

Report - EQ2401 - 2022-09-19

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):

Magnus Jansson (janssonm@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.

Course evaluation open during 2022-03-15 - 2022-04-03, 6 out of 17 active students responded. Standard KTH LEQ, see attached. Meeting students in connection to classroom teaching and oral project examination. Students are also asked to comment courses in their program integrated course like "The sustainable information and network engineer."

COURSE DESIGN

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

13 lectures to give an overview of the theory and give examples. 8 problem solving sessions led by a teaching assistant to illustrate problem solving techniques. This is fewer sessions than in most other courses with the motivation to give more time to students' own practicing of problem solving outside class. Computer exercise material is provided (but not scheduled in class) to practice computer based problem solving and to illustrate theory. The examination consists of two projects where semi-practical problems should be solved by computer based tools (Matlab) and reported by computer code, demo, and oral presentation in groups of two students. The projects also serve the purpose of getting students active during the course. Written exam in the end. We also have weekly voluntary homework assignments on problem solving; again, with the purpose of promoting students' active continuous learning. Completion of homework assignments give bonus points that are added to the written exam score. Well solved and presented projects also give bonus points. Lecture slides and matlab examples etc are published on the course homepage. We also made available lecture video presentations from the previous year.

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?

The workload is considered to be appropriate.

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 results were really good. Many students were engaged in the projects during the course and delivered good solutions. 14 out of 17 active students attempted to do most of the homework assignments. This means many also had bonus points to add to their exam score. 15 did the exam in March and 80% passed many with the highest grades. 4 did the exam in June and 2 passed.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

See the attached course evaluation report.

SUMMARY OF STUDENTS' OPINIONS

Summarize the outcome of the questionnaire, as well as opinions emerging at meetings with students.

The grades given to the course are very high. We appreciate this a lot.

Course content is appreciated with mix of theory and still being able to see and apply it to near to real applications in the projects. Projects, lectures and tutorials are appreciated.

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.

The course has been running smoothly and the outcome is very good.

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?
-

The course is given very good scores from the students. Content and format are appreciated. This can always be reviewed and better streamlined, of course.

PRIORITIZED COURSE DEVELOPMENT

What aspects of the course should be developed primarily? How can these aspects be developed in short and long term?

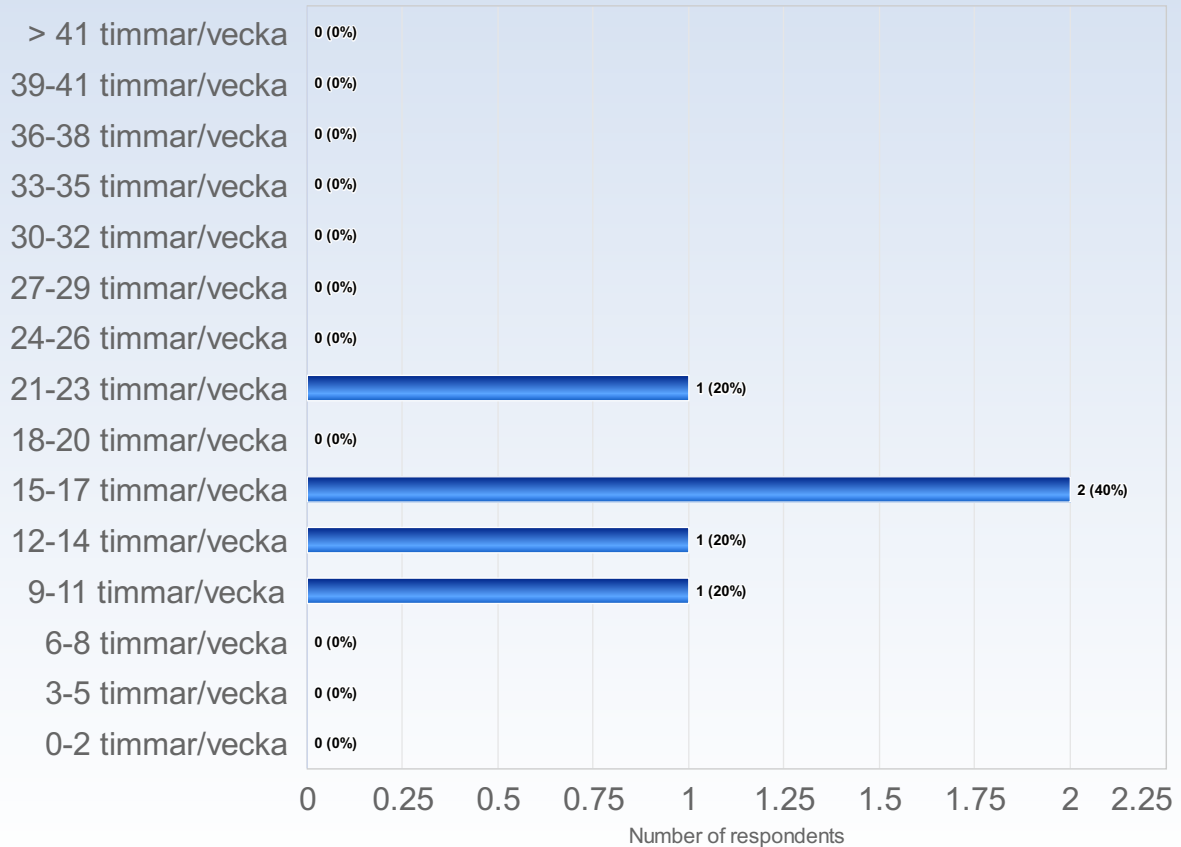
Small changes in the content and presentation of lectures. The last lecture extra material could be better integrated in the course and content perhaps modified slightly. New projects.

EQ2401 - 2022-03-14

Antal responder: 19
Antal svar: 6
Svarsfrekvens: 31.58%

ESTIMATED WORKLOAD

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



Comments

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

Work-load is moderate, not too much.

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

If the learning materials are used properly, then one can learn the best outcome.

If only count on lectures and homework, then one probably can not grasp every detail of this course.

I went to lectures and exercise sessions and did homeworks and the projects.

I felt that gave me time to learn the material.

