

# Course evaluation report - CEQ, FMAN25

## Basic facts

Course name	<b>Calculus of Variations</b>		
Course code	FMAN25		
ECTS credits	7.5 hp	<b>Study hours according the curricula</b>	
Year	202021	Lectures	34 h
Study period the course was finished	VT_LP2	Group work	0 h
Programme	all	Laboratories	0 h
Registrated students	26	Time with supervisor	0 h
Number answers and response rate	10 / 38 %	Self study time	166 h
Number answers from males	8		
Number answers from females	0		

Since less than 20 students have answered the questionnaire no statistical significance tests have been made.

## Summary of questionnaires

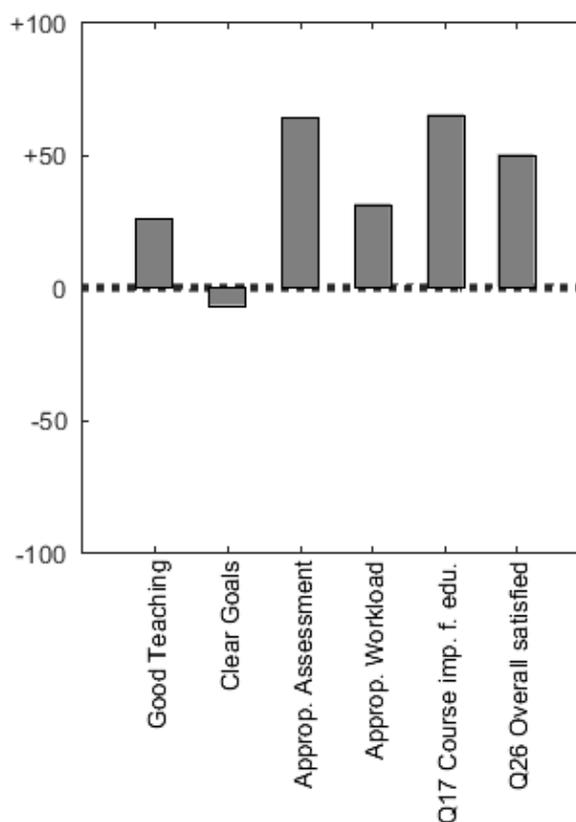
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

### Presence at teaching

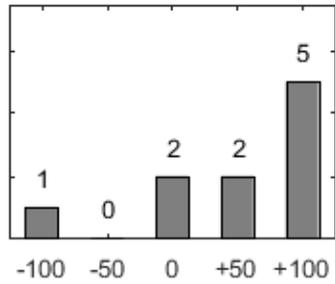
Part of teaching	Number	Share
0 %	0	0 %
20 %	1	10 %
40 %	0	0 %
60 %	1	10 %
80 %	5	50 %
100 %	1	10 %

### CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	+26	61
Clear Goals and Standards	-7	68
Appropriate Assessment	+64	49
Appropriate Workload	+31	52
Generic Skills	+16	69
<b>Special questions</b>		
The course seems important for my edu.	+65	34
Overall, I am satisfied with this course	+50	67



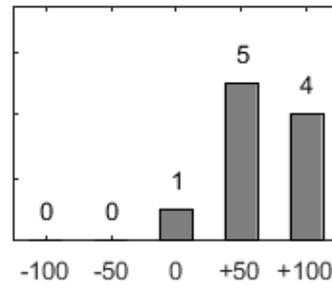
**Distribution of the answers from question 26: "Overall, I am satisfied with this course"**



CEQ-score mark Number Share

Dissatisfied (<0)	1	10 %
Neutral (0)	2	20 %
Satisfied (>0)	7	70 %
No answer	0	0 %

