

Report - FEM3210 - 2022-11-24

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.

A course evaluation (LEQ) was published
2022-01-24 - 2022-02-08
6 out of 10 responded.

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 particular meetings except teaching.

COURSE DESIGN

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

(The first part of the course coincides with the MSc level course EQ2810 Estimation theory, accelerated program course, 6 cr. This year we had no MSc students. 11 PhD students registered, but one student dropped the course at an early stage. 10 students actively participated throughout the course.)

Six regular lectures, one per week.

Weekly homework assignments, to be solved and reported individually.

Peer grading of homework assignments.

Two project assignments: The first one is to solve and analyse an estimation problem in theory and by simulations, examined by a technical report.

The second project is to give a short lecture presentation about an estimation related topic.

48 hour take-home examination, pen and paper problems, and computer simulations.

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?

According to the evaluation, the workload differs quite significantly. This response may have several different explanations such as student background, student ambitions, student ability to estimate workload. My feeling is that the workload is at an OK level.

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?

As already mentioned, 10 students participated in full and 9 of them have reached the pass level. One student has yet to complete the first project.

STUDENTS' ANSWERS TO OPEN QUESTIONS

What does students say in response to the open questions?

See course evaluation attached.

SUMMARY OF STUDENTS' OPINIONS

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

See course evaluation report attached. The students are mostly happy with the course content and format.

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 students are mostly happy with the course content and format.

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?

No particular weakness in terms of gender etc could be identified. There is one suggestion to increase lecture time. Yet the book is considered good and accessible.

PRIORITIZED COURSE DEVELOPMENT

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

Normal revisions. Exercise updates, pen and paper as well as computer based.

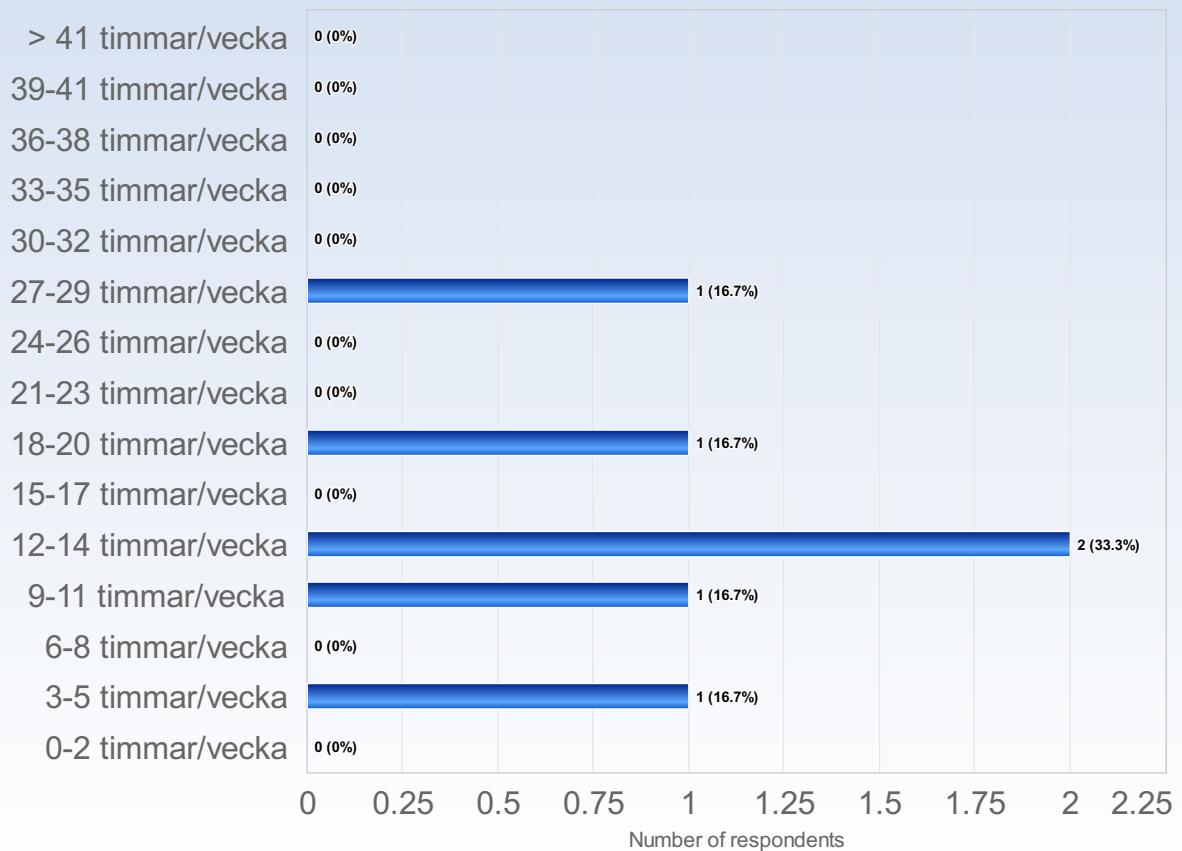


FEM3210 - 2022-01-23

Antal respondenter: 10
Antal svar: 6
Svarsfrekvens: 60,00 %

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)

It was fair enough to spend 3-5 hours/week on such an advanced course.

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

The course had a decent workload, the homework assignments were nice but the project-1 took up a lot of time to prepare and analyze.

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

The workload was as expected.

A lot of time spent on writing the homework exercises in a way that is legible for the correctors. I would suggest dividing the homework into exercises from the book to do at home as suggestion and some less to deliver.

Comments (I worked: 18-20 timmar/vecka)

A lot of work to do the home assignments. But they are a good way of learning.

Comments (I worked: 27-29 timmar/vecka)

There was a homework every week followed by a lecture, which helped me to better understand the concepts covered in the lecture. This also helped me to read the standard reference text book from end to end.