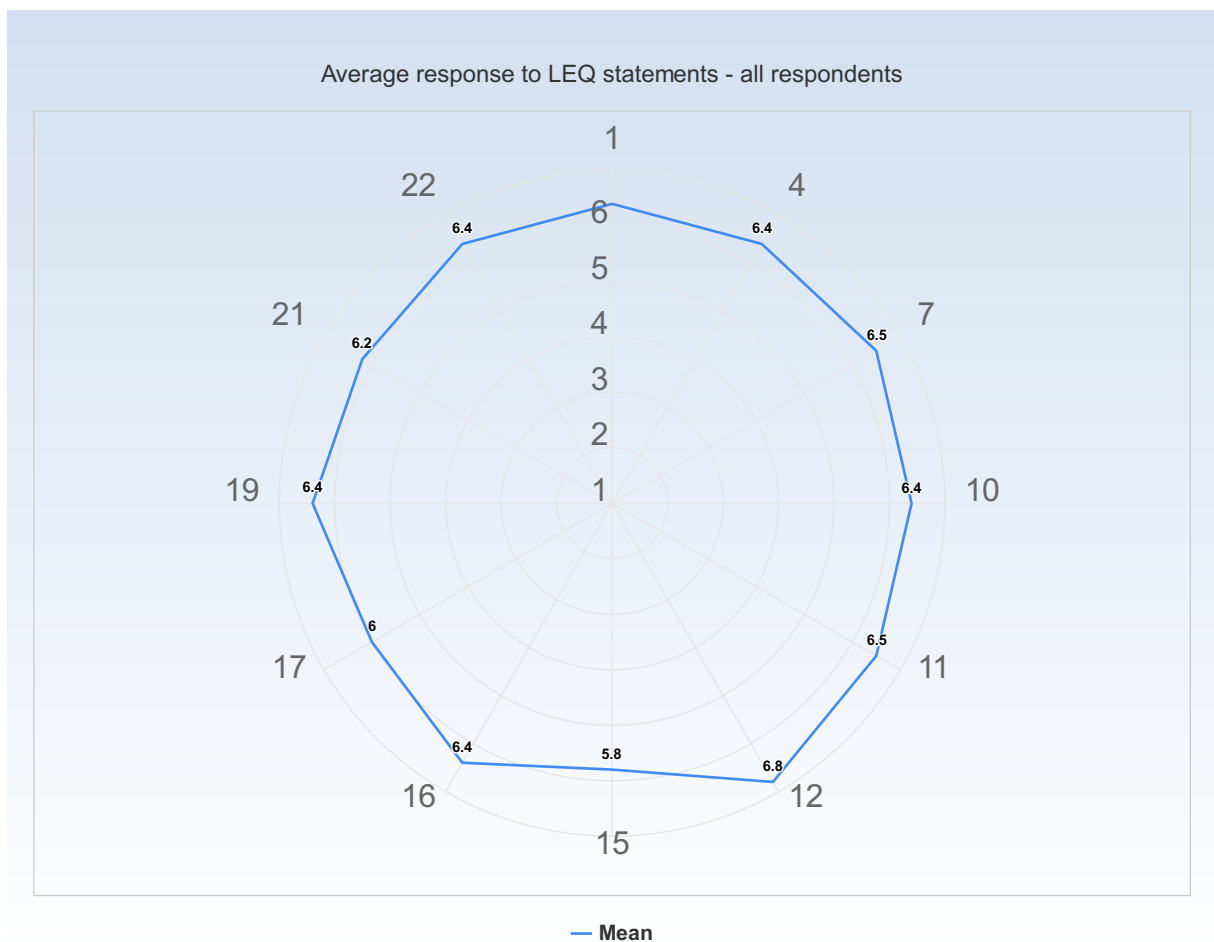
After the course feel I should have taken some more time for exercises during the course.

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.

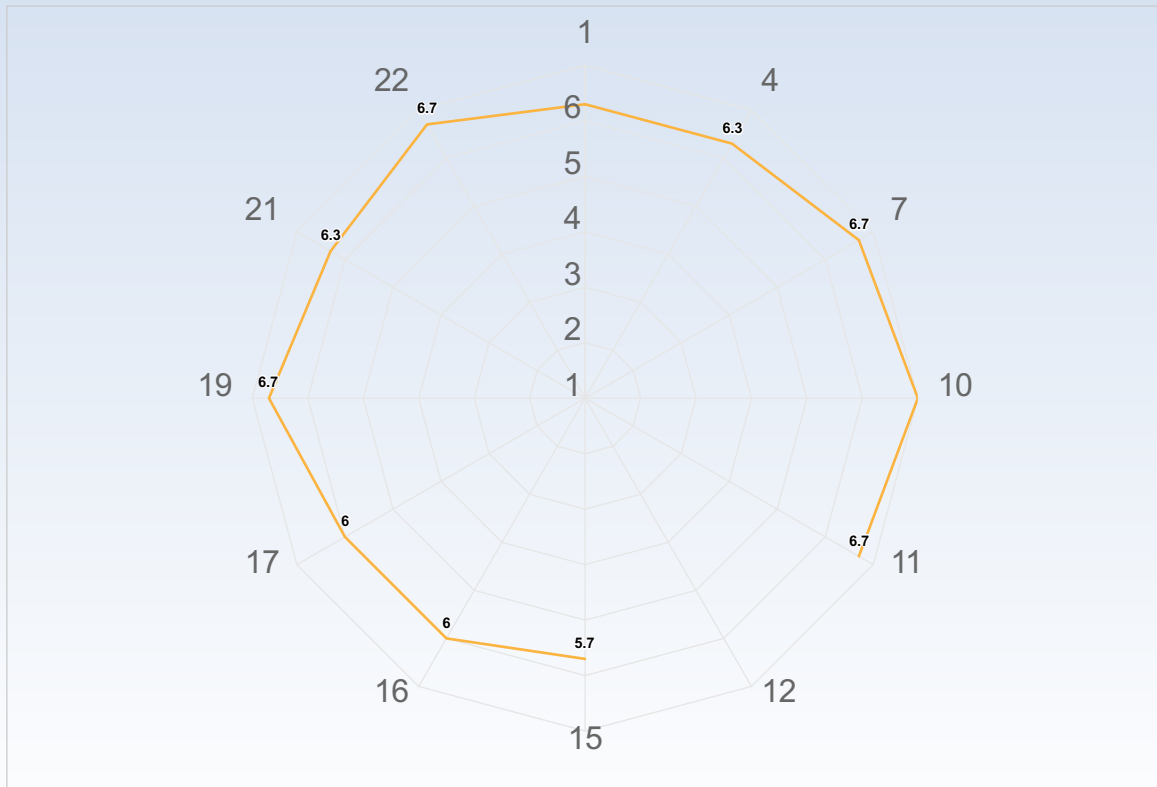
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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



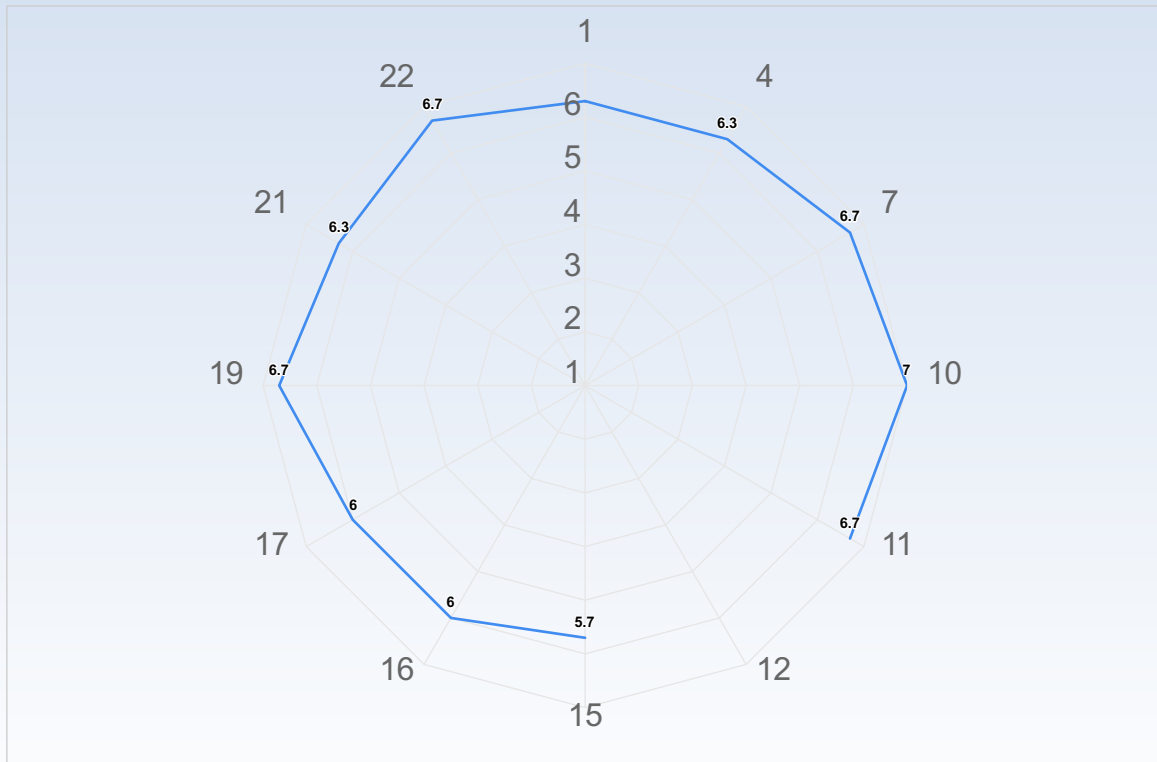
— Kvinna — Man — Annat — Vill ej uppge

Comments

Comments (I am: Man)

nothing to say.