Mean of CEQ-score	+50
Standard deviation (StdDev)	67



CEQ-score mark Number Share

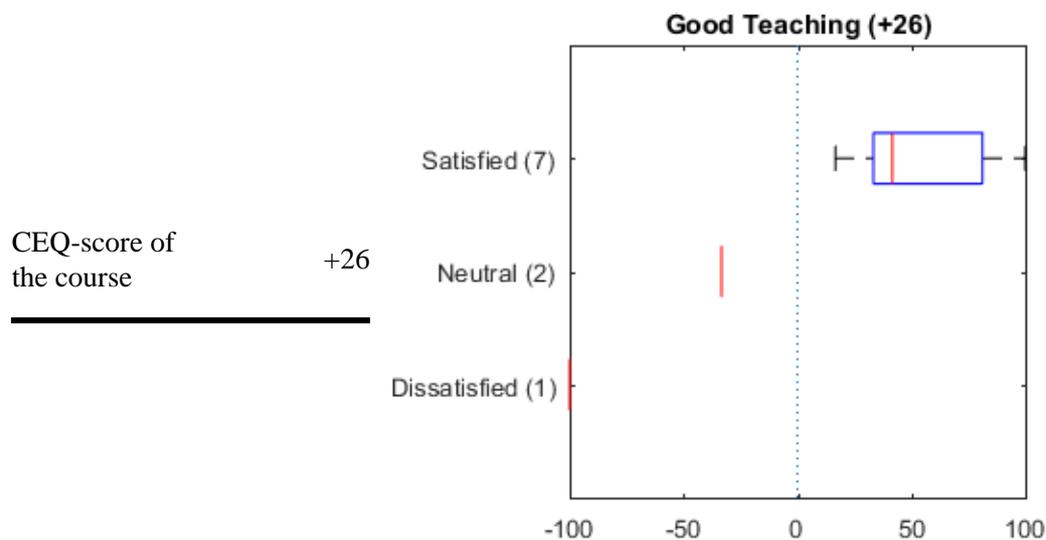
-100	0	0 %
-50	0	0 %
+0	1	10 %
+50	5	50 %
+100	4	40 %

Mean of CEQ-score	+65
Standard deviation (StdDev)	34

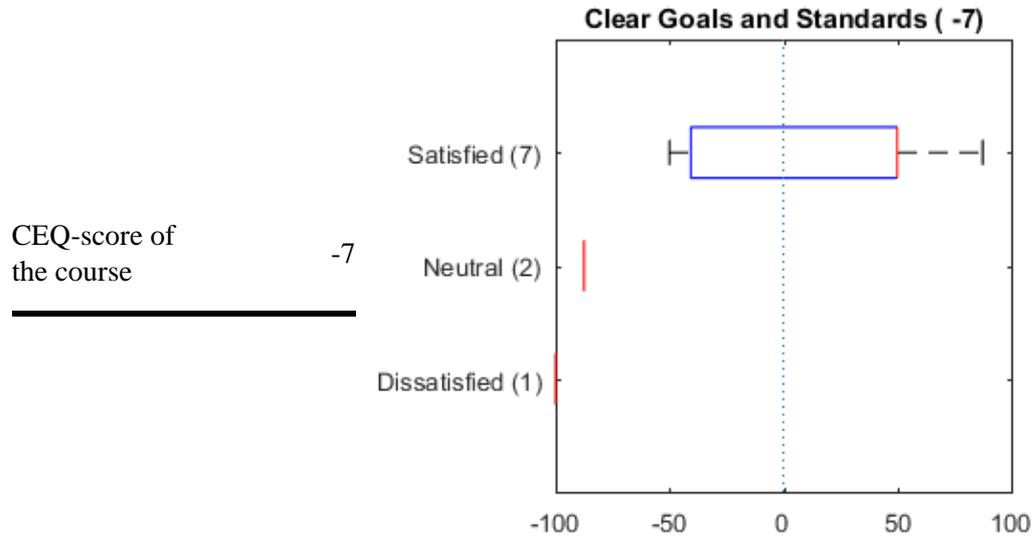
## Summary scales divided on satisfaction

Statistical examination has not been done due to at least two groups consist of less than five students

