

# 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	202324		Lectures 16 h
Study period the course was finished	VT_LP2		Group work 0 h
Programme	all		Laboratories 0 h
Registrated students	37		Time with supervisor 0 h
Number answers and response rate	5 / 14 %		Self study time 84 h
Number answers from males	2		
Number answers from females	2		

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

## Summary of questionnaires

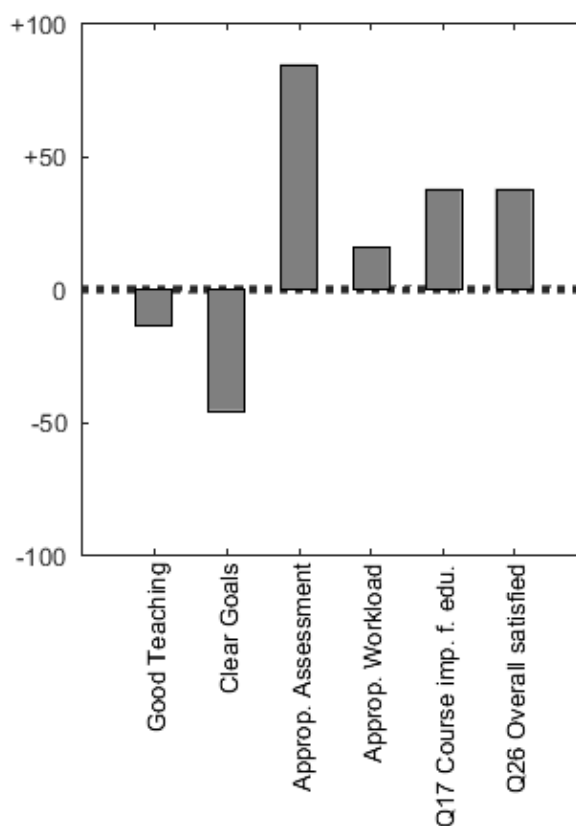
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

### Presence at teaching

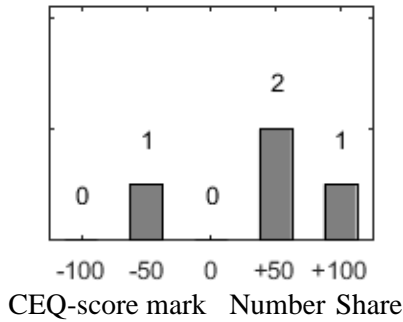
Part of teaching	Number	Share
0 %	3	60 %
20 %	1	20 %
40 %	0	0 %
60 %	1	20 %
80 %	0	0 %
100 %	0	0 %

### CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	-14	50
Clear Goals and Standards	-46	14
Appropriate Assessment	+84	31
Appropriate Workload	+16	60
Generic Skills	-14	55
<b>Special questions</b>		
The course seems important for my edu.	+38	75
Overall, I am satisfied with this course	+38	63

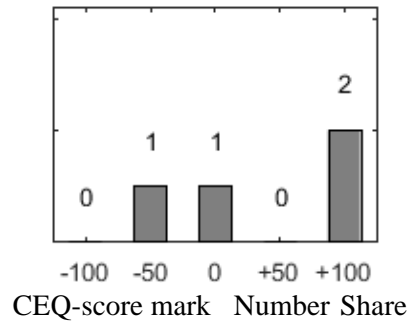


**Distribution of the answers from question 26: "Overall, I am satisfied with this course"**      **Distribution of the answers from question 17: "The course seems important for my education"**



Category	Number	Share
Dissatisfied (<0)	1	20 %
Neutral (0)	0	0 %
Satisfied (>0)	3	60 %
No answer	1	20 %