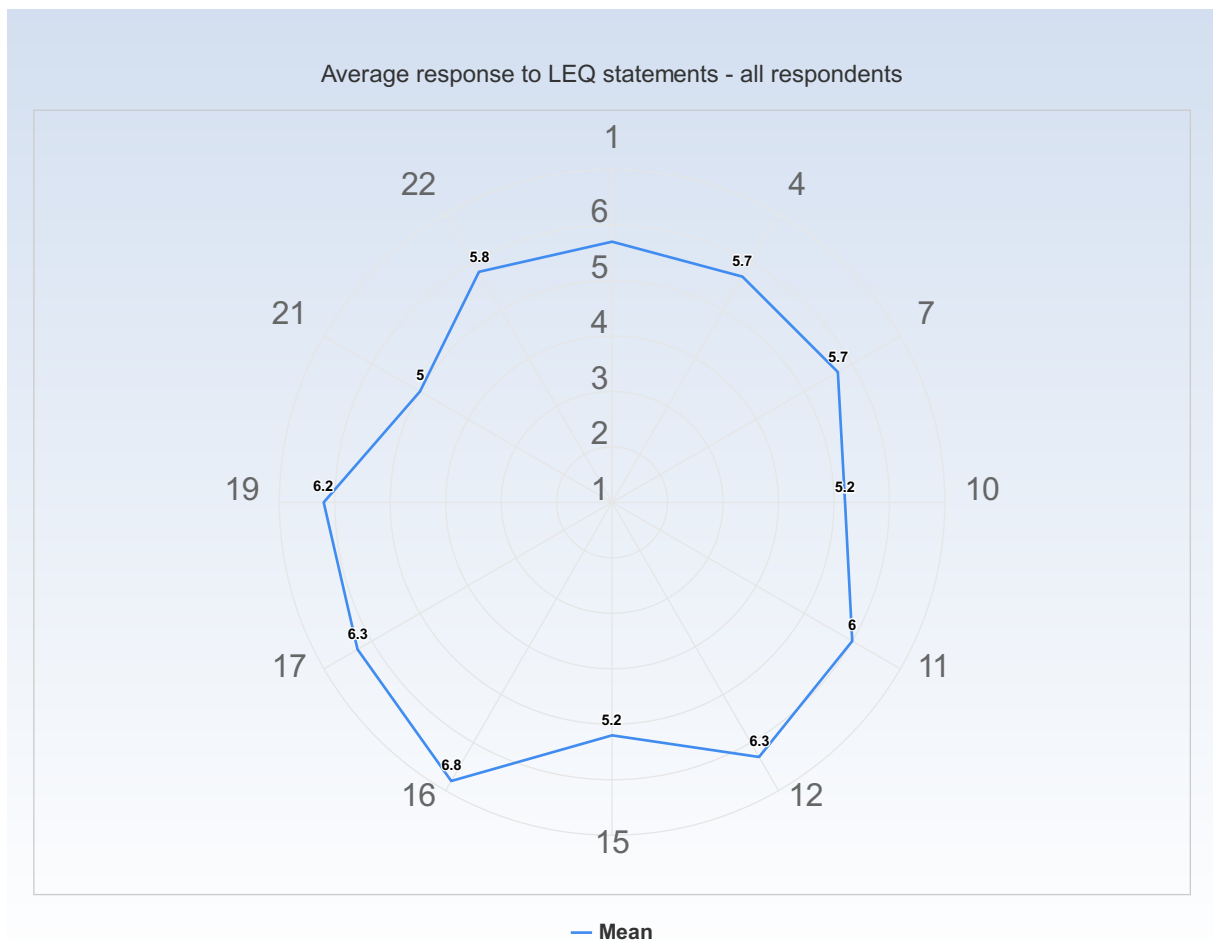


LEARNING EXPERIENCE

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.

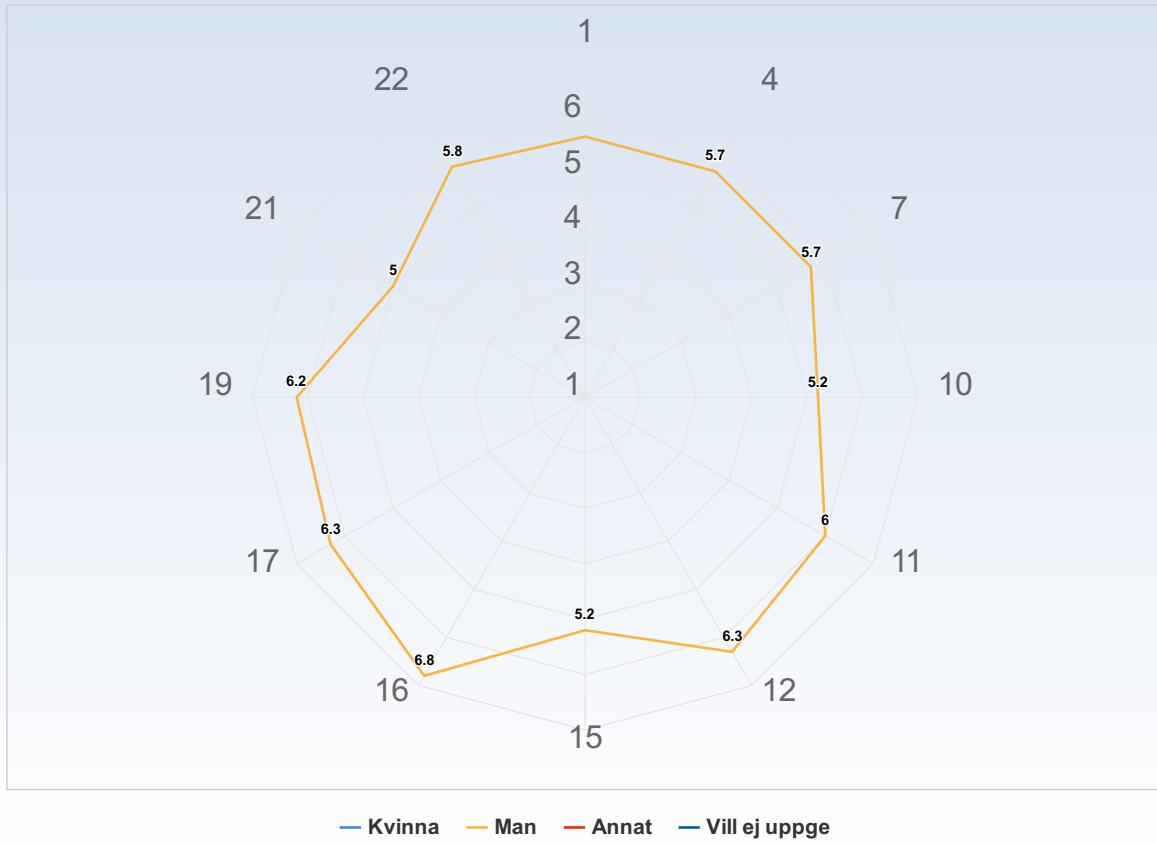
Biggs J. & Tang, C. (2011). *Teaching for Quality Learning at University*, Chapter 6, pp. 95-110. Maidenhead: McGraw Hill.

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

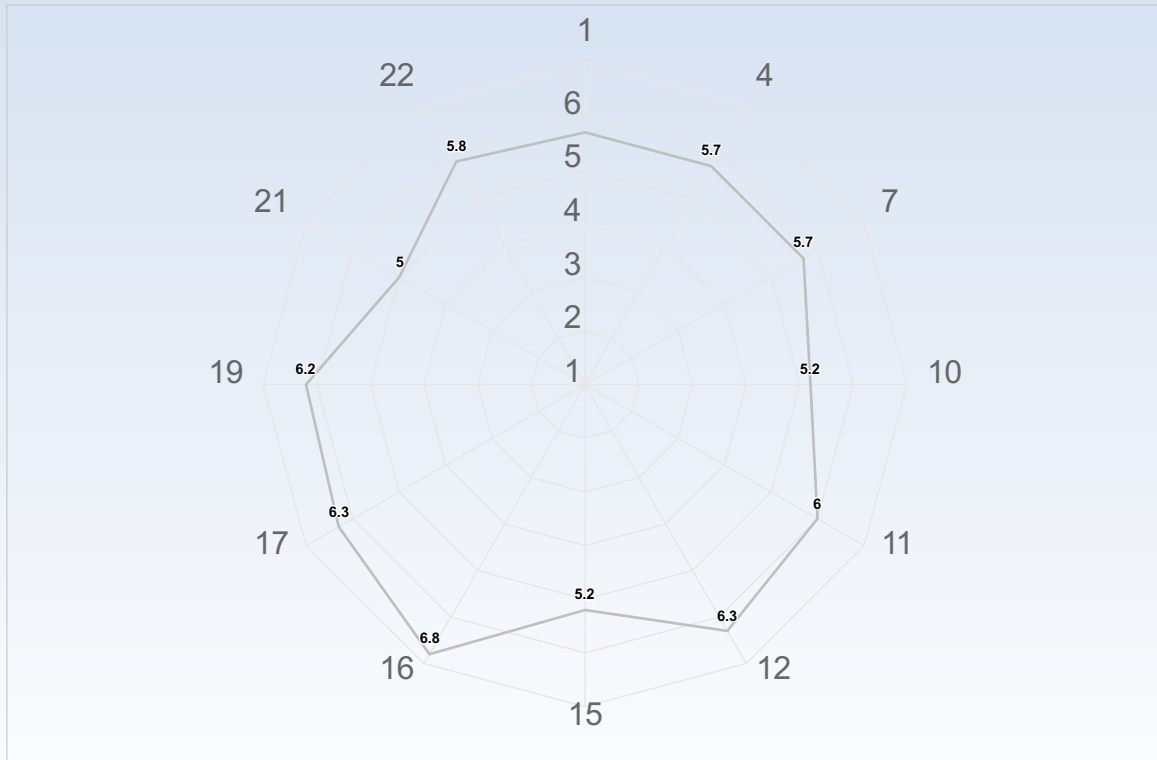


Comments

Comments (I am: Man)

There was no gender bias in this course.

