläsare!

### 10. I was able to learn from concrete examples that I could relate to

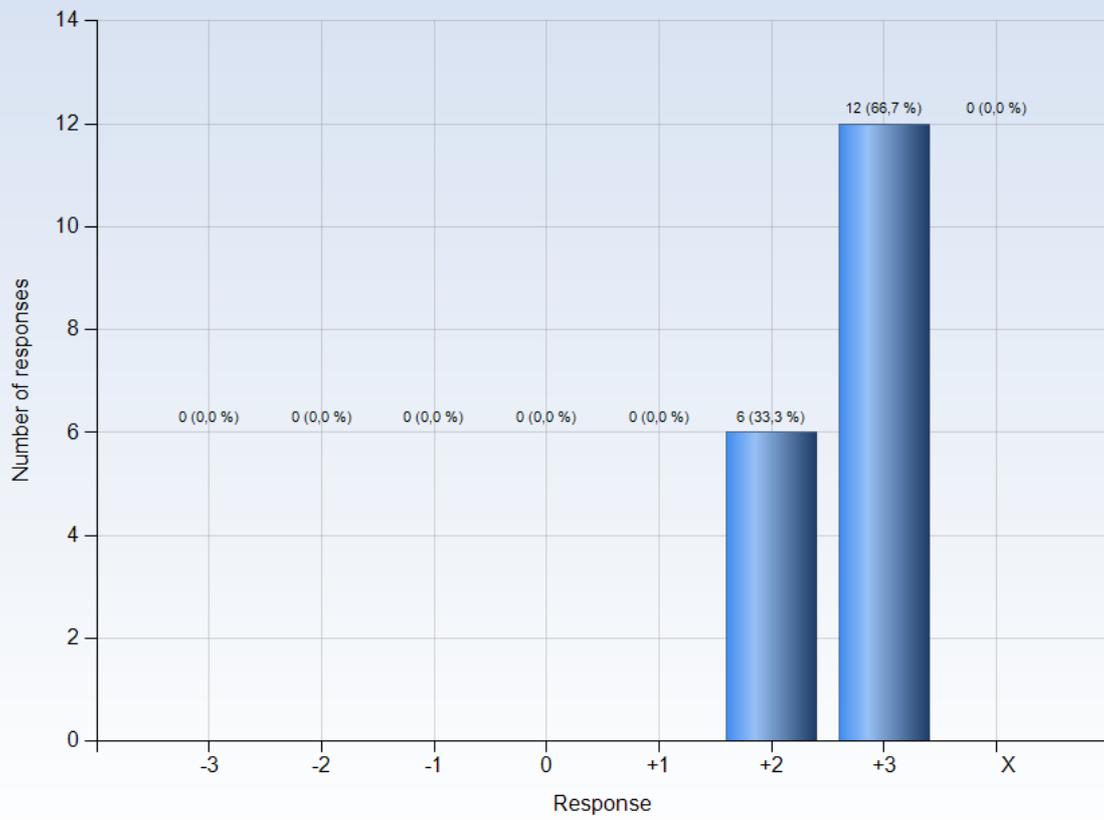


#### Comments

Comments (My response was: +2)

Man behöver utforska vissa områden i kursen på egen hand också men kursen ger rätt verktyg för att göra det. Men det kan vara svårt att göra under kursens gång. Efter avslutad kurs.