Average response to LEQ statements - per type of student



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

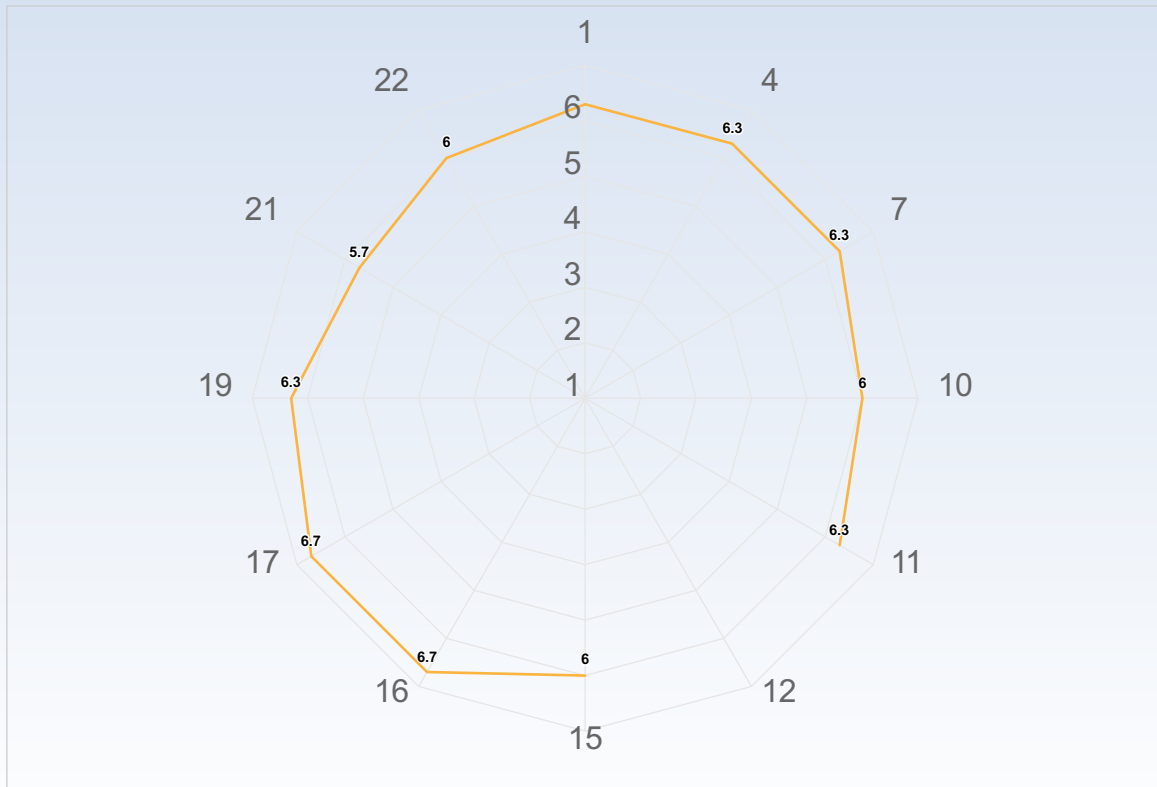
Comments

Comments (I am: Internationell masterstudent)

Was very easy to get up to speed and understand this course.

Exactly what I prospected to learn

Average response to LEQ statements - per disability



— Ja — Nej — Vill ej uppge

Comments

Comments (My response was: Ja)

Lecture notes worked well with speech synthesis software TorTalk, offered by kth funka to dyslexic students.

GENERAL QUESTIONS

What was the best aspect of the course?

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

Project work! Good to implement what we learnt.

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

The mix of theoretical concepts and actual applications make it very useful and it feels like I actually learned things I will be able to apply to real problems.

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

Project and the lectures are exactly what I want to learn.

Interesting materials. Fun in depth lectures.

I could connect the learnings to practical applications.

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

The projects were interesting

What would you suggest to improve?

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

Would be interesting to also include the sections on extended LMS, adaptive control for assessment.

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

The typesetting of the lecture notes makes them kind of difficult to read. A better separation between text and equations would be nice. For example, clearly separatable fonts for math and text, more spacing between the text blocks and the equations, more use of bold fonts and subscripts, ...

Closer connection between the lecture notes and the material (like e.g. preparational reading suggestions for each lecture) would be nice, although the course can also be followed without having this.

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

The modern adaptive signal processing field consists of a little bit more required theory than what this course provided.

Like Adaline, it is the linkage of traditional signal processing and neural network.

The exercise file is well written. Maybe you can try teaching more intuitive examples from the exercise material in the class.

Exercises with suggested reading in the question or solution. Solving exercises on my own took a lot of time because I would need to read through one or more chapters to find relevant equations to solve the questions.

I would have had time and energy to solve more exercises if I knew which section/s of chapters to look at first.

The practice exams were better with descriptive solutions for practicing independently.

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

A few more worked examples during the lectures. The workload was fairly high during the weeks when there were lectures, project and homework going on at the same time. Perhaps consider removing the homework for the week when the project work is the heaviest so more focus can be put on that?

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)

Understand the motivation behind the principles of estimation, will help in formulating your problems in the exam.

The projects will take a few hours to implement and get right, please do spend enough time on that!

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

Doing the Homework is a good first step to prepare for the exam.

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

Look at the exercise document. Very helpful.

Make your own sheet of formulas (formelblad) as the course progresses. It will be helpful for exercises, and when you make one for the exam.

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

Do the homework assignments and start early with the projects.

Is there anything else you would like to add?

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

Prakash is a good TA!

Is there anything else you would like to add? (I worked: 15-17 timmar/vecka)

nope.

The practice exam questions had clear, explanatory answers/ solution examples which helped a lot in practicing for the exam.

SPECIFIC QUESTIONS

RESPONSE DATA

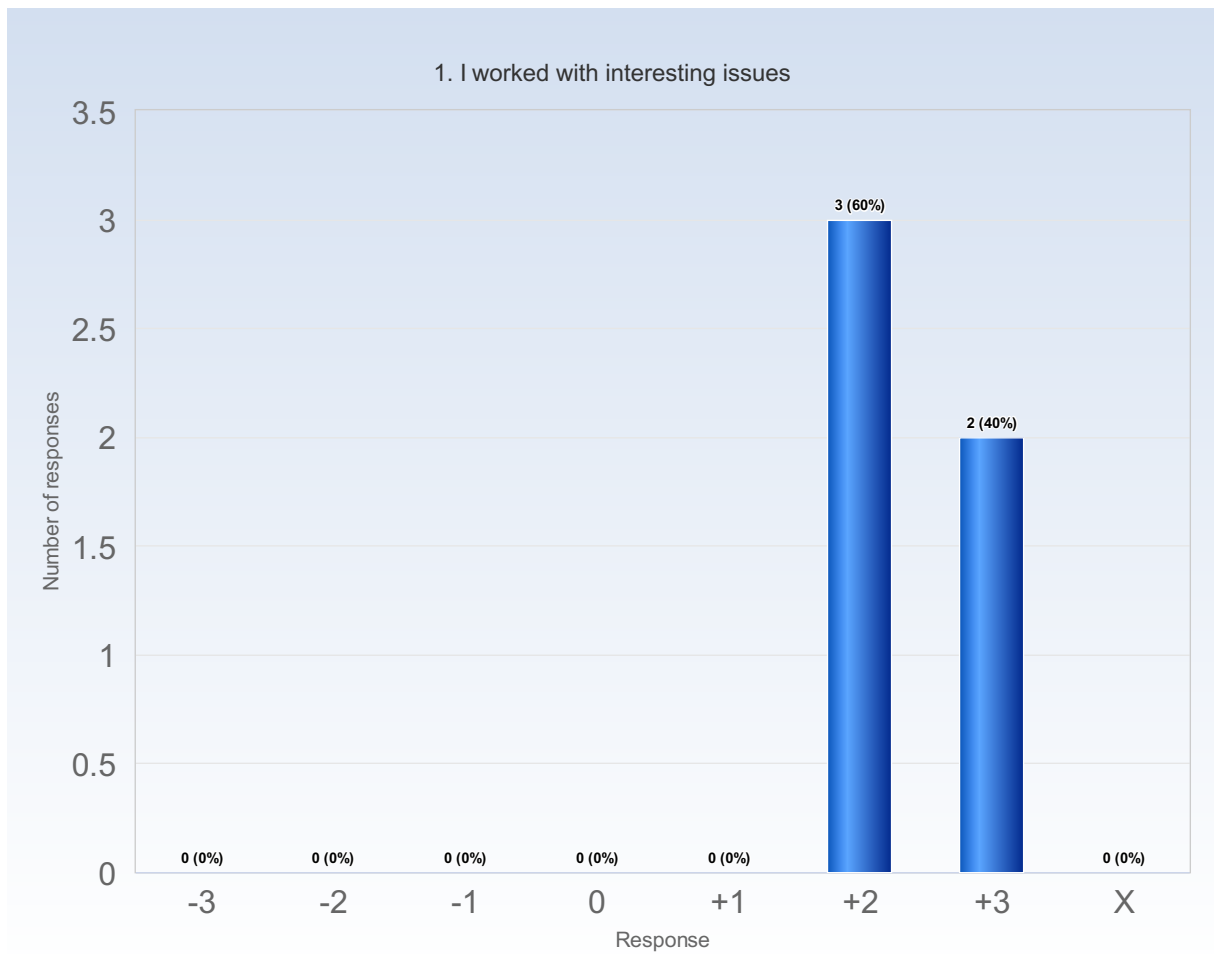
The diagrams below show the detailed response to the LEQ statements. The response scale is defined by:

-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



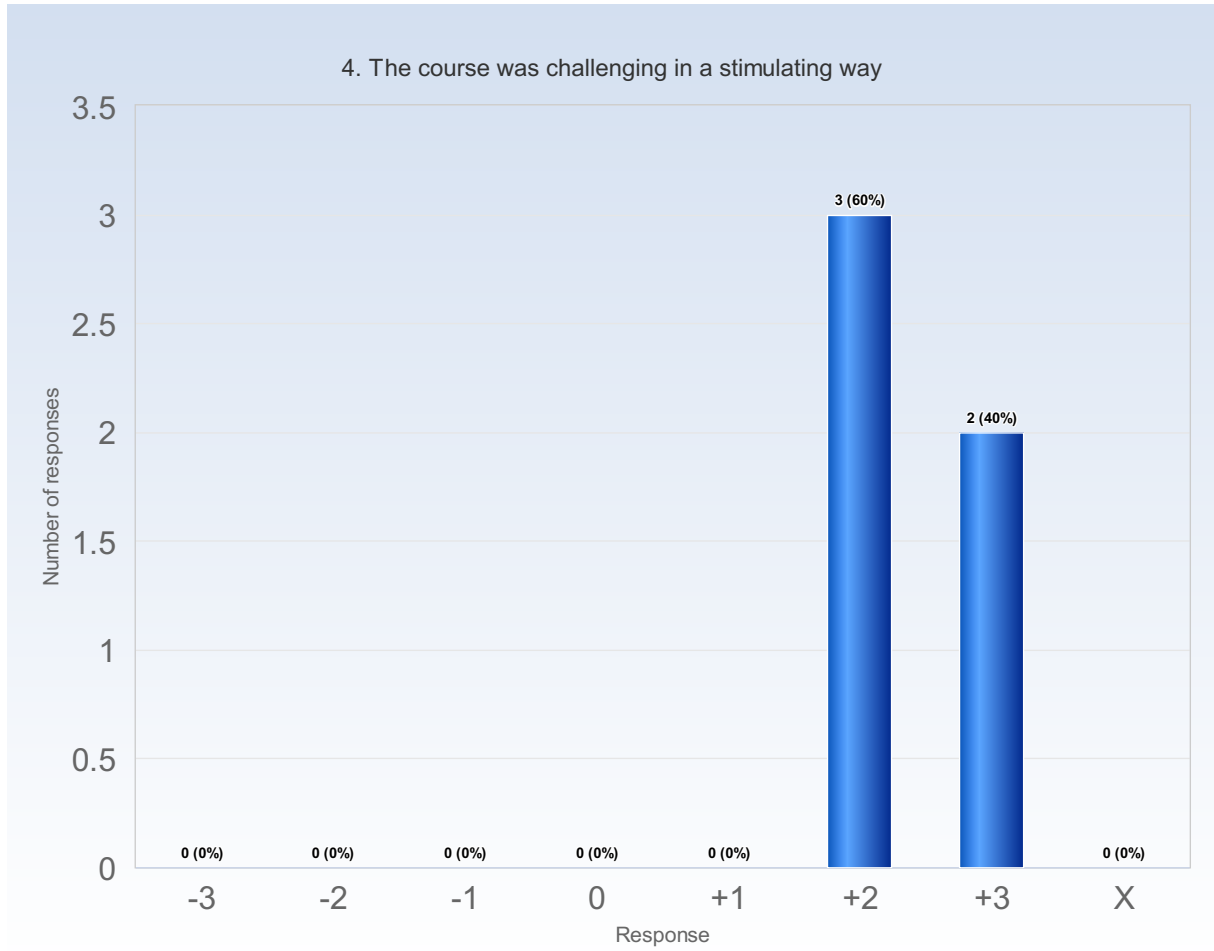
Comments

Comments (My response was: +2)

This field was very interesting to study and presented well.

Comments (My response was: +3)

I like that labs were related to audio, since that's my main interest.

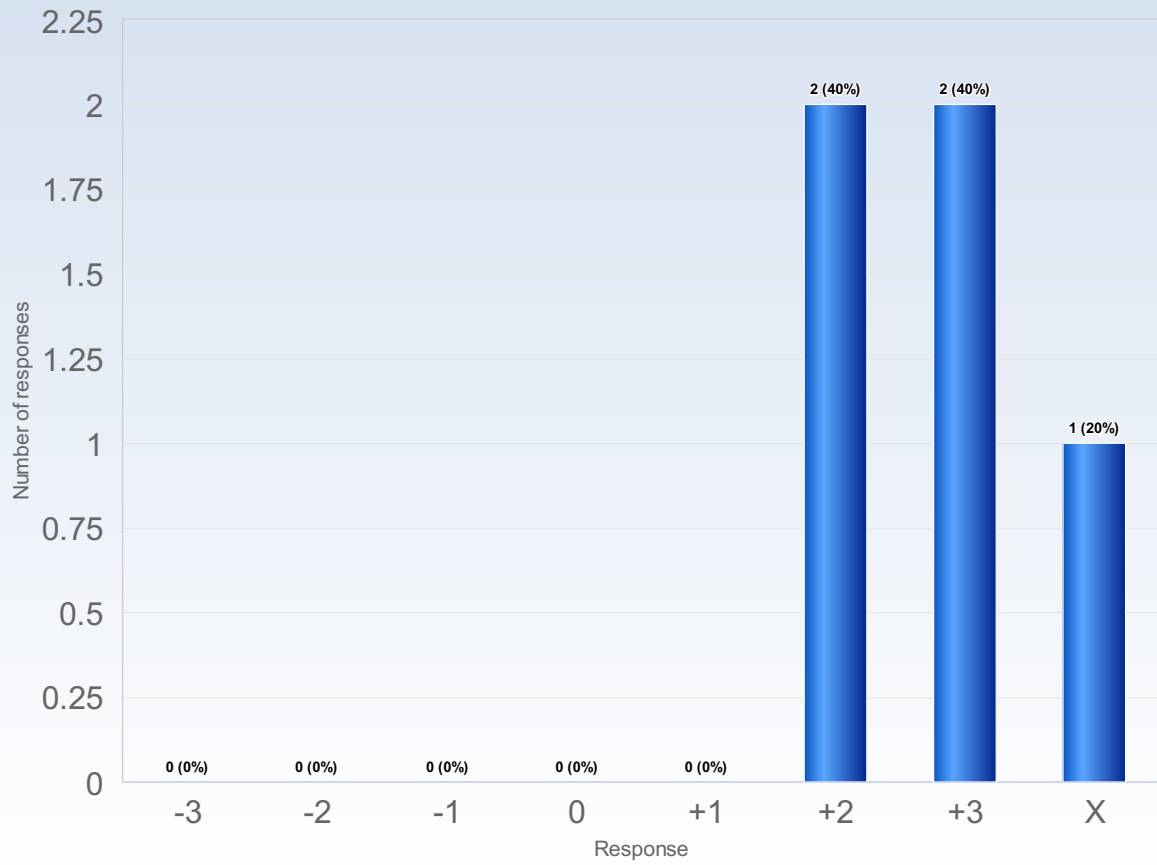


Comments

Comments (My response was: +2)