Average response to LEQ statements - per type of student



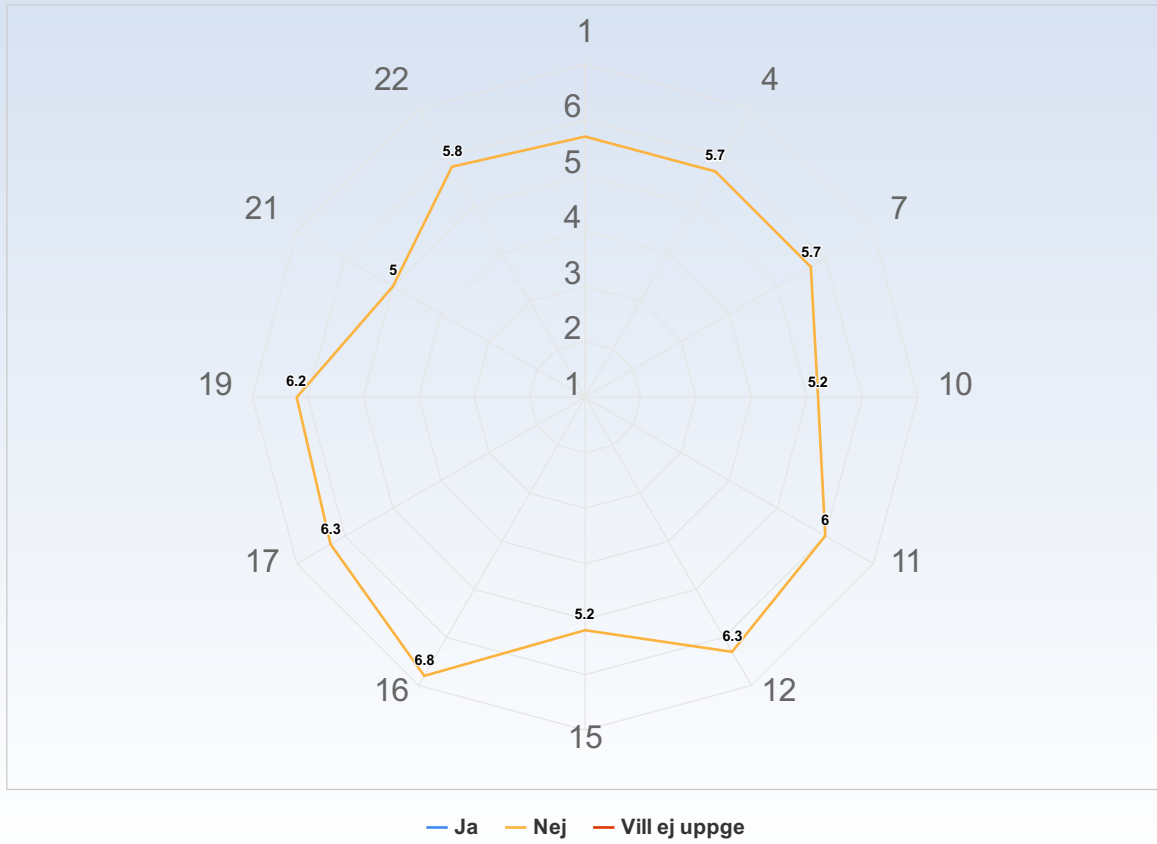
— Internationell masterstudent
 — Internationell utbytesstudent
 — Svensk student i årskurs 1-3
— Svensk student i årskurs 4-5
 — Annan typ av student
 — Vill ej uppge

Comments

Comments (I am: Annan typ av student)

- PhD student
- I am a Ph.D. student and this course is pretty much suitable in terms of format for Ph.D. students.
- Doctoral student
- PhD
- The course was good for all types of students.

Average response to LEQ statements - per disability



Comments



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 learning outcomes were really helpful for my own research.

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

Homework assignments, seminar presentations, final exam

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

It was quite interesting in terms of theoretical content

I think the book used is nice.

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

The projects and assignments.

What was the best aspect of the course? (I worked: 27-29 timmar/vecka)

The course had great contents. The course also had couple of project works, which complemented the lectures with better learning experience. The final exam was tricky.

What would you suggest to improve?

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

A few more real-life problem-solving examples would be better for the course. The problems stated in the book are more general.

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

It would be great to have some more coding assignments in the homework problems. I feel that there are a lot of numerical questions but coding assignments would help in better preparing for the project.

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

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Including some work in group maybe. The corrections in group end up being each one correcting separately. I would have preferred more labs where we could apply more things from the subject to simulations.

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

Less proofs in the assignments.

What would you suggest to improve? (I worked: 27-29 timmar/vecka)

The contents covered in the lecture are very short given the amount of theory is large. It would be better to take few more lectures in order to cover the concepts with great details.

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)

It takes a lot of time and effort to pass this course. But it is worth it.

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

The course may seem to be a bit demanding in terms of workload, but at the end you do get a good knowledge regarding estimation theory. The suggested book is also very good as a source of literature.

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

Study from the book and solve some questions not included in the homework assignments.

To have the book in real life. In my case I used it a lot and I find it much more comfortable than having the pdf.

What advice would you like to give to future participants? (I worked: 27-29 timmar/vecka)

The participants should have basic understanding in probability, matrix algebra (especially the computation aspects of it).

Is there anything else you would like to add?

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: 27-29 timmar/vecka)