### 11. Understanding of key concepts had high priority

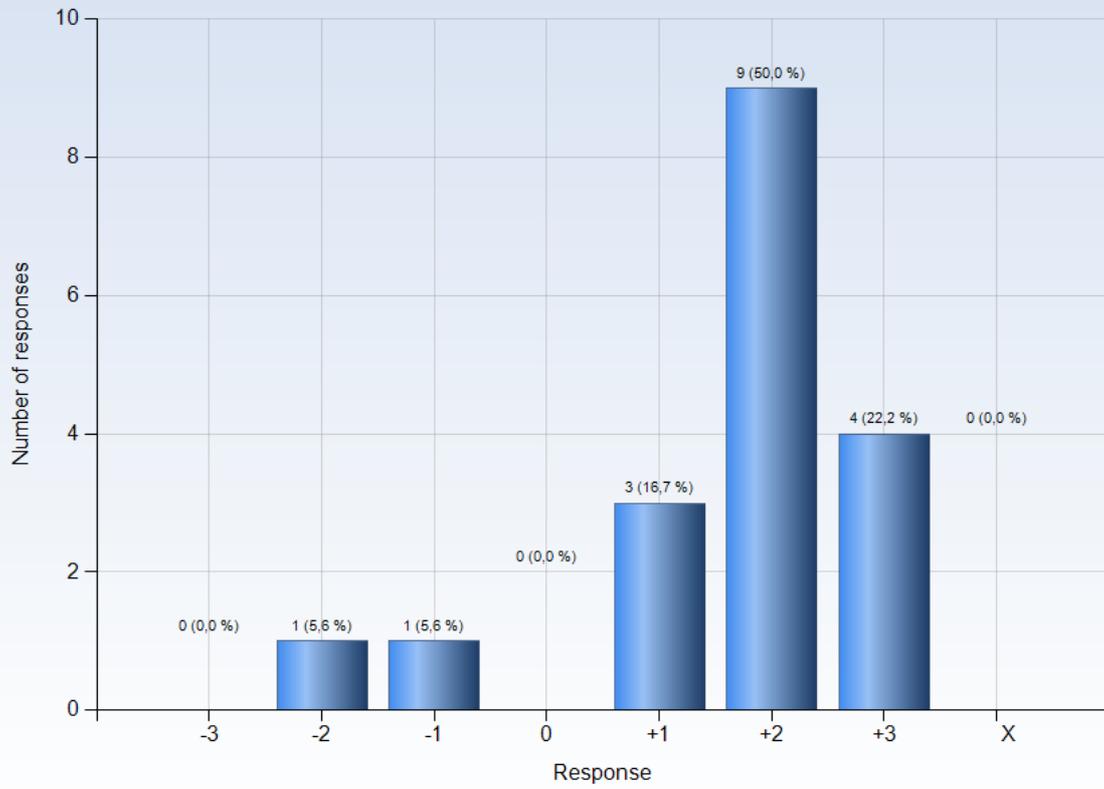


#### Comments

Comments (My response was: +3)

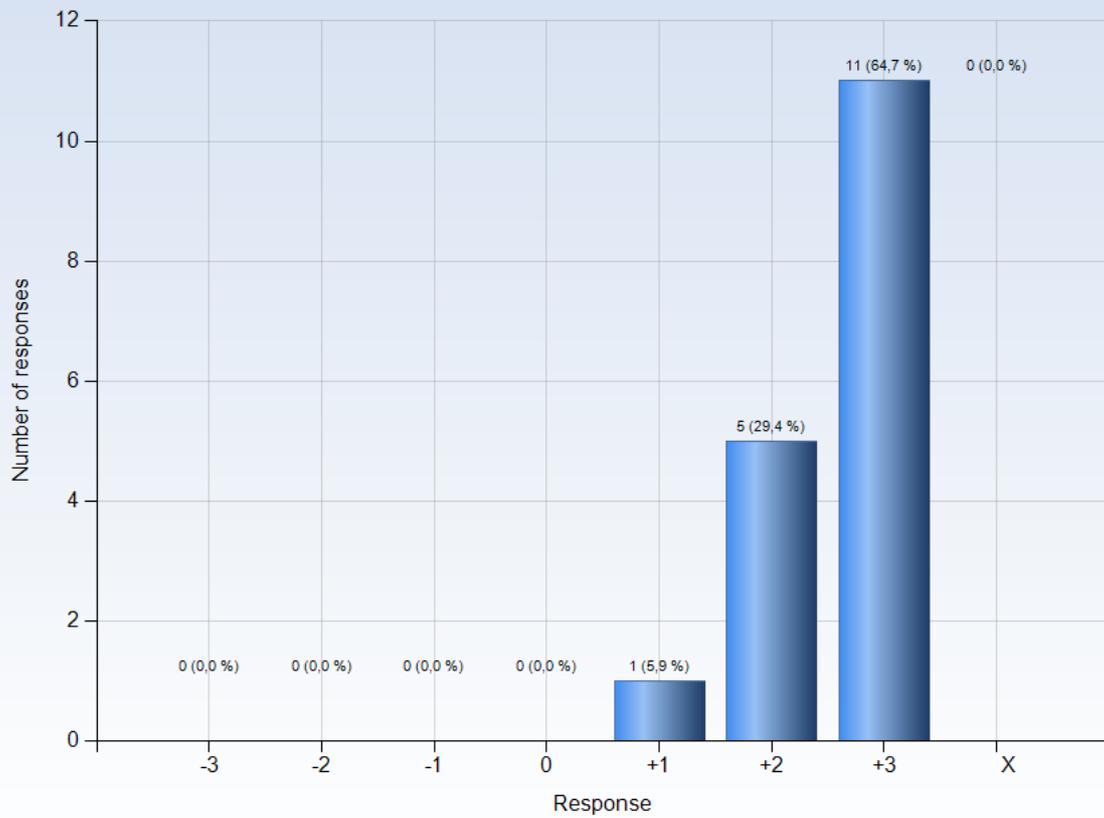
Very good literature, relevant to the exam.