The projects helped me understand the topics covered in the course

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

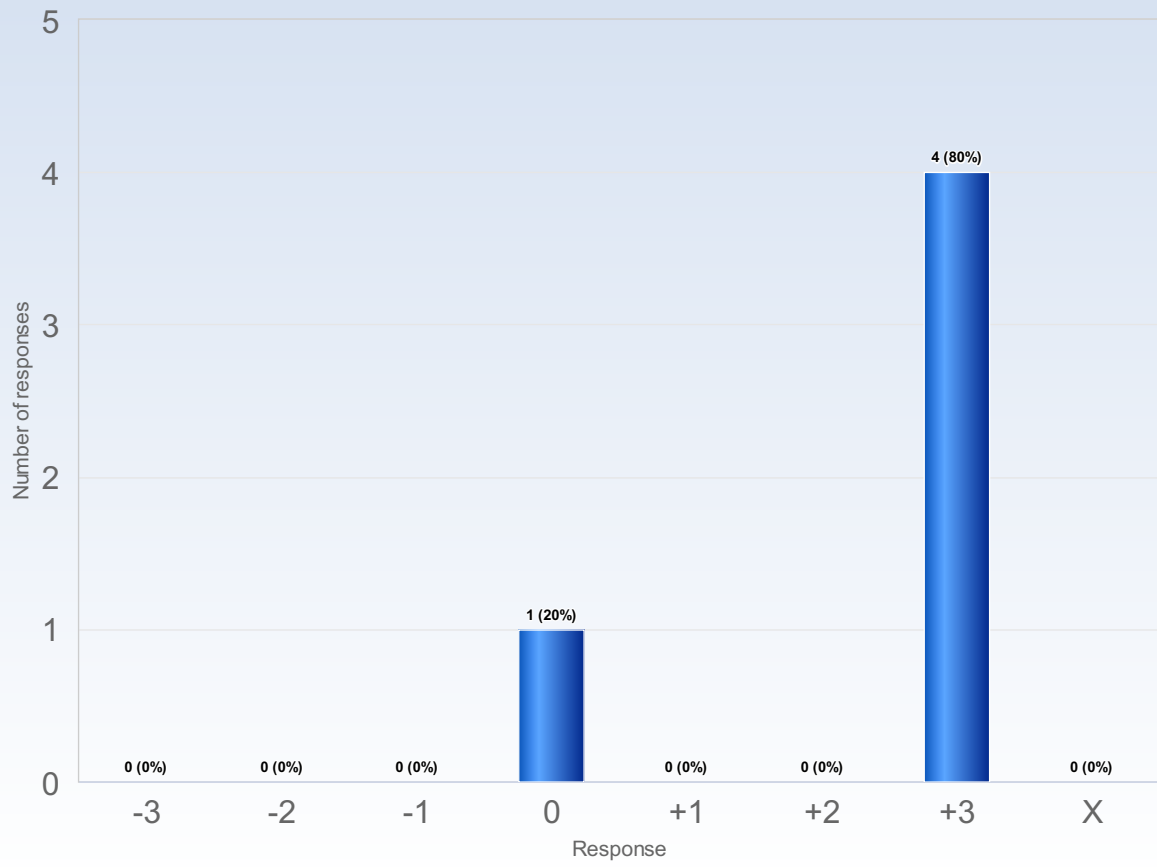


Comments

Comments (My response was: X)

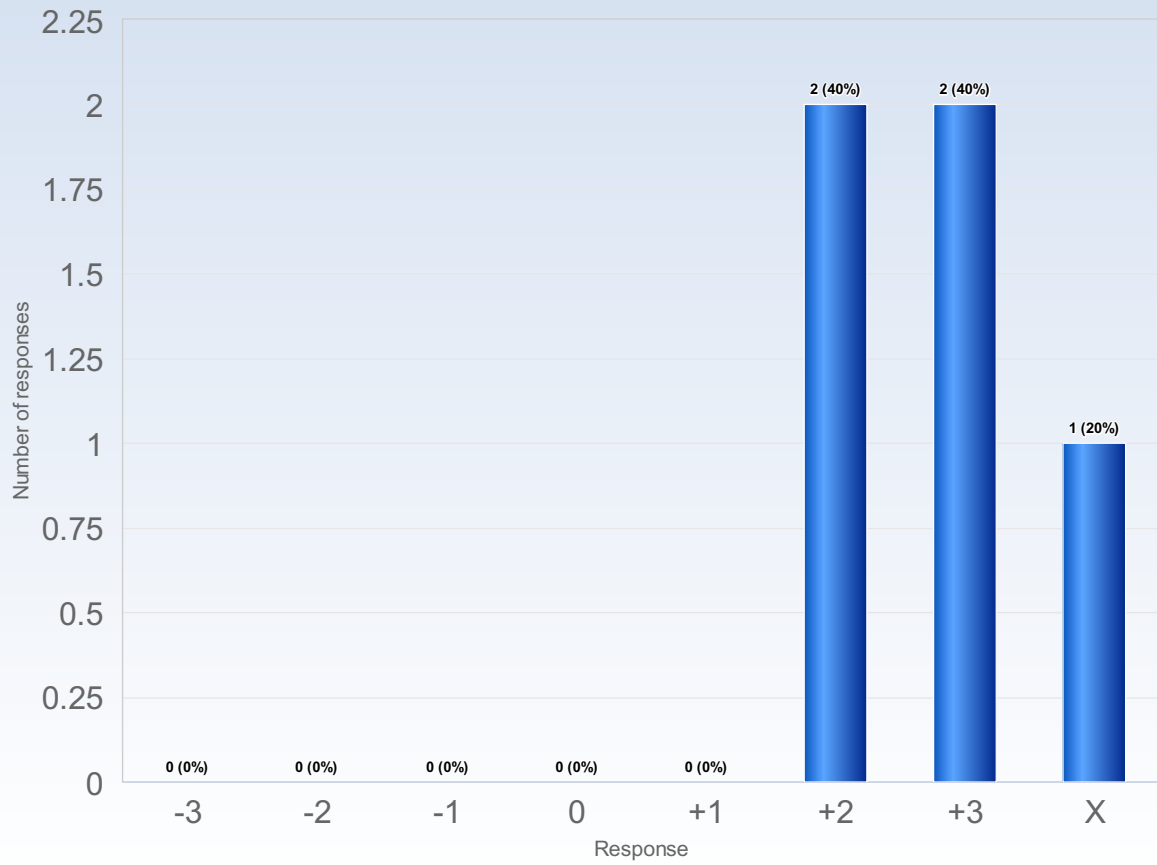
I didn't look at the intended learning during the course.