Nothing



SPECIFIC QUESTIONS

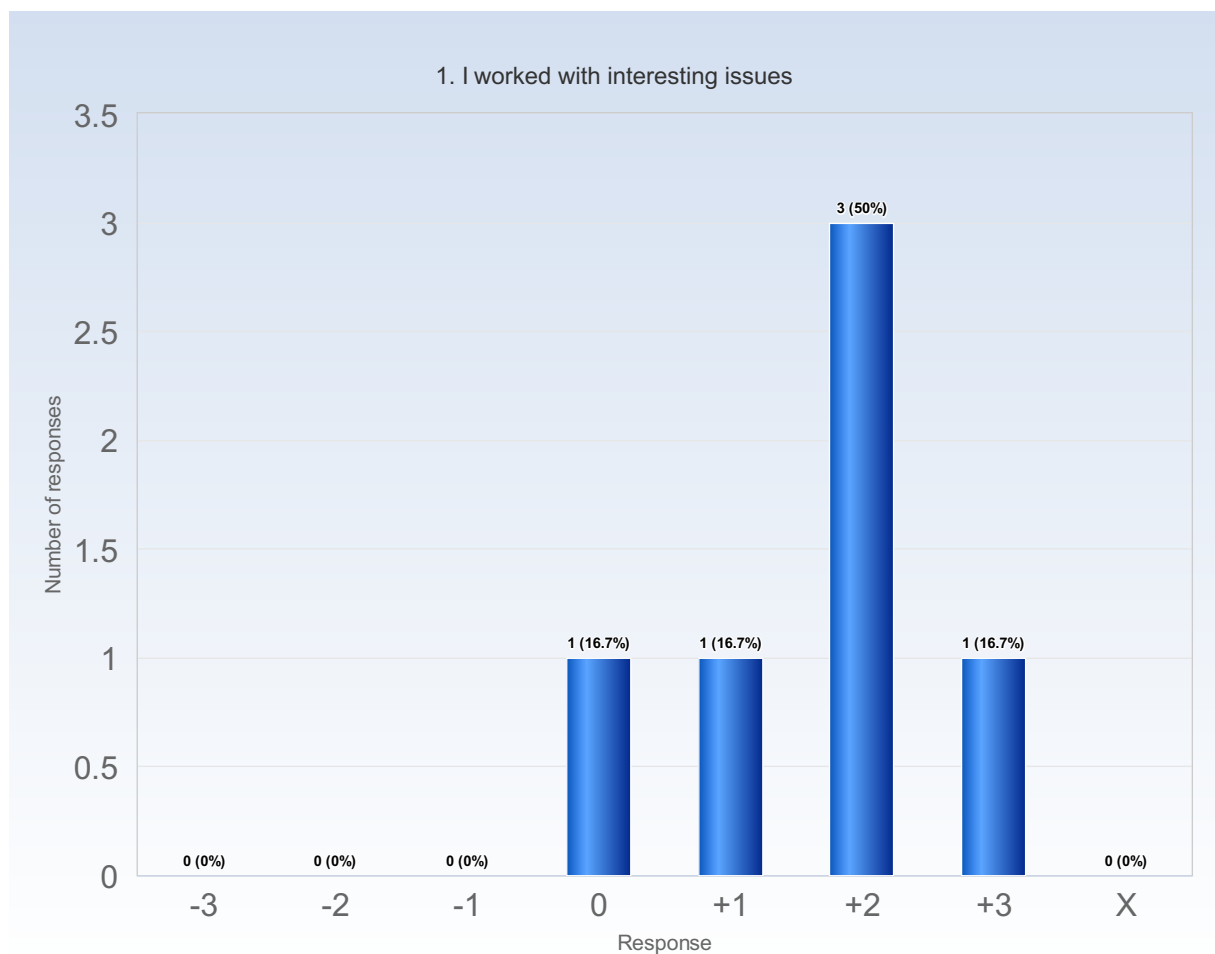


RESPONSE DATA

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

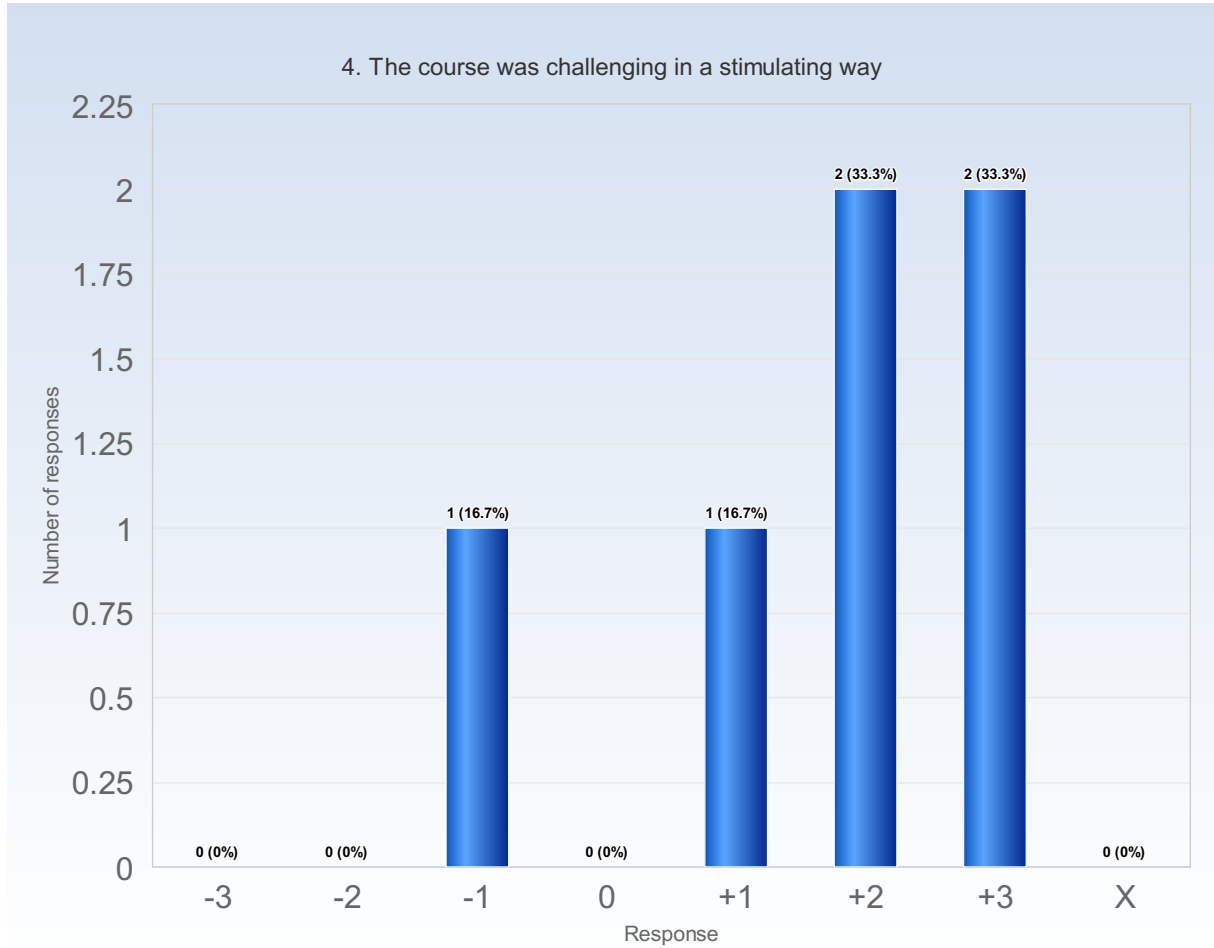




Comments

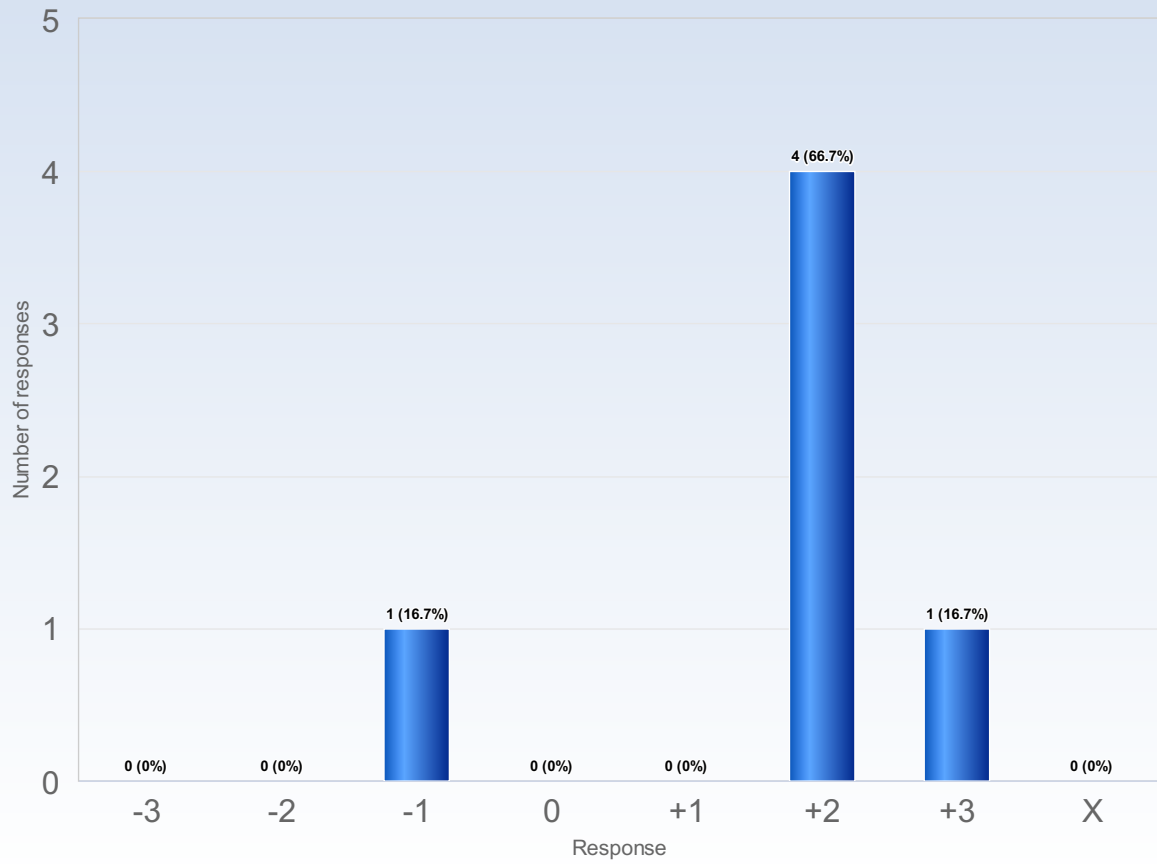
Comments (My response was: +2)

I feel the topics were interesting considering static, linear signal models, but perhaps it would be nice to have emphasis on dynamical models like Kalman filters perhaps.