Mean of CEQ-score: +38  
 Standard deviation (StdDev): 63



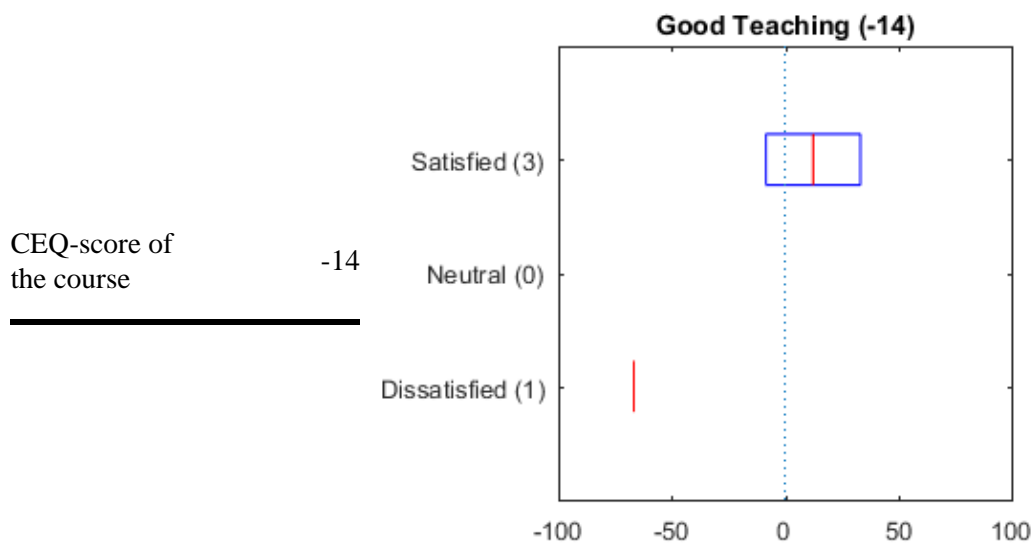
Category	Number	Share
-100	0	0 %
-50	1	20 %
+0	1	20 %
+50	0	0 %
+100	2	40 %

Mean of CEQ-score: +38  
 Standard deviation (StdDev): 75

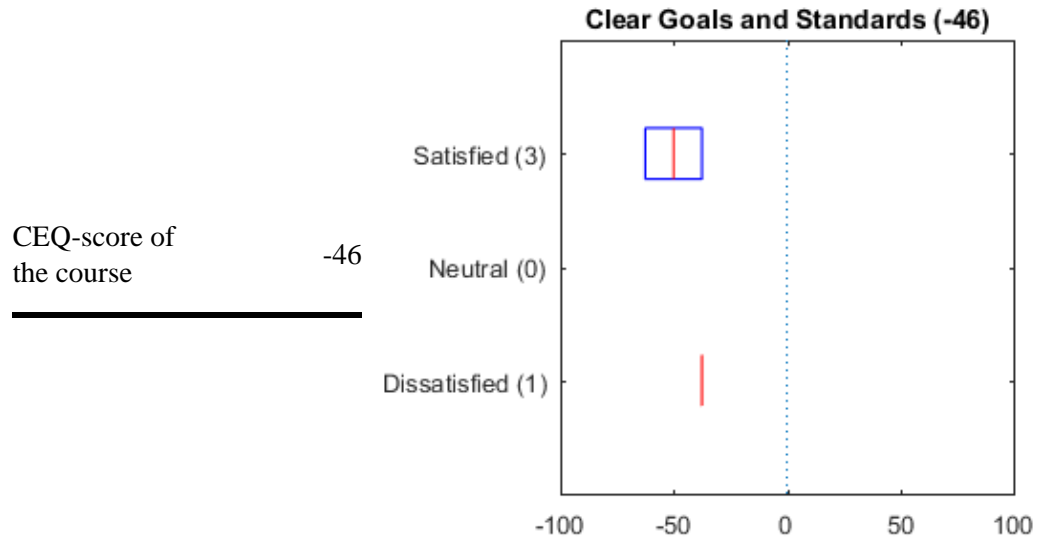
## Summary scales divided on satisfaction