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



Comments

11. Understanding of key concepts had high priority



Comments

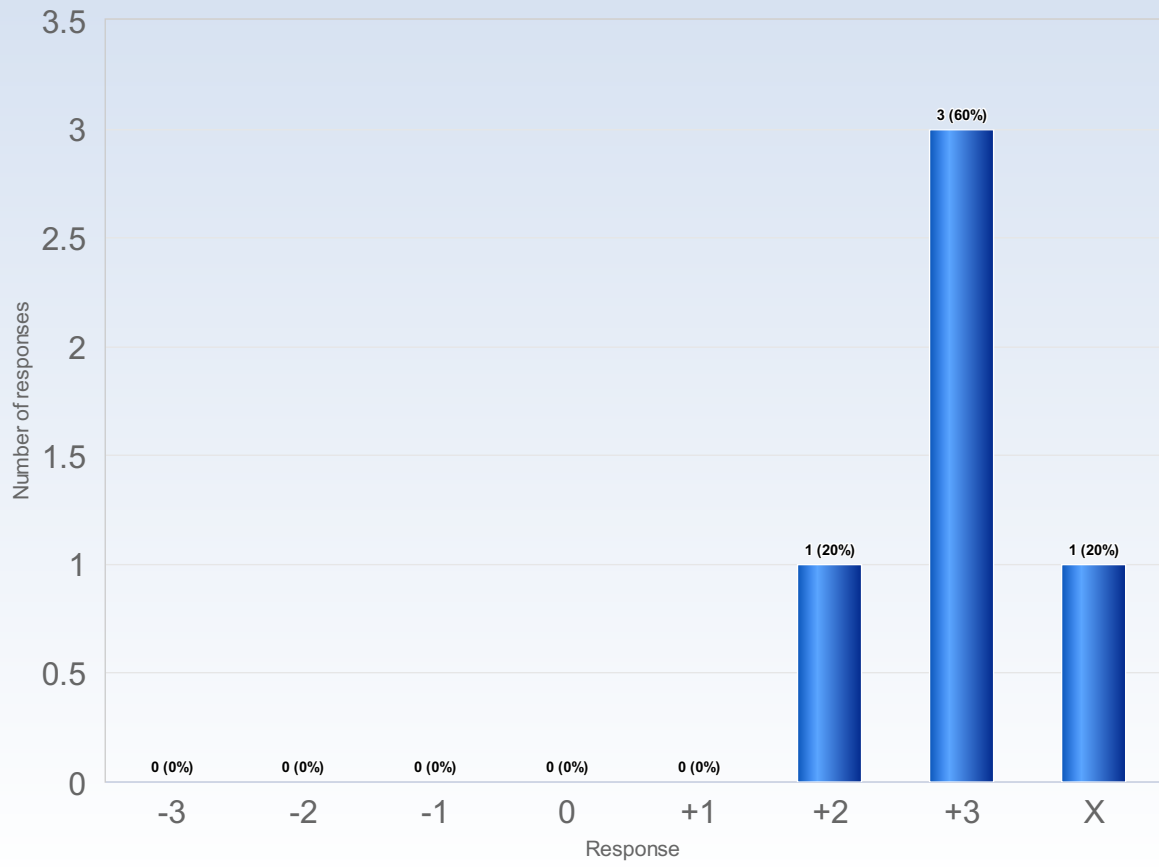
Comments (My response was: +3)

The course emphasised conceptual learning through projects and numericals.

Comments (My response was: X)

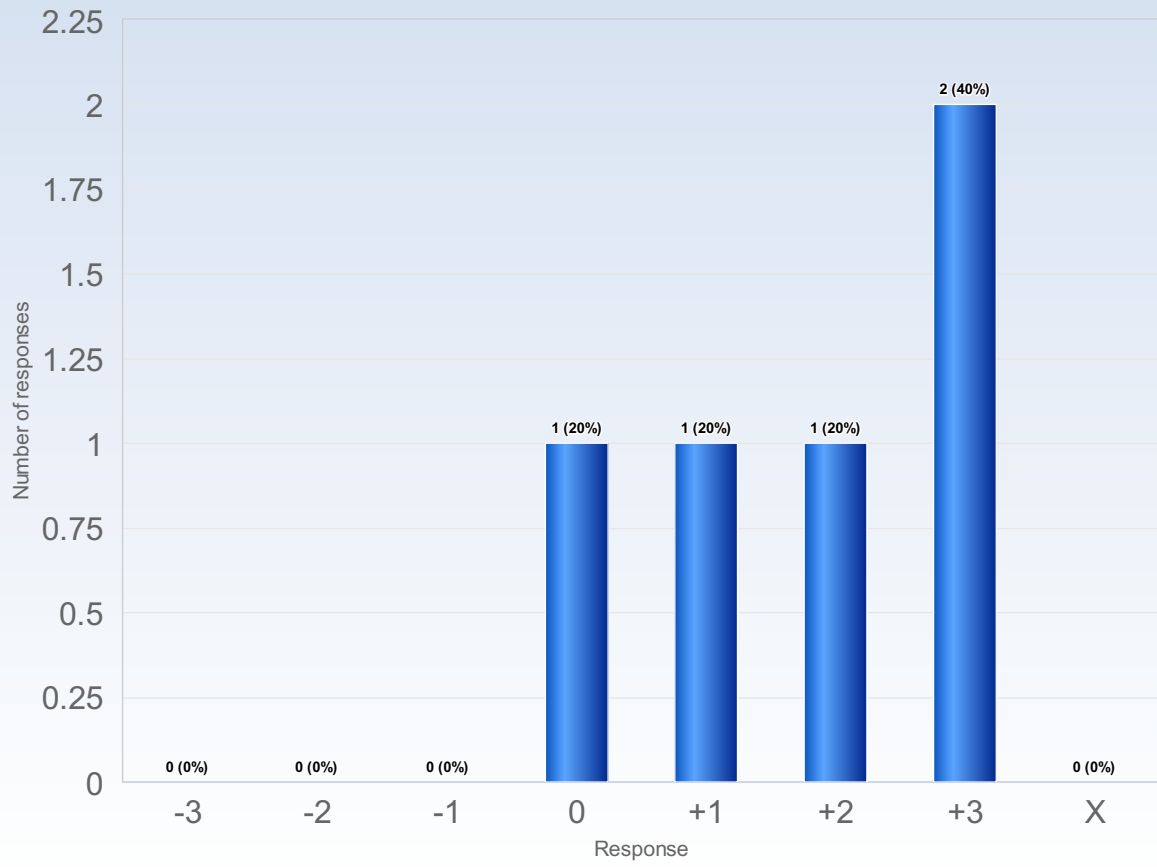
I don't know what the key concepts where. I studied to get enough understanding to solve labs, homeworks and practice exams