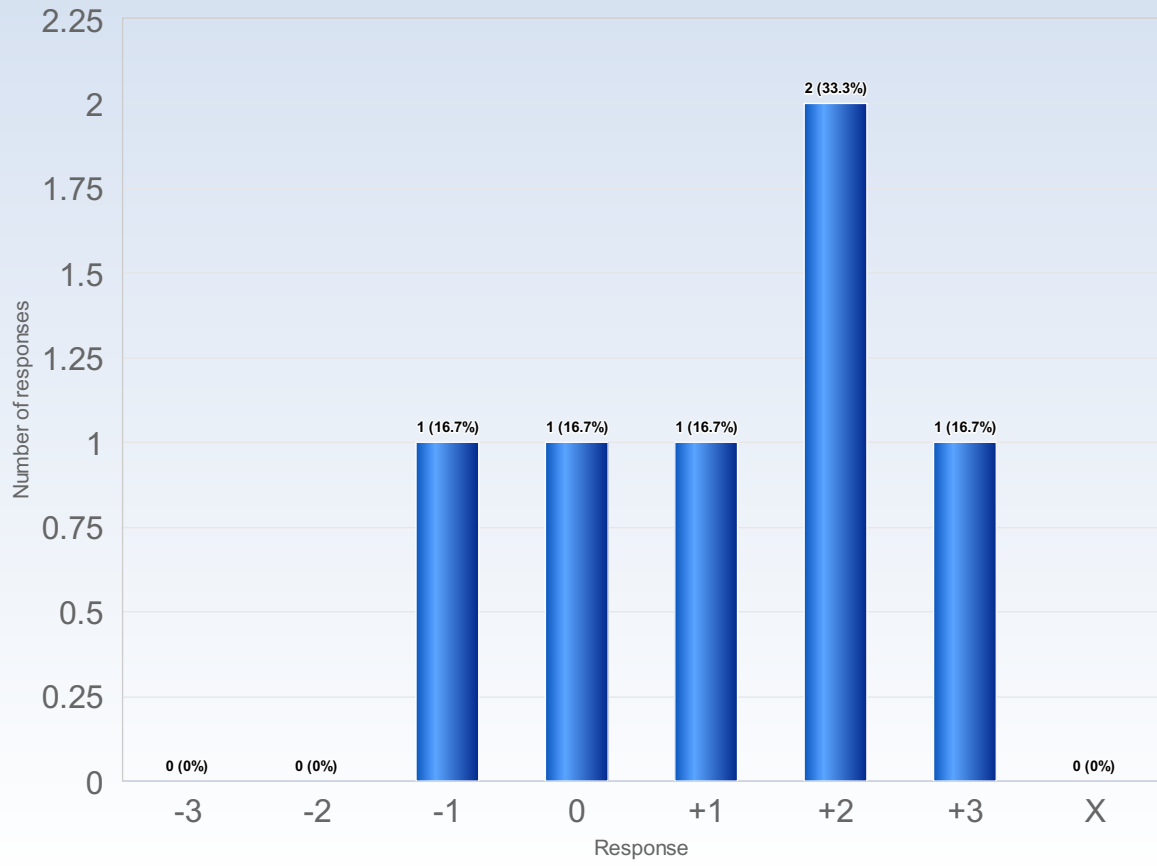
Comments

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



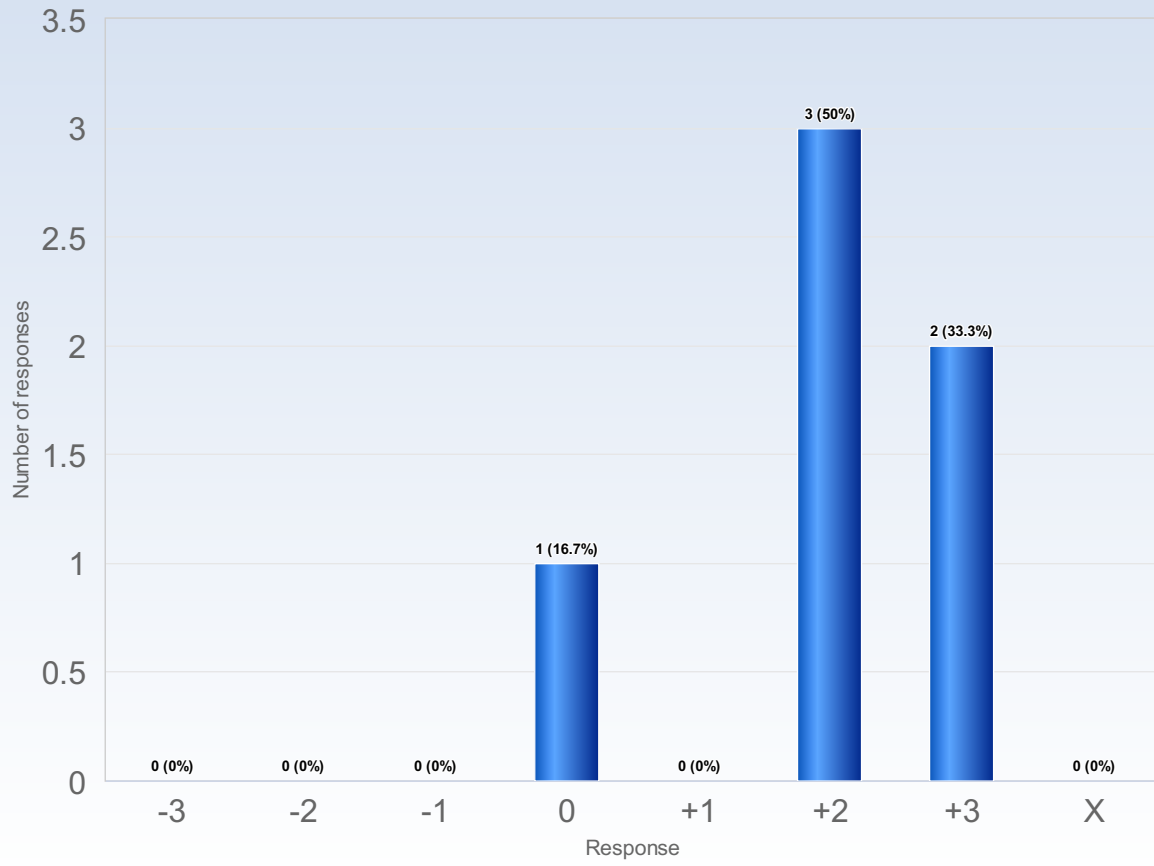
Comments

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



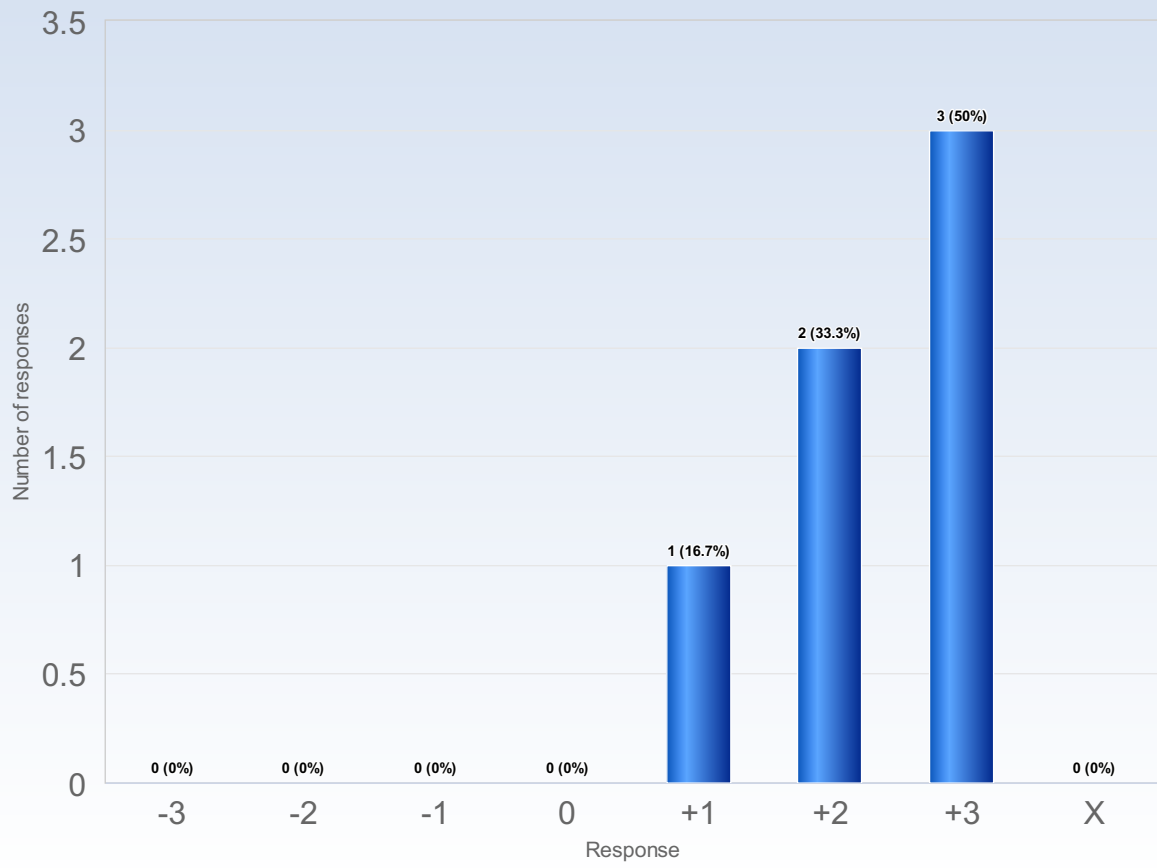
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11. Understanding of key concepts had high priority