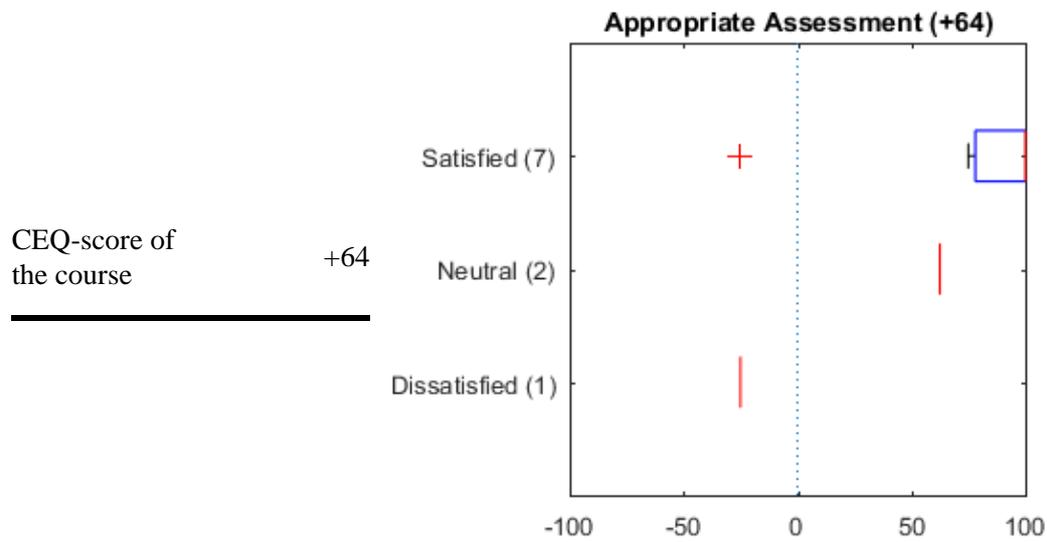
### Good Teaching



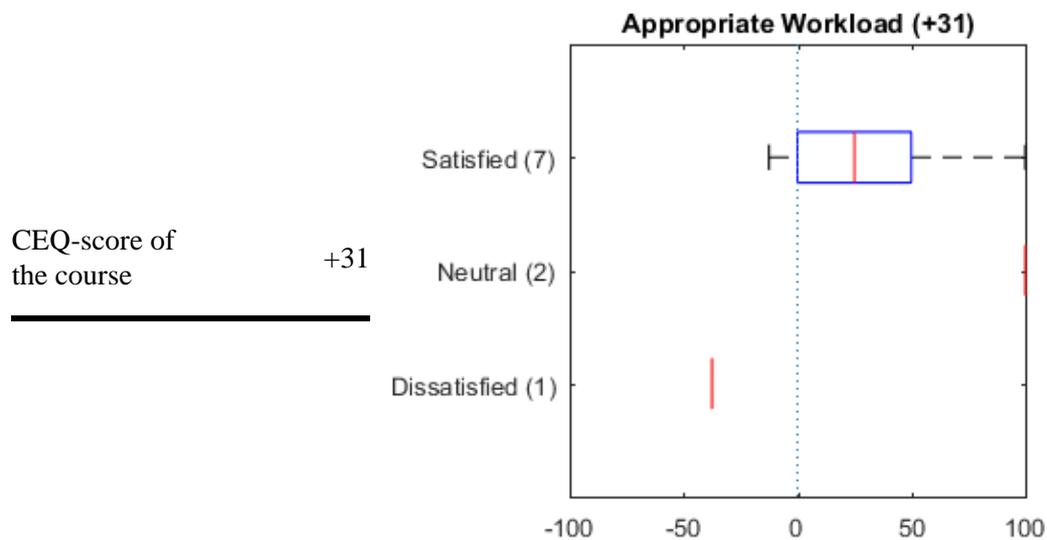
**Clear Goals and Standards**



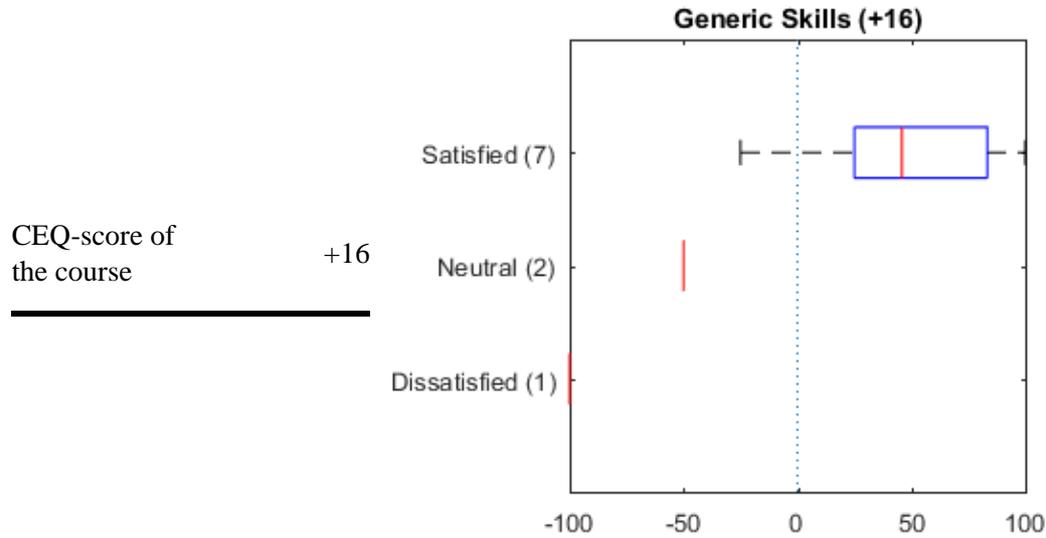
**Appropriate Assessment**



**Appropriate Workload**



**Generic Skills**



**Answers to each question**

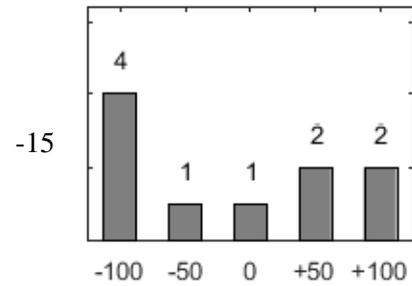
*The questions in bold are reverse positive.*

*Statistical examination between dissatisfied and satisfied has not been done due to at least one of the groups consist of less than five students*

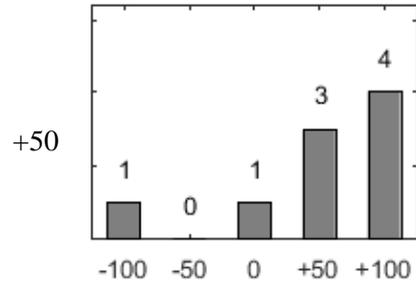
**Good Teaching (+26)**

Question	CEQ-score	Histogram
3. The teaching has motivated me to do my best	+25	<p>Detailed description: Histogram for question 3. X-axis: -100, -50, 0, +50, +100. Y-axis: Frequency. Bars at -100 (1), -50 (1), 0 (1), +50 (6), +100 (1).</p>
7. During the course I have received many valuable comments on my achievements	-10	<p>Detailed description: Histogram for question 7. X-axis: -100, -50, 0, +50, +100. Y-axis: Frequency. Bars at -100 (4), -50 (0), 0 (2), +50 (2), +100 (2).</p>