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

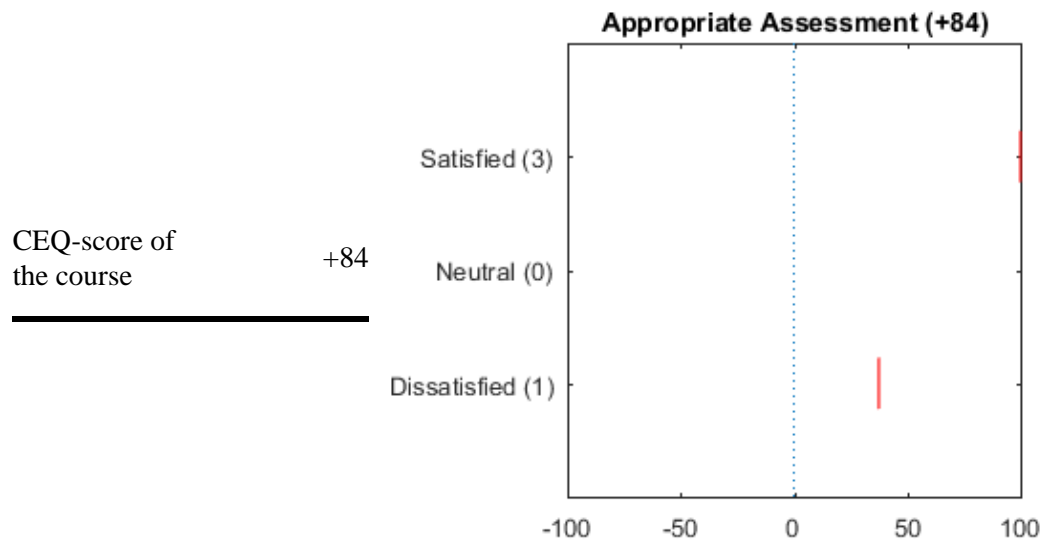
### Good Teaching



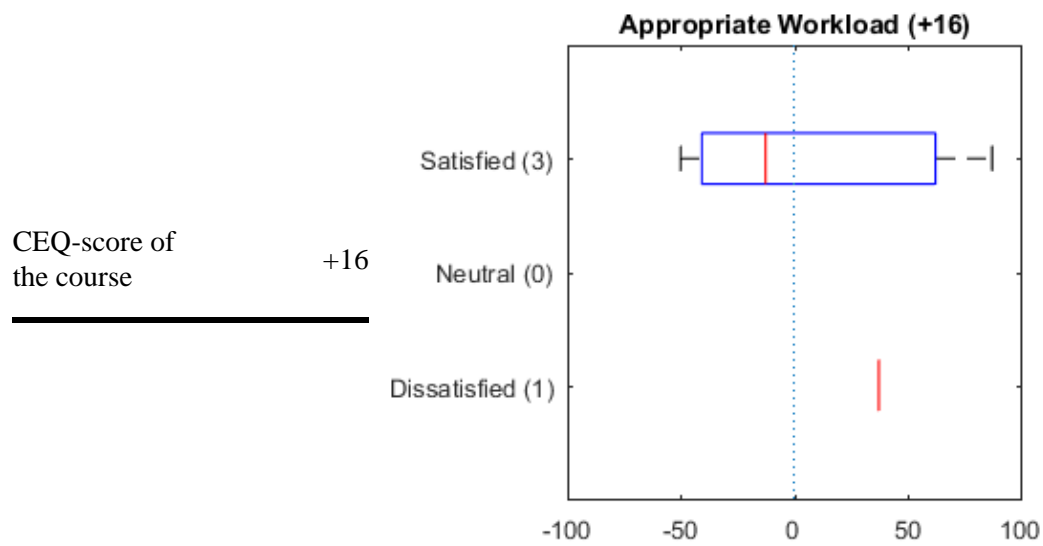
**Clear Goals and Standards**



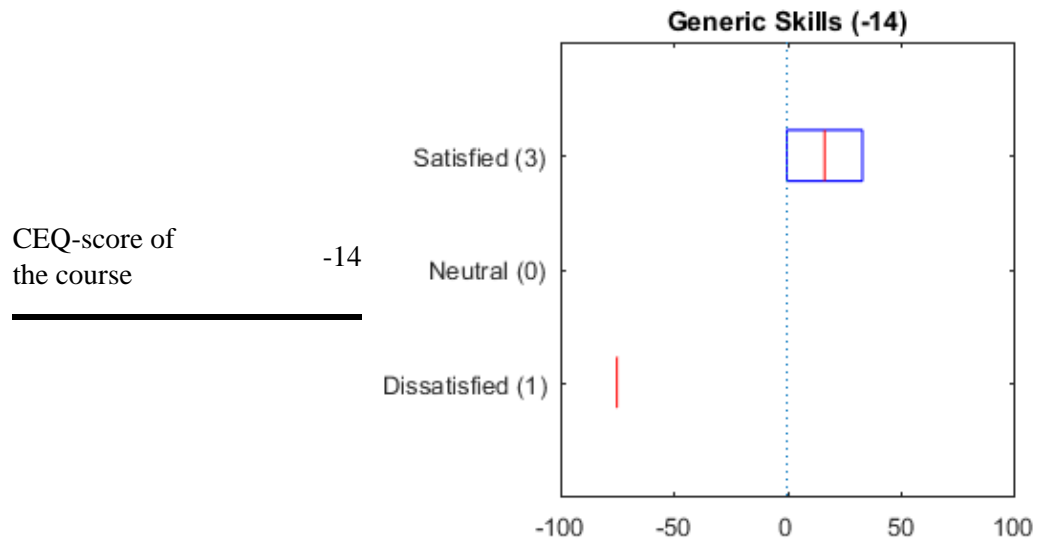
**Appropriate Assessment**



**Appropriate Workload**



**Generic Skills**



**Answers to each question**

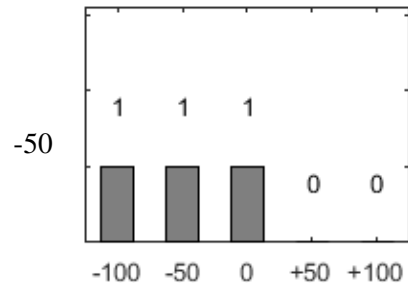
*The questions in bold are reverse positive.*

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

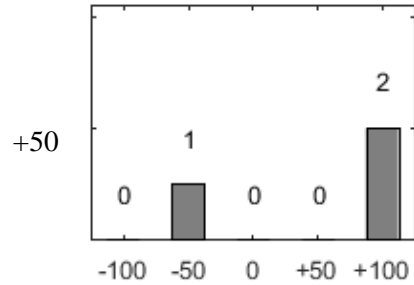
**Good Teaching (-14)**

Question	CEQ-score	Histogram
3. The teaching has motivated me to do my best	+17	
7. During the course I have received many valuable comments on my achievements	-67	
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	-25	

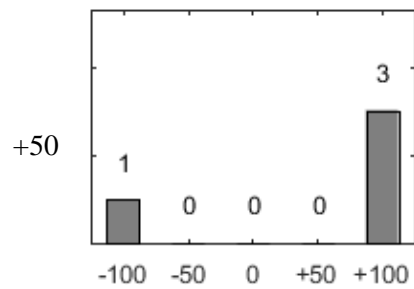
18. The teaching staff normally gave me helpful feedback on the progress of my work



19. My lecturers were extremely good at explaining things



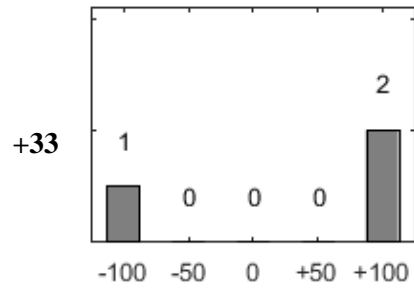
21. The teachers on the course worked hard to make the subject interesting



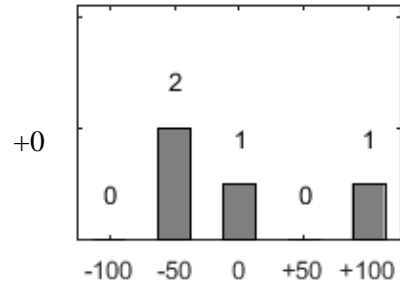
### Clear Goals and Standards (-46)

Question	CEQ-score	Histogram												