## 12. The course activities helped me to achieve the intended learning outcomes efficiently



Comments

### 13. I understood what I was expected to learn in order to obtain a certain grade

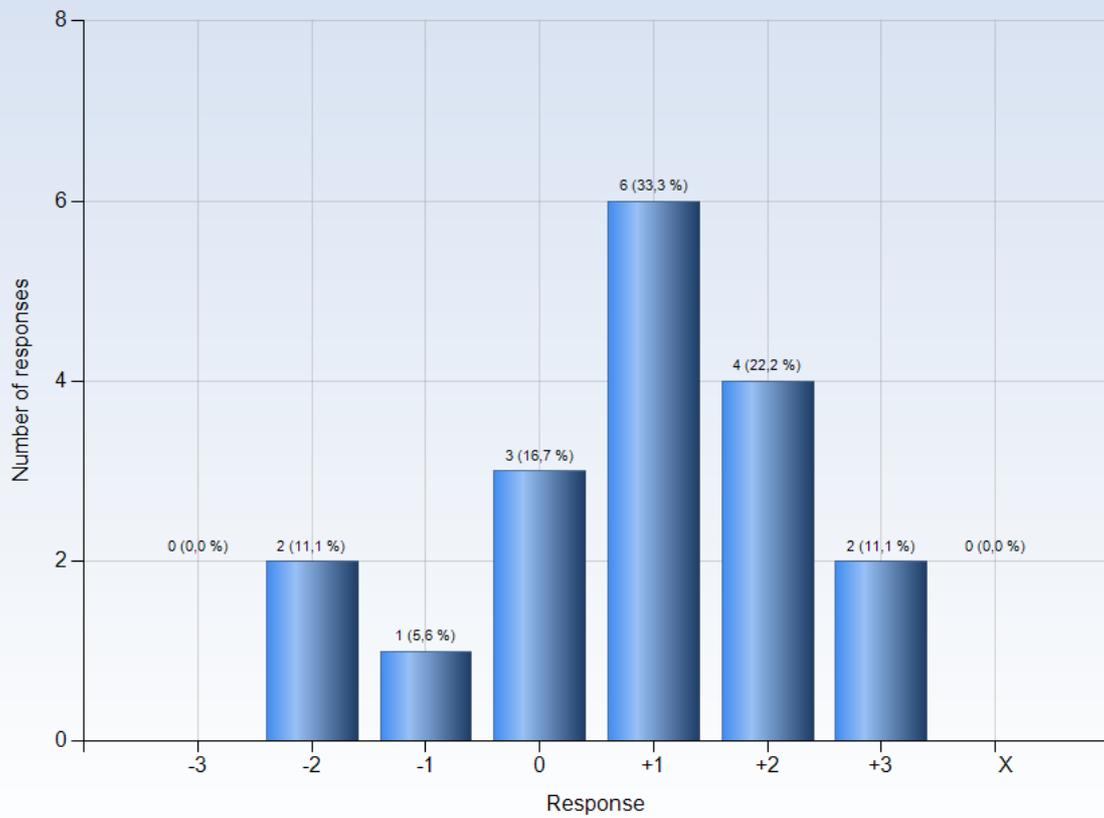


#### Comments

Comments (My response was: +1)

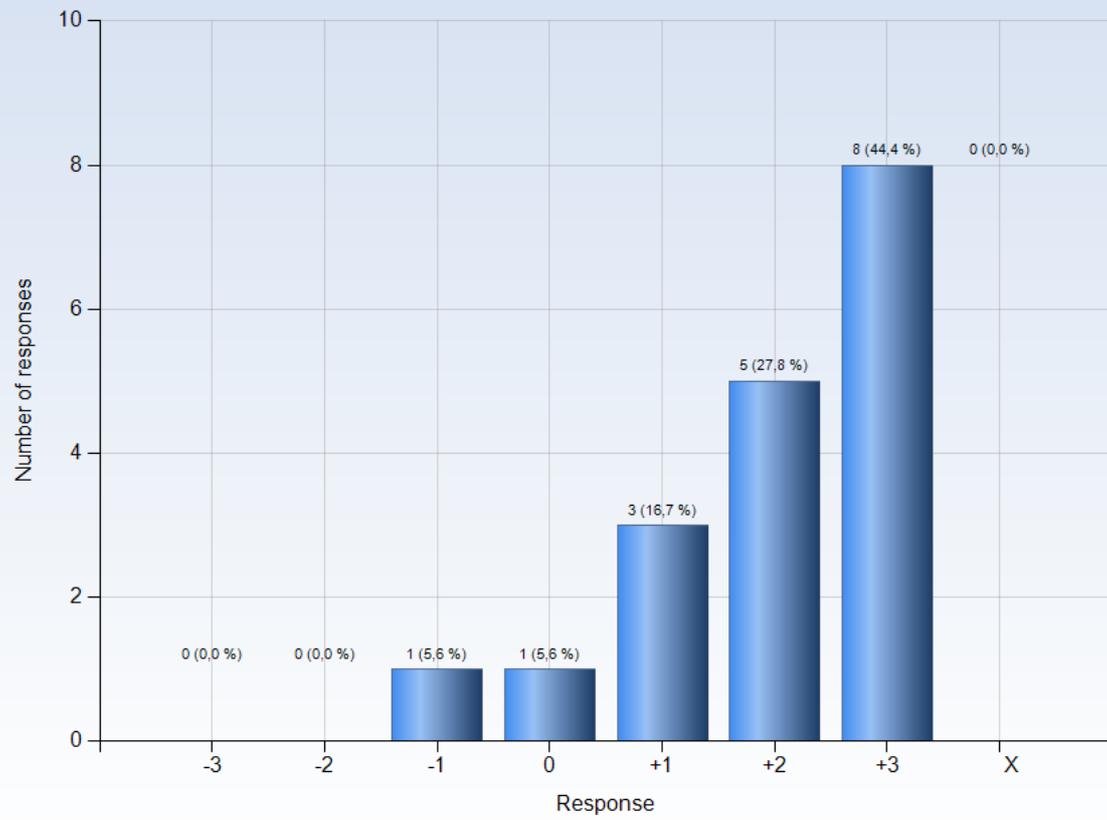
Ja, ungefär. Strukturen på tentan ändrades i sista sekund.