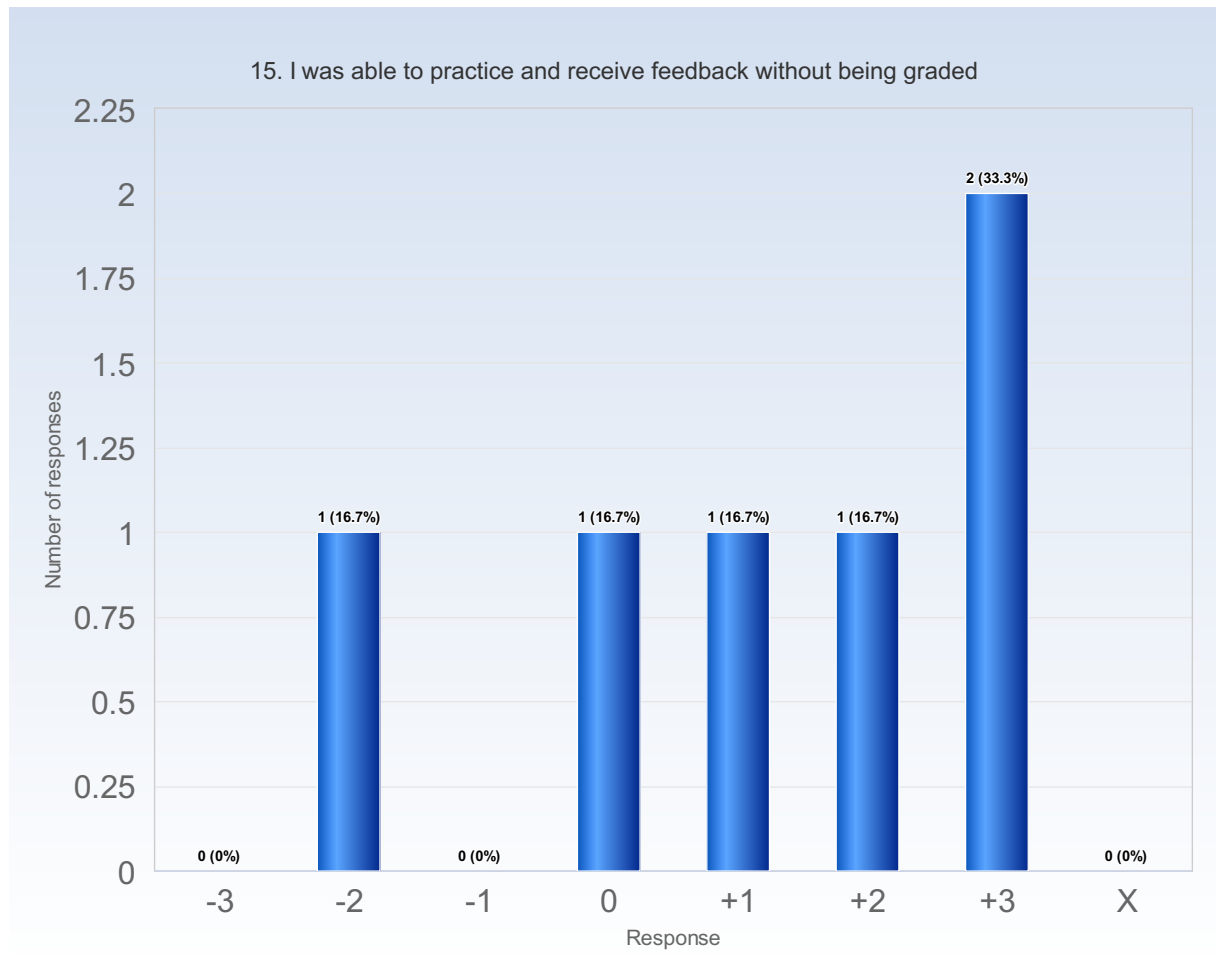


Comments

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

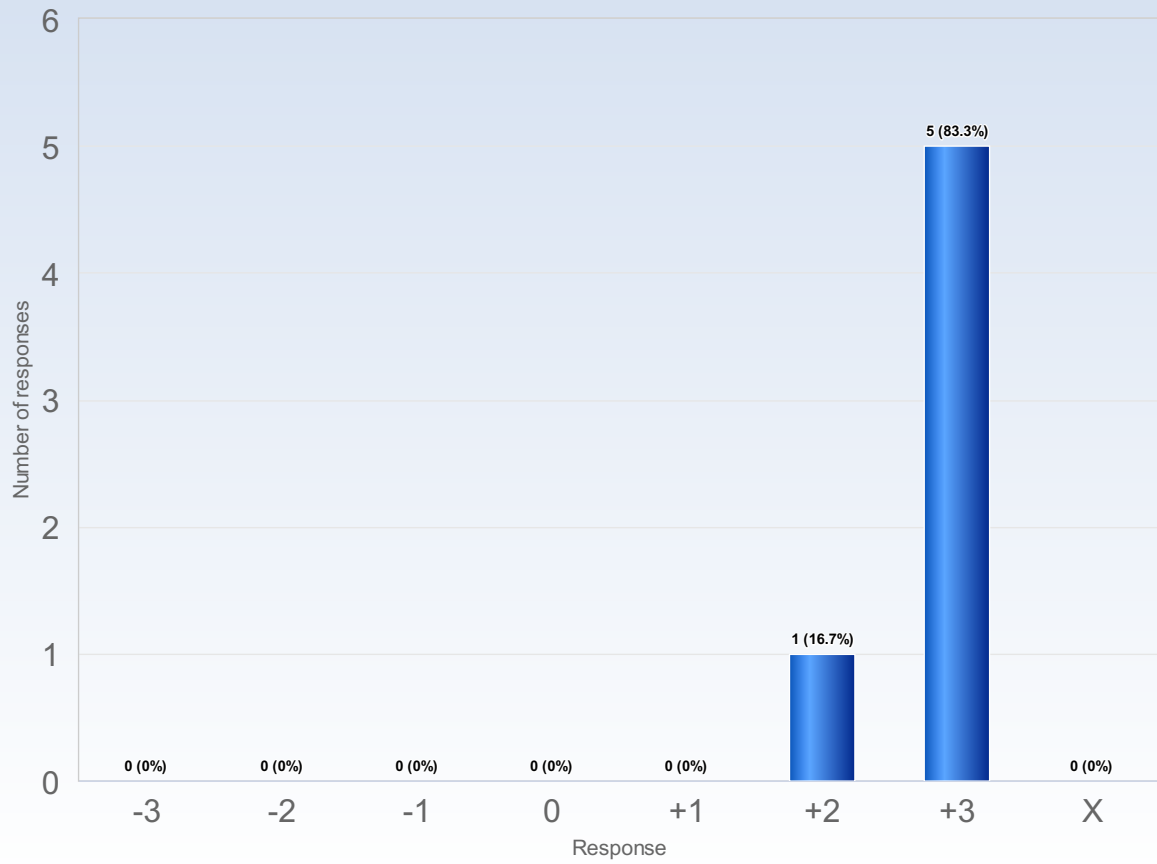


Comments



Comments

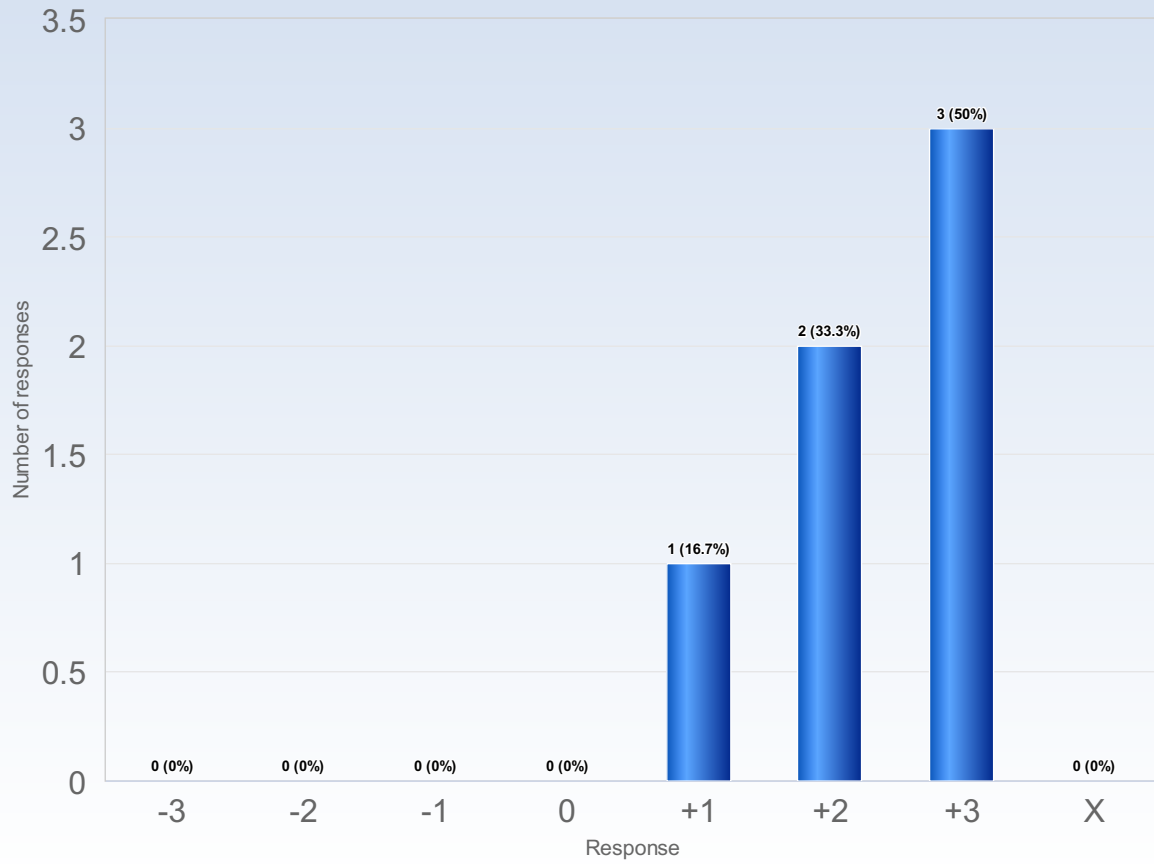