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	+28	<p>Detailed description: Histogram for question 15. X-axis: -100, -50, 0, +50, +100. Y-axis: Frequency. Bars at -100 (1), -50 (0), 0 (3), +50 (3), +100 (2).</p>

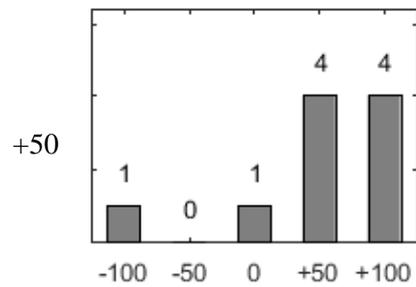
18. The teaching staff normally gave me helpful feedback on the progress of my work



19. My lecturers were extremely good at explaining things



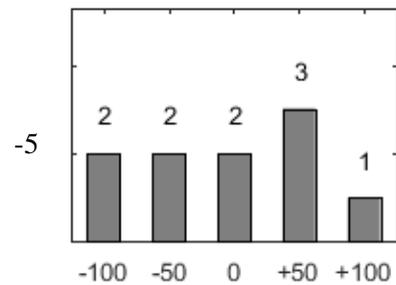
21. The teachers on the course worked hard to make the subject interesting



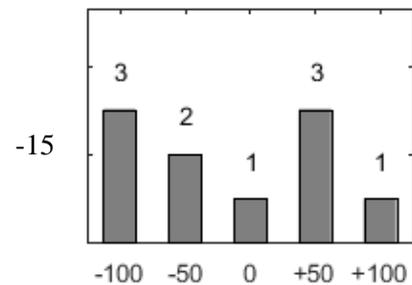
### Clear Goals and Standards (-7)

Question	CEQ-score	Histogram
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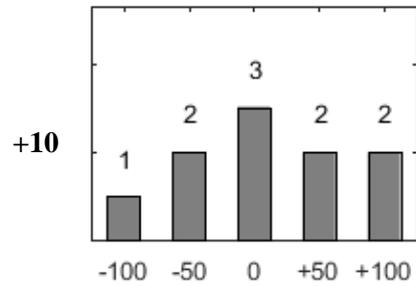
1. It was easy to know the standard of work expected



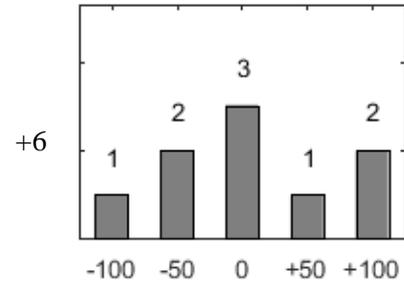
6. I usually had a clear idea of where I was going and what was expected of me in this course