### 14. I received regular feedback that helped me to see my progress



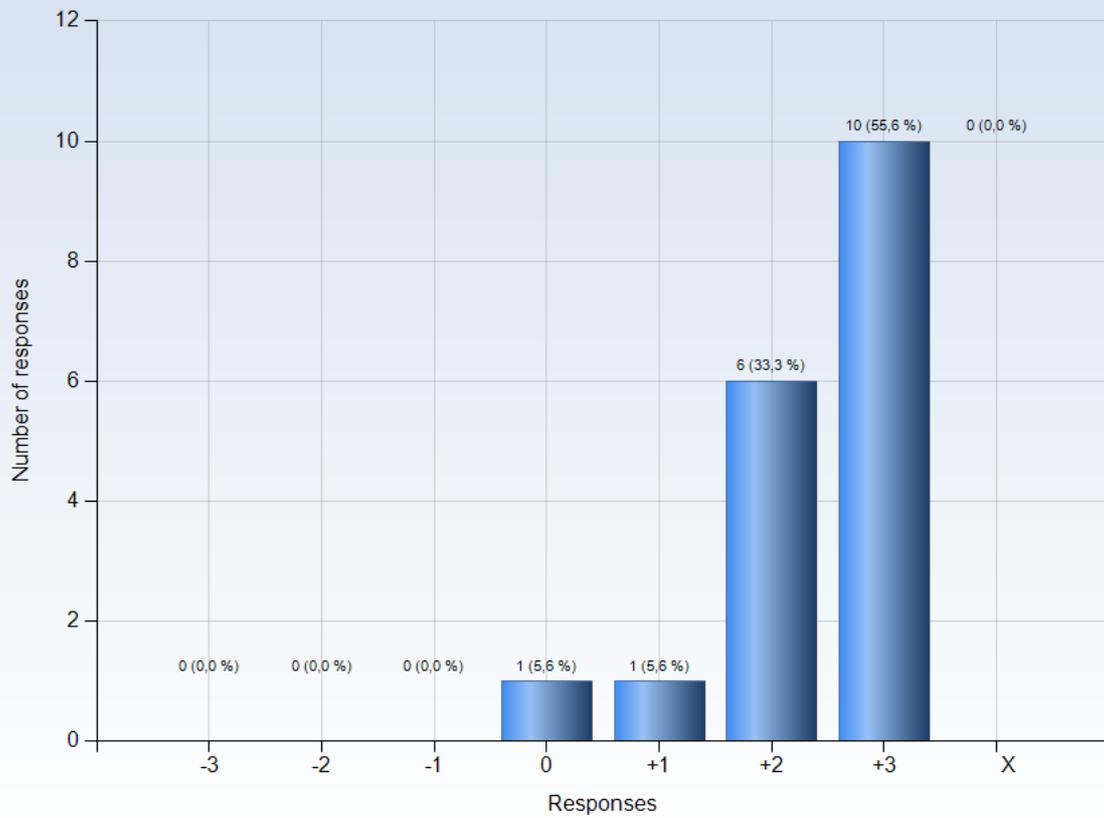
Comments

### 15. I could practice and receive feedback without being graded



Comments

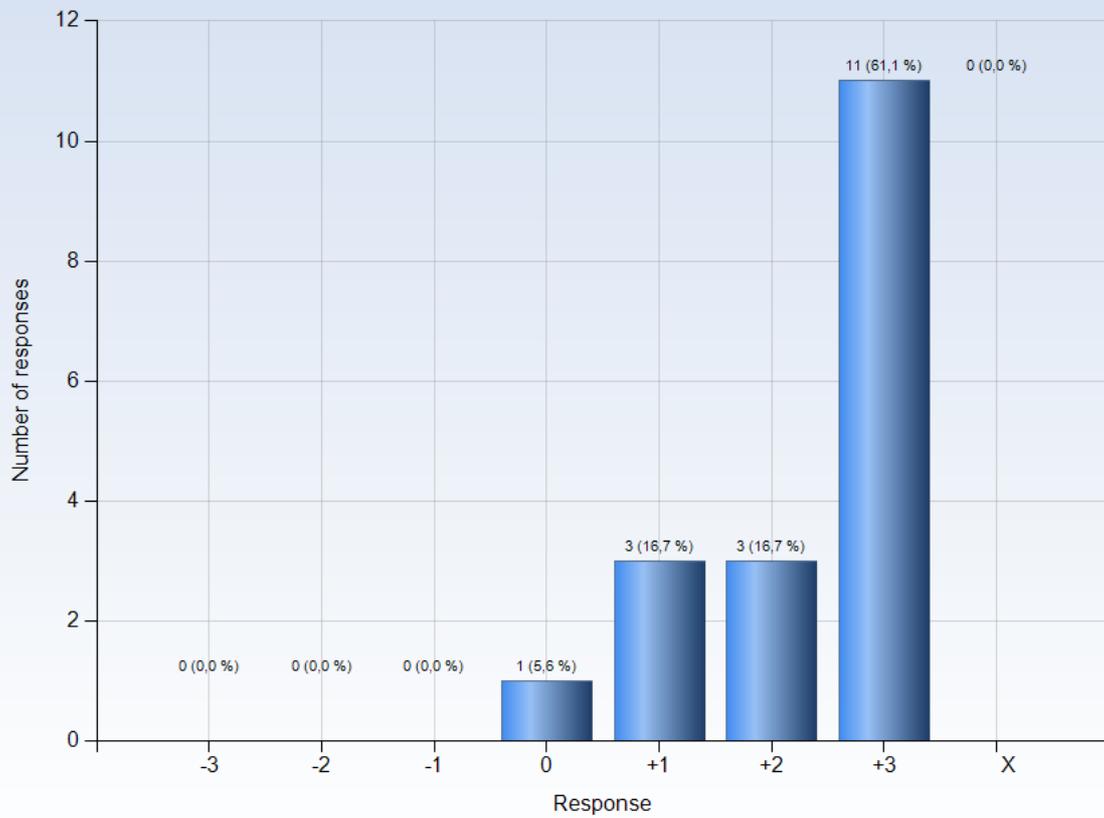