16. The assessment on the course was fair and honest



Comments



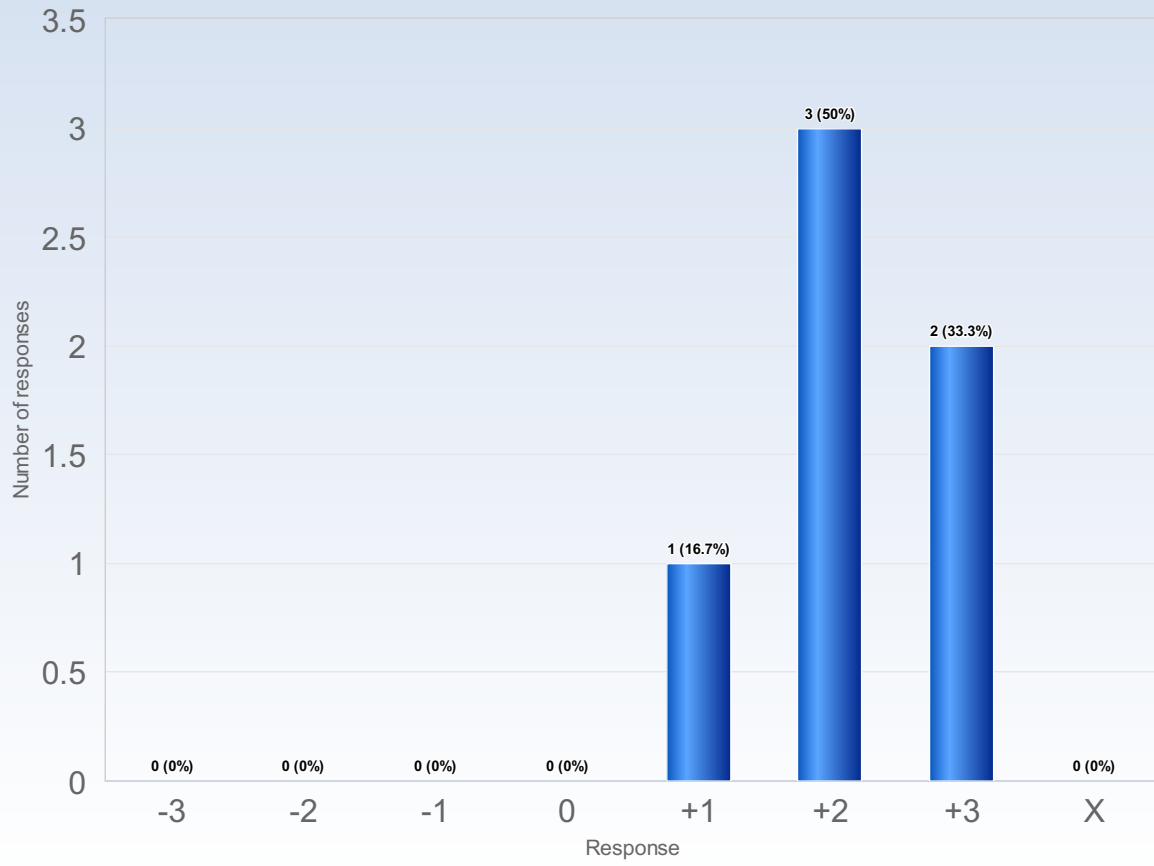
17. My background knowledge was sufficient to follow the course