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



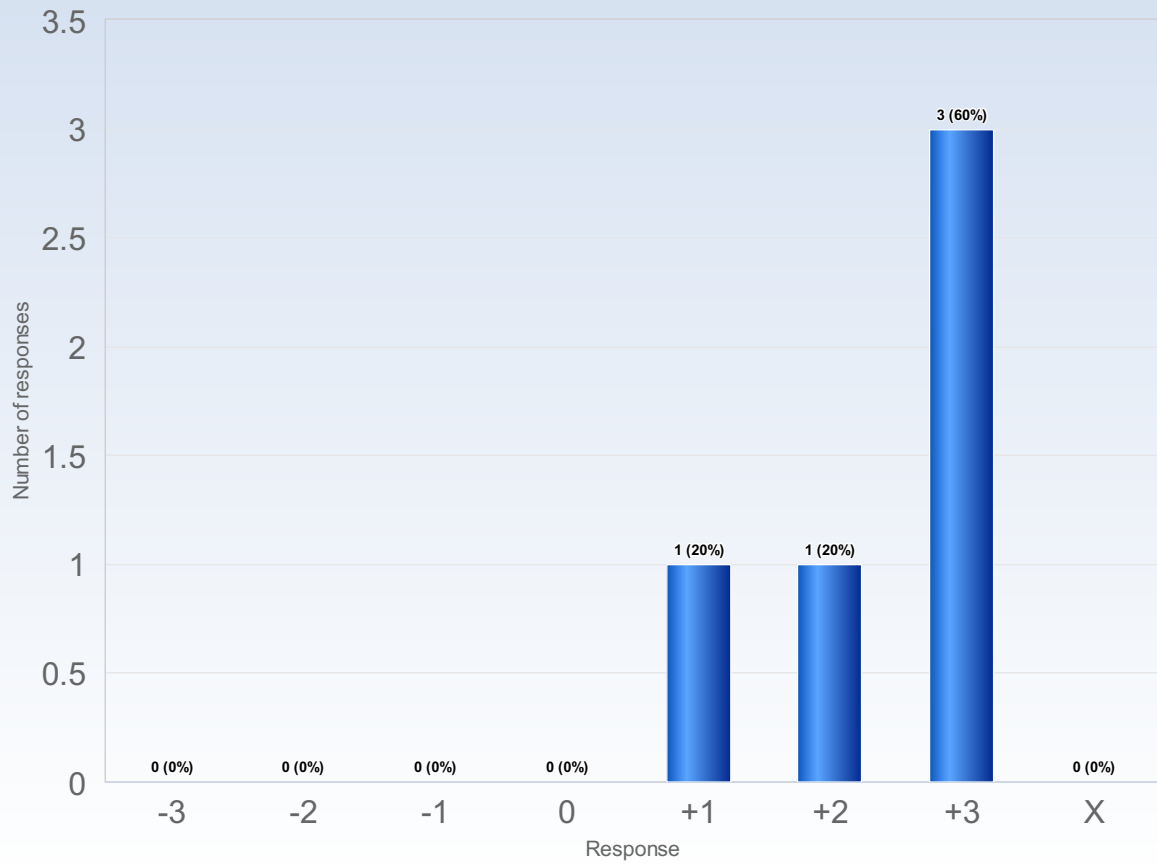
Comments

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



Comments

16. The assessment on the course was fair and honest



Comments

Comments (My response was: +1)

Would be interesting to know what we could do better to get more bonus points in the project.

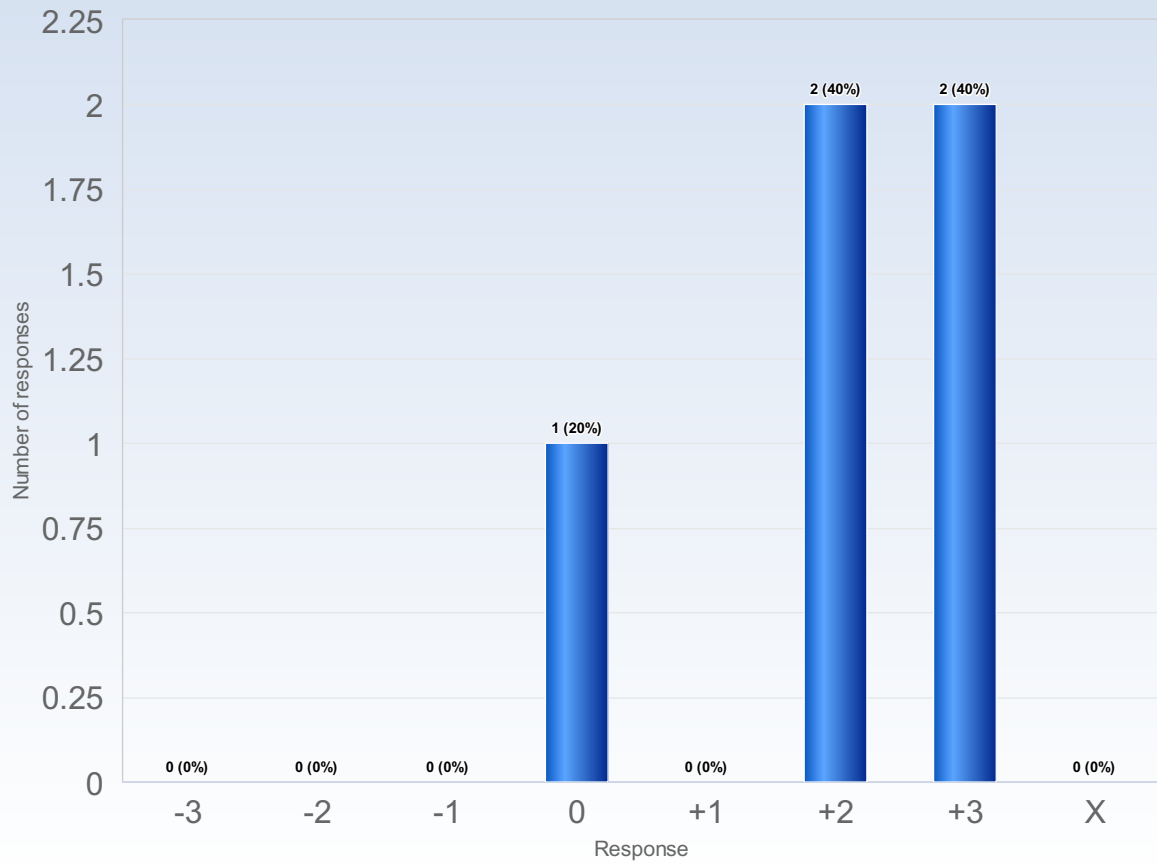
Comments (My response was: +2)

Exam has not been graded yet. Project and HW grading was very fair.

Comments (My response was: +3)

I havent seen grading on the exam yet, but from the labs, yes.

17. My background knowledge was sufficient to follow the course



Comments

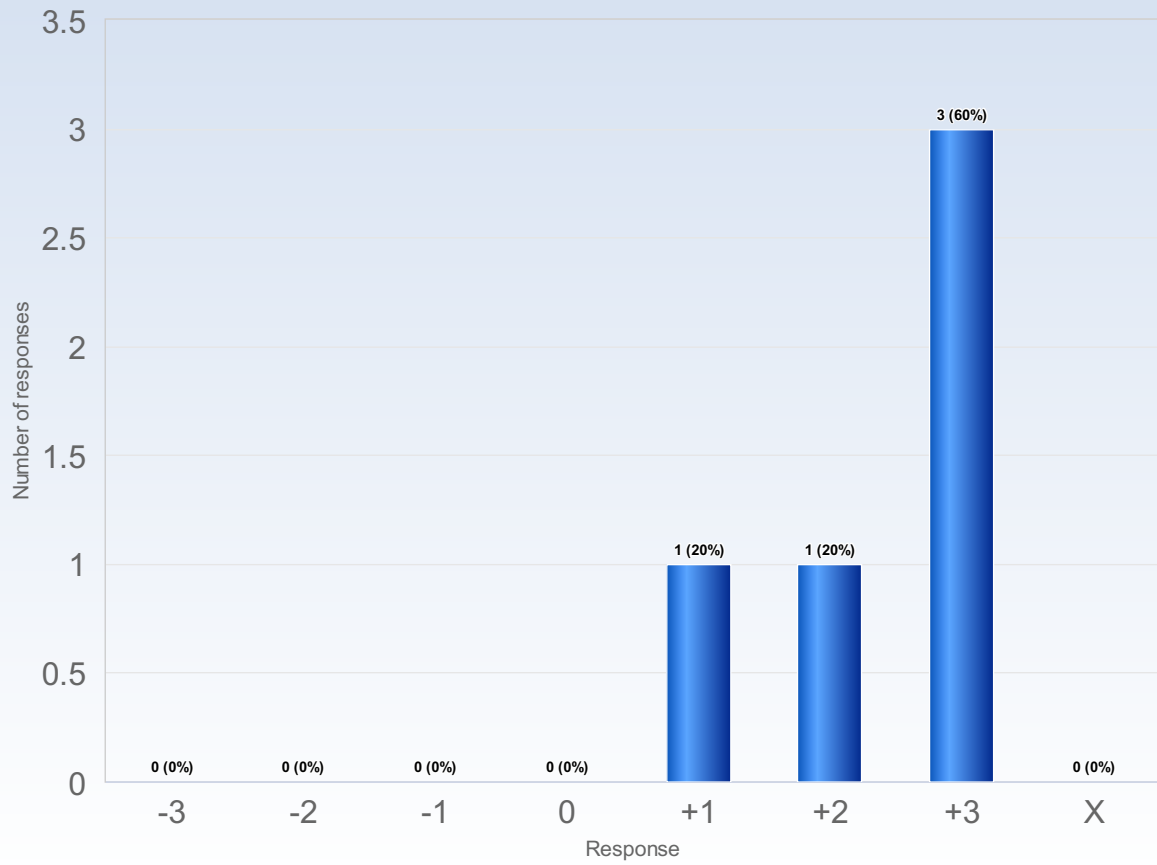
Comments (My response was: 0)

I was used different notation conventions, and had to work a bit to get accustomed.