### 16. The assessment on the course was fair and honest



#### Comments

Comments (My response was: +2)  
the exam was almost too easy

### 17. My background knowledge was sufficient to follow the course



#### Comments

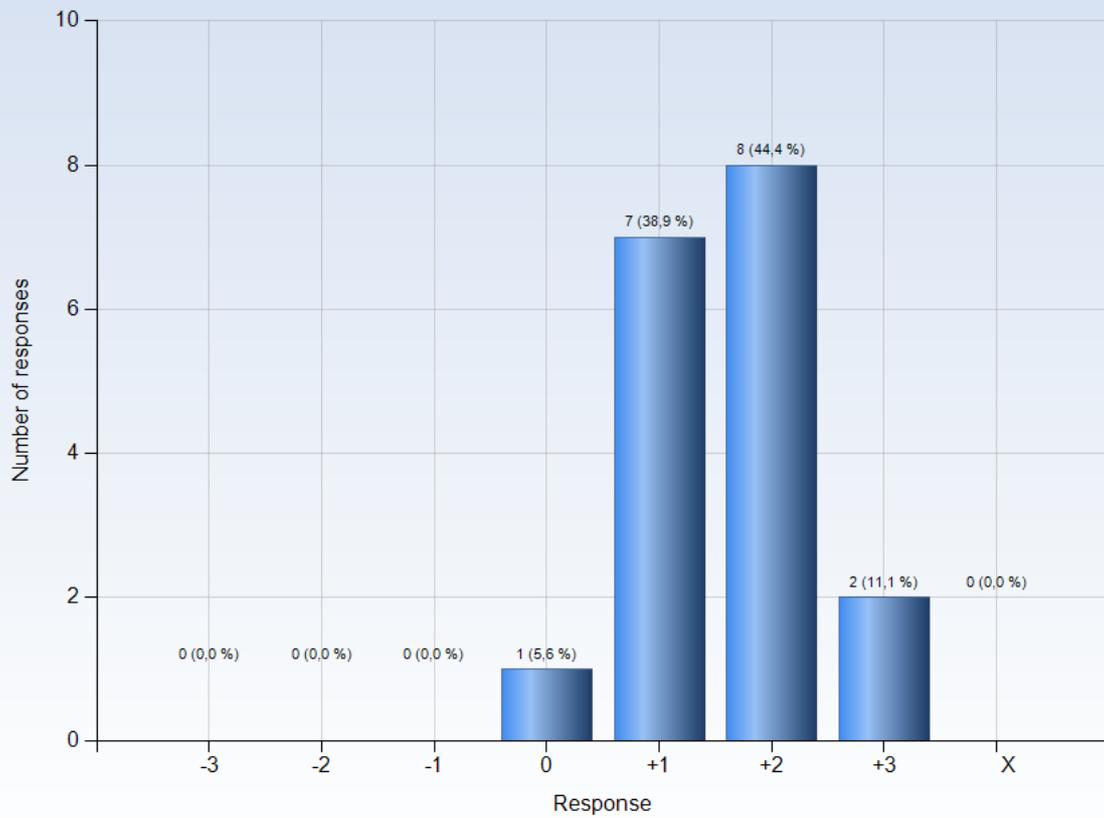
Comments (My response was: +1)