**13. It was often hard to discover what was expected of me in this course**



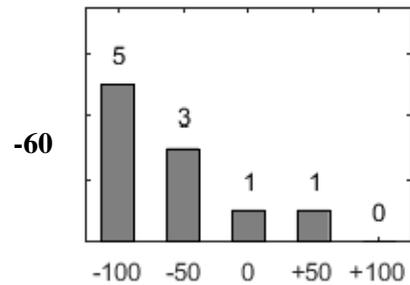
25. The teachers made it clear right from the start what they expected from the students



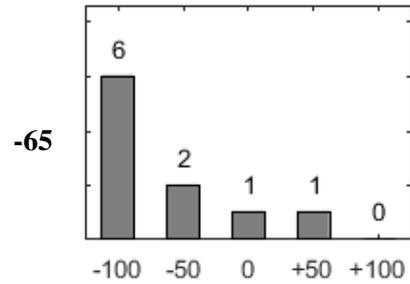
### Appropriate Assessment (+64)

Question	CEQ-score	Histogram
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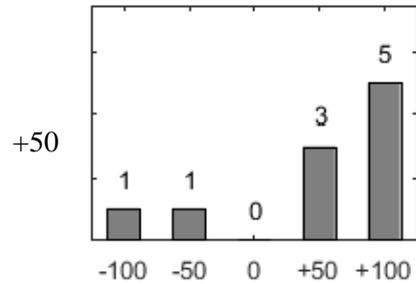
**8. To do well in this course all you really needed was a good memory**



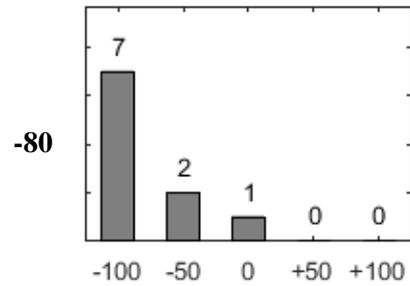
**12. The teachers seemed more interested in testing what I had memorised than what I had understood**



16. The assessment methods employed in this course required an in-depth understanding of the course content



**20. Too much of the assessment was just about facts**



## Appropriate Workload (+31)

Question	CEQ-score	Histogram												
<b>4. The workload has been much too heavy</b>	-25	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>2</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>4</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	1	0	4	+50	1	+100	0
Score	Count													
-100	2													
-50	1													
0	4													
+50	1													
+100	0													
14. I was generally given enough time to understand the things I had to learn	+39	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>2</td> </tr> <tr> <td>-50</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>5</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	0	0	1	+50	1	+100	5
Score	Count													
-100	2													
-50	0													
0	1													
+50	1													
+100	5													
<b>22. There was a lot of pressure on me as a student in this course</b>	-10	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>2</td> </tr> <tr> <td>-50</td> <td>3</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	3	0	2	+50	1	+100	2
Score	Count													
-100	2													
-50	3													
0	2													
+50	1													
+100	2													
<b>24. The sheer volume of work in this course made it impossible to comprehend everything thoroughly</b>	-56	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>5</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Count	-100	5	-50	1	0	2	+50	1	+100	0
Score	Count													
-100	5													
-50	1													
0	2													
+50	1													
+100	0													