Comments

Comments (My response was: +2)
Some matrix Identities I didn't know

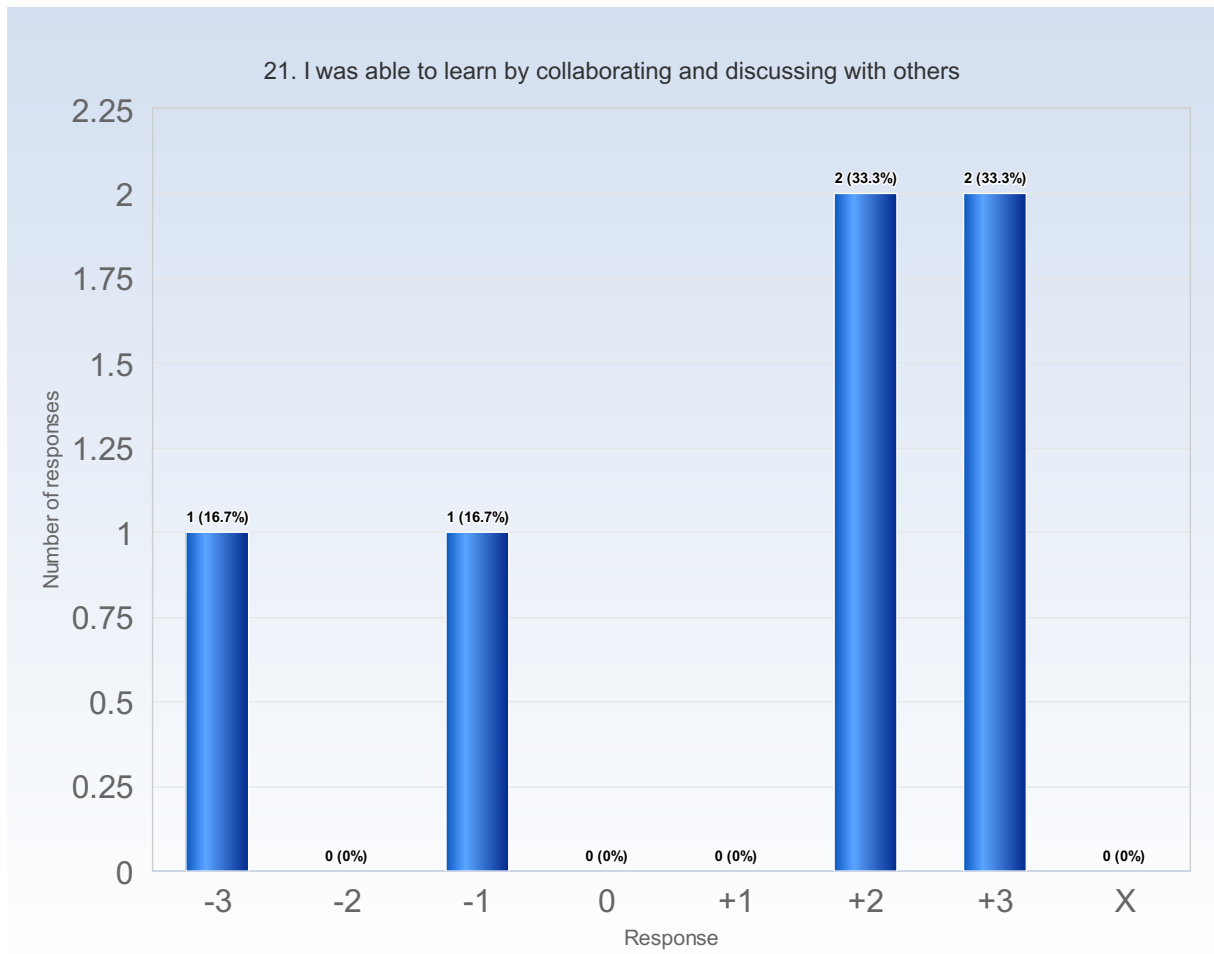
19. The course activities enabled me to learn in different ways



Comments

Comments (My response was: +3)

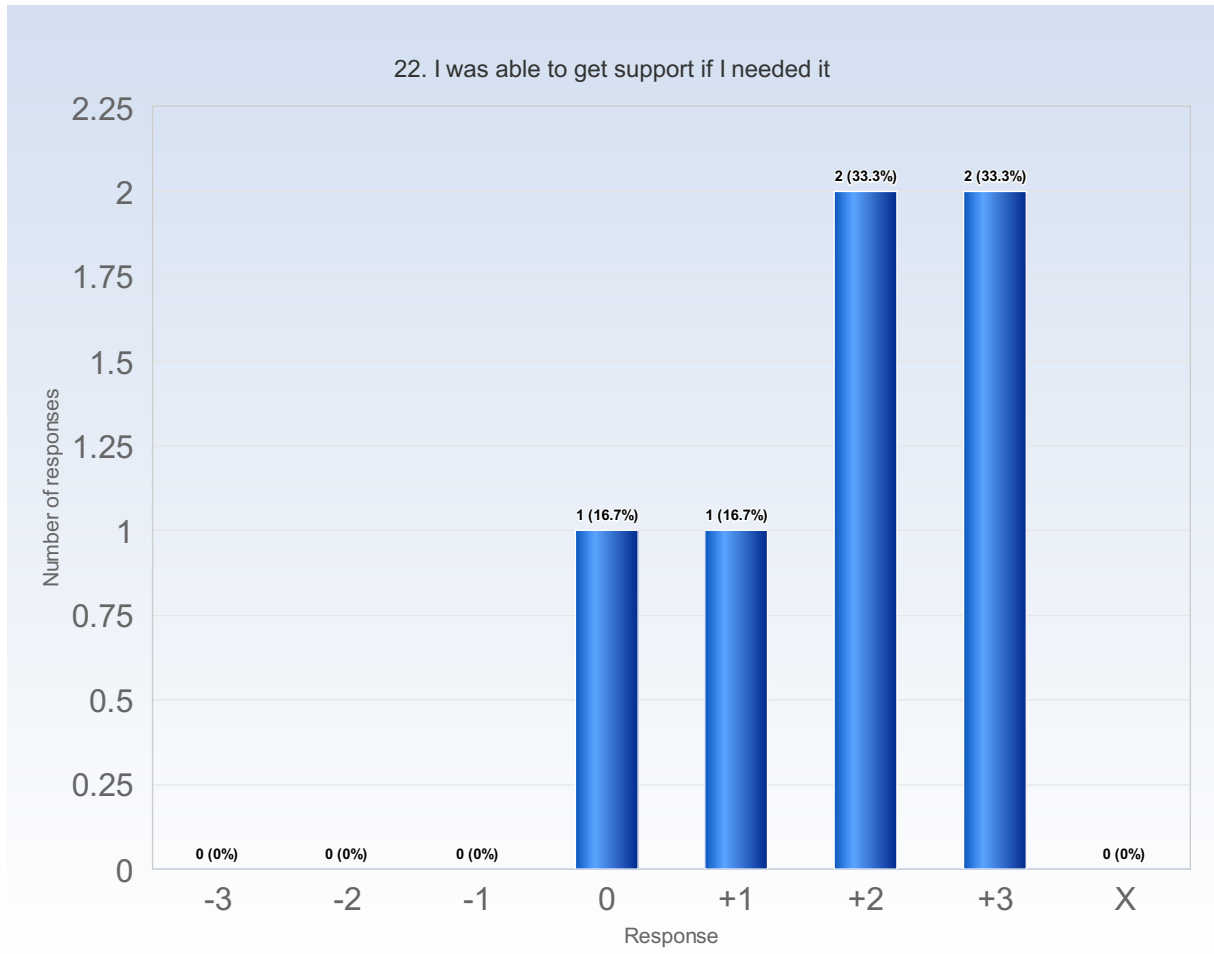
Especially liked the seminar presentation !



Comments

Comments (My response was: -1)

Quite rarely, did I get the chance to talk or discuss. Usually everybody is either way smart and solve all the assignments on their own, or keep quiet.



Comments