Man behöver grundläggande programmering, C-programmering, grundläggande algoritmer för att klara kursen bra.

Comments (My response was: +3)

Absolut!

### 18. I regularly spent time to reflect on what I learned



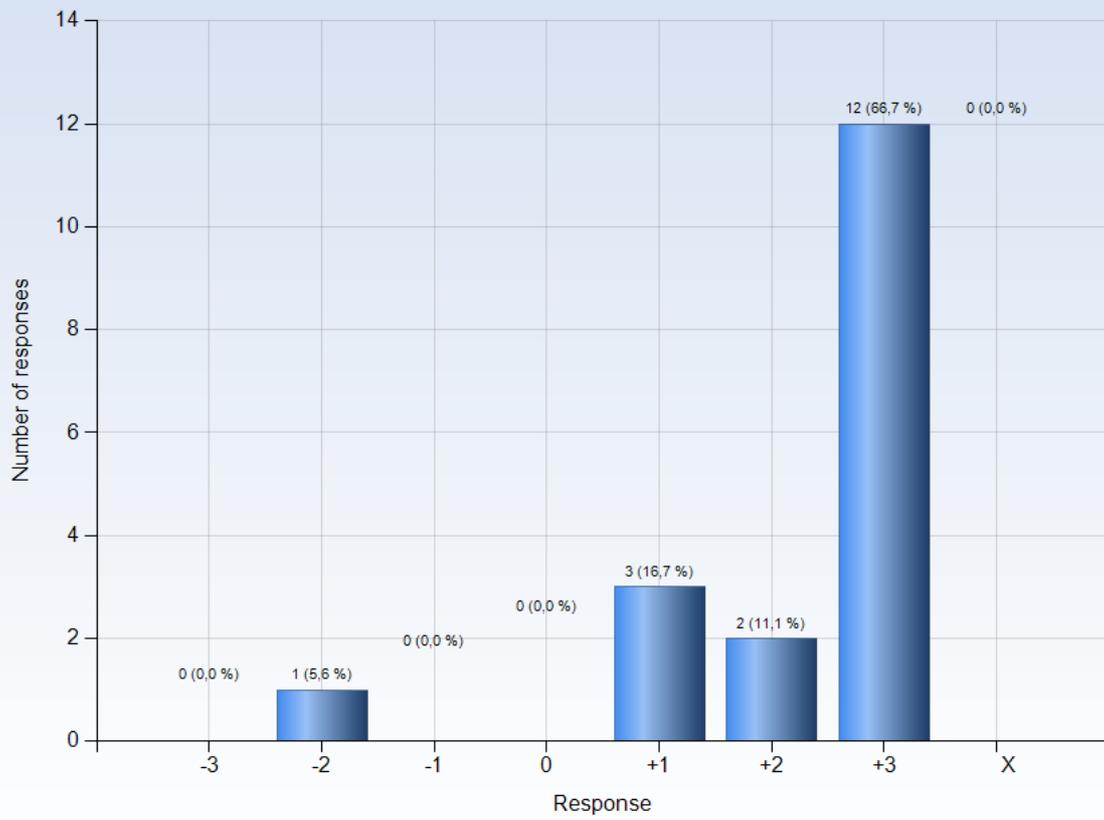
#### Comments

Comments (My response was: +1)