## Generic Skills (+16)

Question	CEQ-score	Histogram												
2. The course has developed my problem-solving skills	+40	<table border="1"> <caption>Data for Histogram 2</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>1</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+50</td><td>4</td></tr> <tr><td>+100</td><td>3</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	0	0	2	+50	4	+100	3
Score	Frequency													
-100	1													
-50	0													
0	2													
+50	4													
+100	3													
5. The course has sharpened my analytic skills	+50	<table border="1"> <caption>Data for Histogram 5</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>1</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>4</td></tr> <tr><td>+100</td><td>4</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	0	0	1	+50	4	+100	4
Score	Frequency													
-100	1													
-50	0													
0	1													
+50	4													
+100	4													
9. The course helped me develop my ability to work in a group	-39	<table border="1"> <caption>Data for Histogram 9</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>6</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>+50</td><td>1</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	6	-50	0	0	0	+50	1	+100	2
Score	Frequency													
-100	6													
-50	0													
0	0													
+50	1													
+100	2													
10. The course has made me feel more confident about tackling new and unfamiliar problems	+40	<table border="1"> <caption>Data for Histogram 10</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>1</td></tr> <tr><td>-50</td><td>1</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>3</td></tr> <tr><td>+100</td><td>4</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	1	+50	3	+100	4
Score	Frequency													
-100	1													
-50	1													
0	1													
+50	3													
+100	4													
11. The course has improved my skills in written communication	+6	<table border="1"> <caption>Data for Histogram 11</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>2</td></tr> <tr><td>-50</td><td>1</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	2	-50	1	0	2	+50	2	+100	2
Score	Frequency													
-100	2													
-50	1													
0	2													
+50	2													
+100	2													
23. The course has helped me to develop the ability to plan my work	-20	<table border="1"> <caption>Data for Histogram 23</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>3</td></tr> <tr><td>-50</td><td>2</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>1</td></tr> </tbody> </table>	Score	Frequency	-100	3	-50	2	0	2	+50	2	+100	1
Score	Frequency													
-100	3													
-50	2													
0	2													
+50	2													
+100	1													

## Free text answers

*The free text answers are pre-reviewed by the students' representatives.*

### What were the best aspects of the course

#### Satisfied students

En mycket bra och intressant kurs. Andrey verkar väldigt passionerad när han föreläser och det är jättetrevligt att höra! Texten på videon har varit mycket lättläst, och färganvändningen är pedagogisk.

Very good video lectures! Very educational teacher

The best thing was that the lecturer had made very high quality material, very well organized videos and beautiful, very nice to read material, using a computer program to write.

Given that we have experienced mostly poor quality hand written material during the pandemic and poor quality videos with non clear handwriting, this course was really heavenly.

I am really grateful for Andrey's consideration of all these important factors and the effort he has put on creating excellent course material.

The discussion forum was also a very good feature and the lecturer was always available to reply to questions both on the discussion forum and by email.

It really increased my analytical skills and problem solving ability

#### Neutral students

#### Dissatisfied students

### What aspects of the course are most in need of improvement?

#### Satisfied students

Mitt största problem med kursen var fokusrelaterat. Personligen hade det passat mig bättre med live-föreläsningar över zoom istället för inspelade.

Även en video av föreläsaren skulle underlätta tycker jag, bara för att se ansiktet på den som pratar. Men det är ju en smaksak.

Att kursen går på halvfart över en hel termin gör den väldigt svår att passa in på en ordinarie natfak termin. Jag valde att studera 75% under denna termin pga pandemin, och då passade den in. Annars hade jag nog aldrig läst kursen, vilket jag tycker hade varit synd.

Would appreciate the following!

-More clear info regarding examination (thought the grading was done differently up until the final oral exam).

-More feedback during the course (for example by getting back the first exam before the second one, or by weekly problems to send in and get feedback on)

Hur kommer det sig att vi inte fått resultatet/kommentarer på någondera av de två hemtentorna innan muntan?

Nothing really, it might however be nice to add some more content to the second half of the course, with more theory and deep results.

### **Neutral students**

The course has been given to LTH, Ph. D. and NatFak students, but much information, which has concerned LTH and possibly Ph. D. students only, has been given in a way that made it sound like it was meant for NatFak students too. For example, it was said that at the oral exams, the student's solutions to the written examination would be discussed - and at this point I, as a NatFak student, was relieved, for I cannot stress enough how terribly stressful I find oral exams involving proofs and presentations are; and also I have had oral exams at NatFak only consisting of a discussion of the written exam at other courses, so this could very well have been the case here too - but at a later point it turned out that the oral exams were going to be a serious business with proofs anyway. I believe information needs to be directed in a clearer manner, and perhaps especially to NatFak students.

### **Dissatisfied students**

Firstly, to my knowledge, there was no course representative. We got no feedback on exercises, nor the first exam before writing the second exam etc. The oral exam consisted of a 90 minute interrogation, in which the teacher harshly criticised both of my written exams, without me having the chance to prepare for this - he claimed he gave us the chance to correct ourselves, but how could we do so if we solved the exercises to our best knowledge and then weren't even told which exercises were wrong? I don't see any pedagogical value in this, and neither his tone and manner in which he conducted the exam I deem acceptable, fair or professional. On another note, I don't remember being informed about the extraordinary length of the oral exam. If I had been given at least ANY kind of feedback, example solution for practice exam, or similar this oral exam would make sense, but for me it was impossible to turn this into a positive learning experience.