Comments (My response was: +2)

My memory of certain topics was rusty

19. The course activities enabled me to learn in different ways

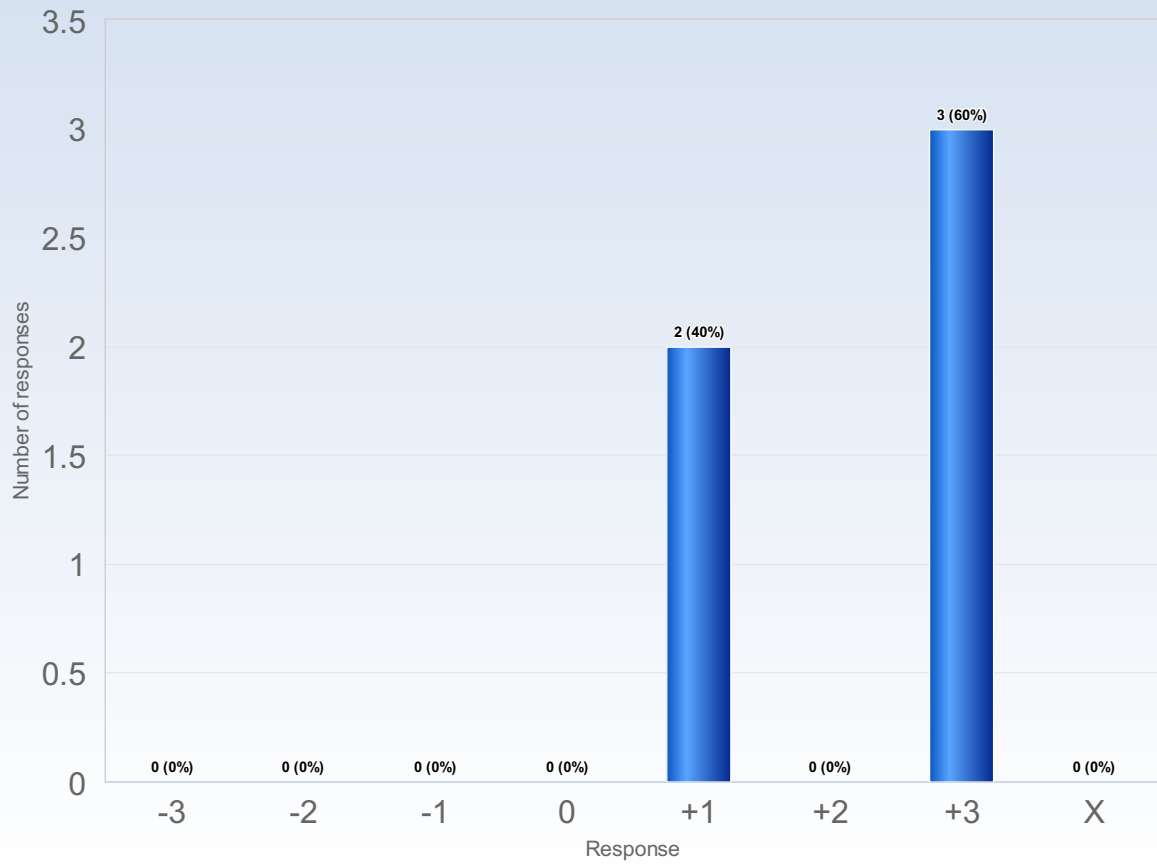


Comments

Comments (My response was: +2)

The course focused well both on theory and practical knowledge.

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

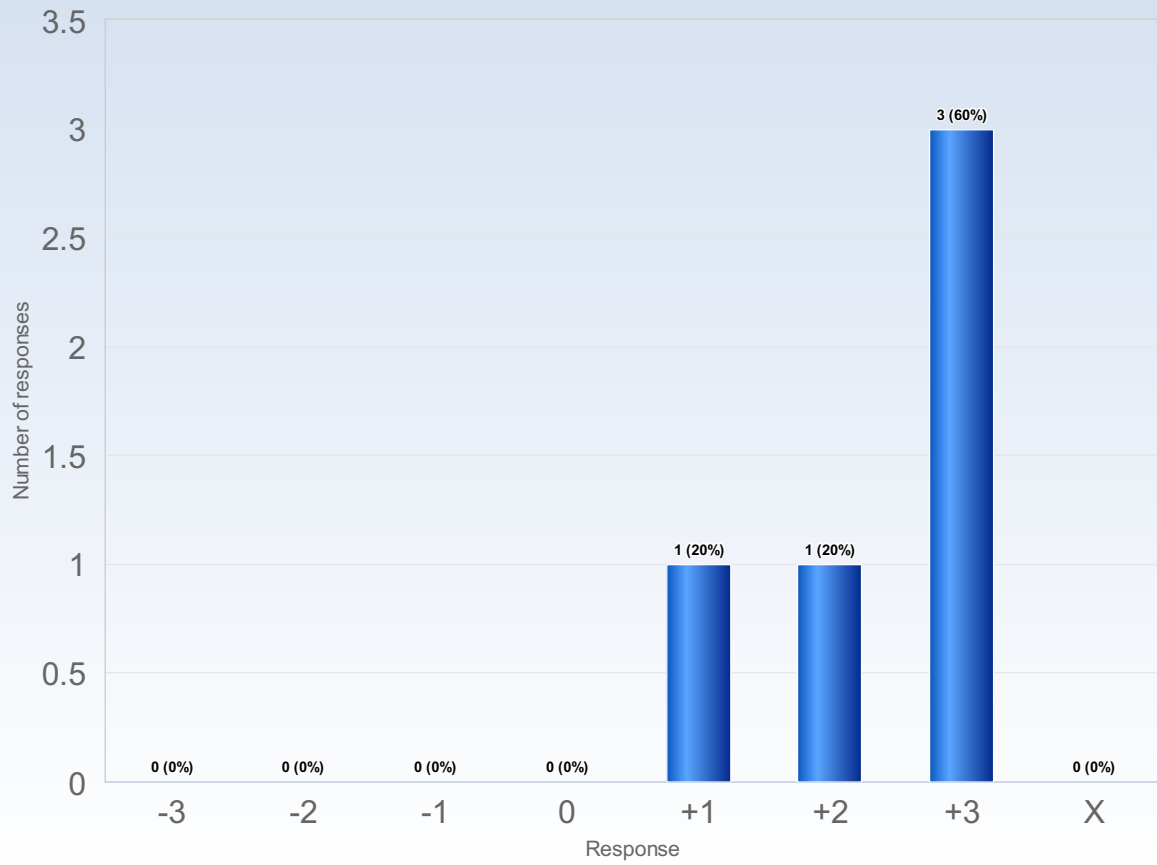


Comments

Comments (My response was: +3)

Project with a partner was good to discuss the subject with. Regular assignments also helped with the same.

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



Comments

Comments (My response was: +3)

Helpful professor as well as teaching assistant for övning sessions

It was very nice to be able to ask questions via mail and get such quick answers!