the project was a bit unclear

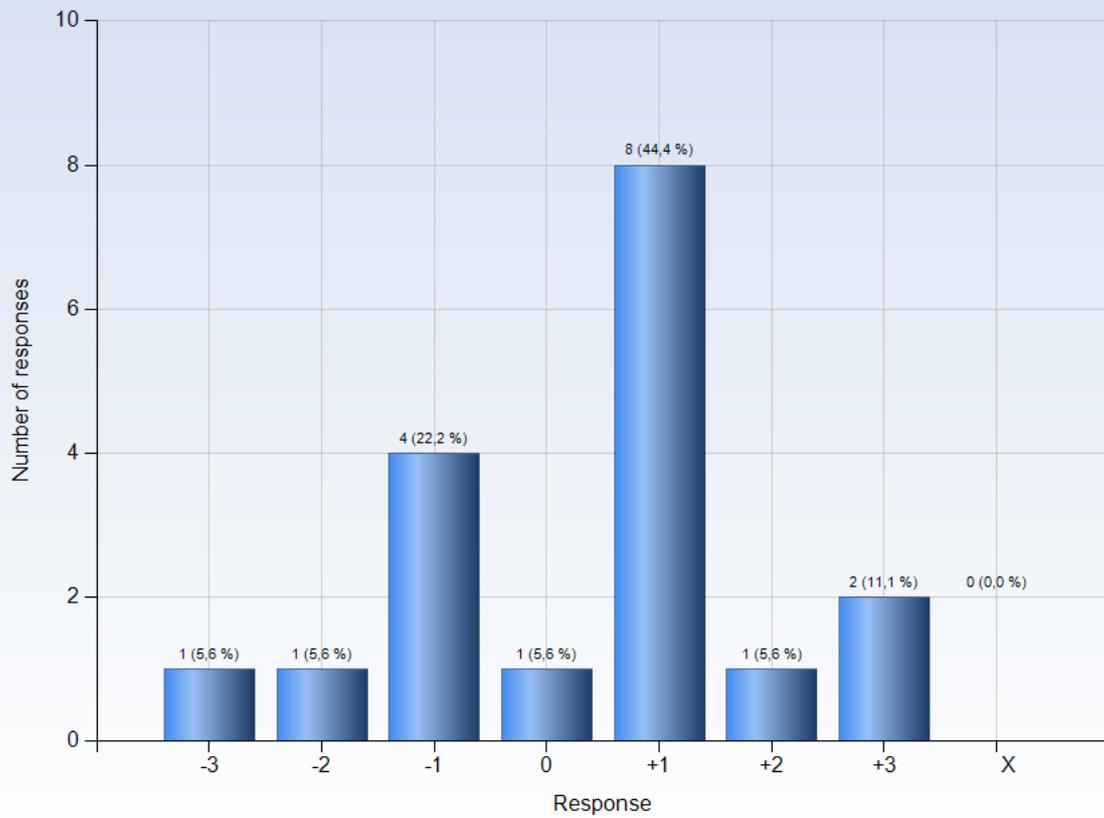
Jag tror det hade varit mer givande att ha övningarna som obligatoriska istället för Rust projektet.

### 19. I was able to learn in a way that suited me



Comments

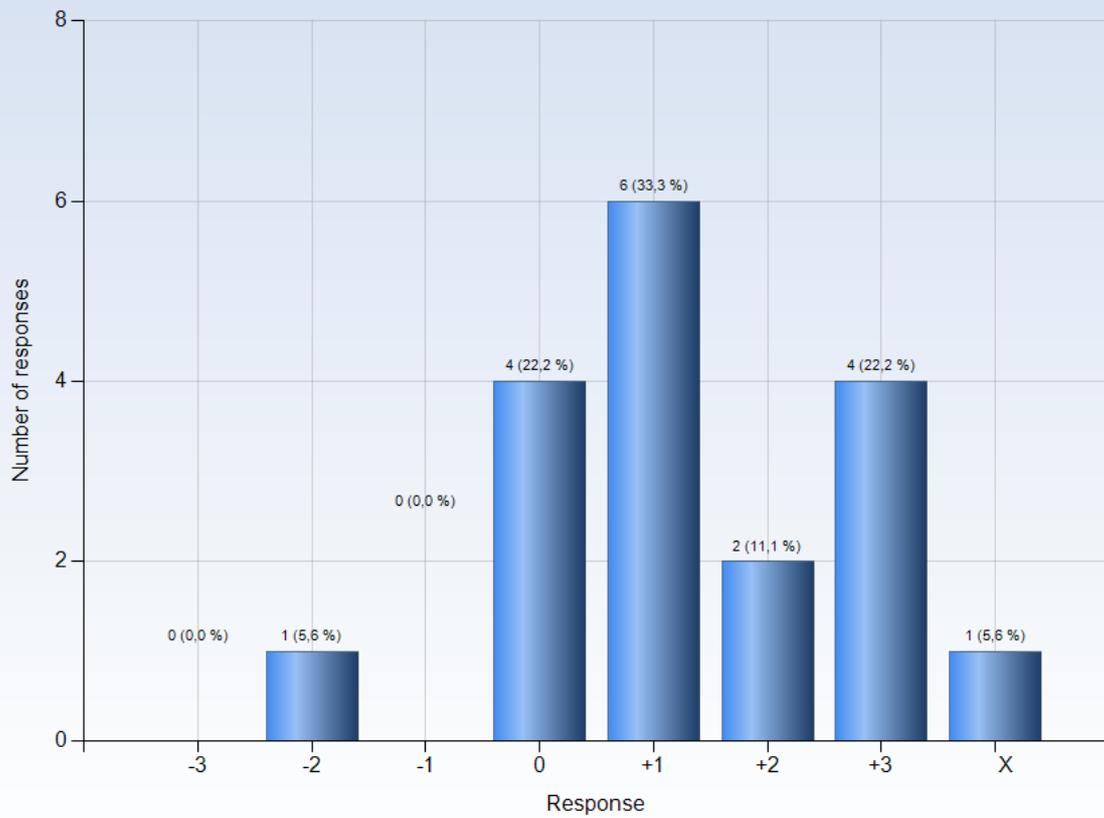
### 20. I had opportunities to choose what to do



#### Comments

Comments (My response was: -2)  
But this is not relevant

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

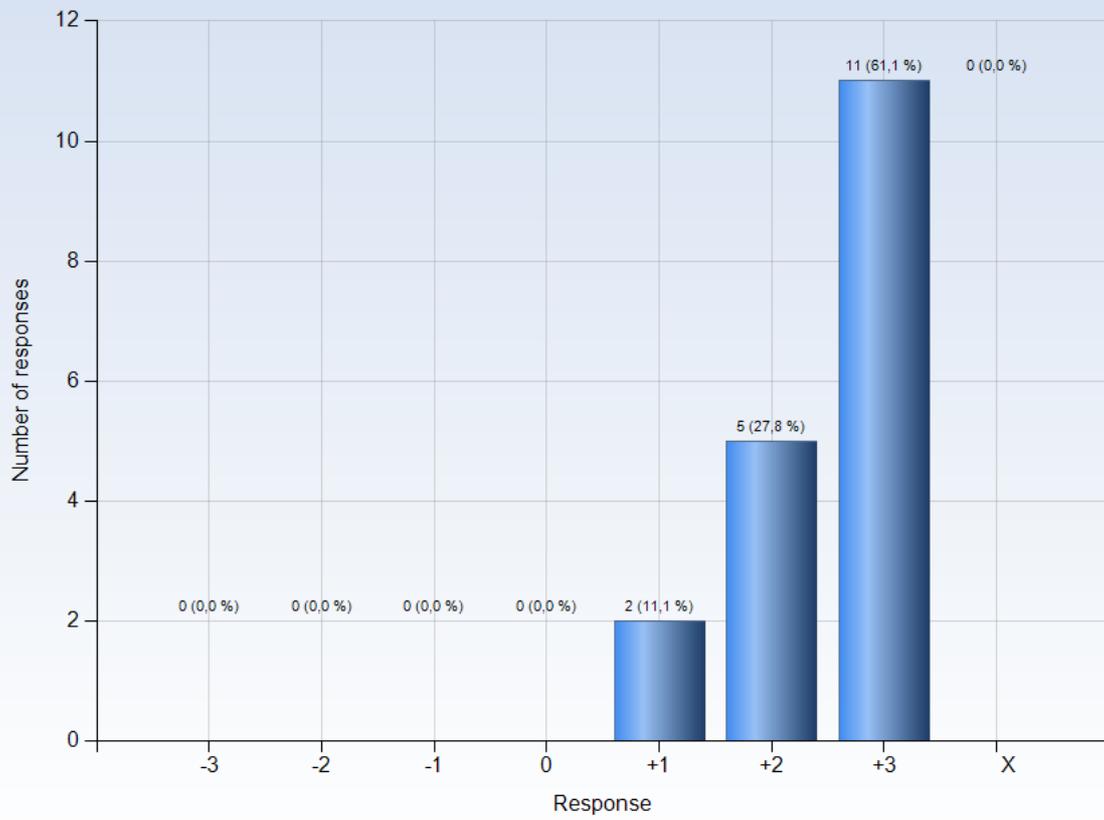


#### Comments

Comments (My response was: 0)

But not course fault. Students tends to be very individualistic in year 3

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



Comments