1. It was easy to know the standard of work expected	-67	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>1</td> </tr> <tr> <td>-50</td> <td>2</td> </tr> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>+50</td> <td>0</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Count	-100	1	-50	2	0	0	+50	0	+100	0
Score	Count													
-100	1													
-50	2													
0	0													
+50	0													
+100	0													
6. I usually had a clear idea of where I was going and what was expected of me in this course	-50	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</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>0</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Count	-100	1	-50	1	0	1	+50	0	+100	0
Score	Count													
-100	1													
-50	1													
0	1													
+50	0													
+100	0													

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



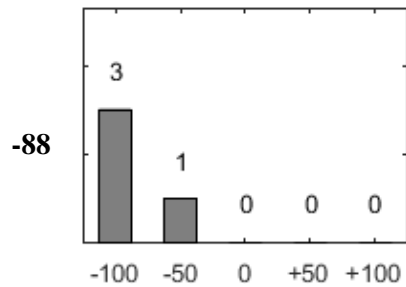
**25. The teachers made it clear right from the start what they expected from the students**



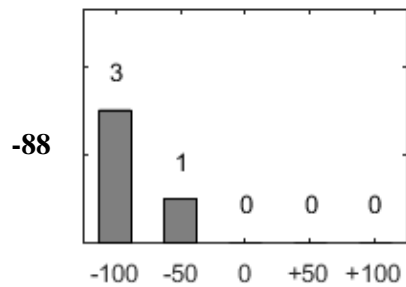
**Appropriate Assessment (+84)**

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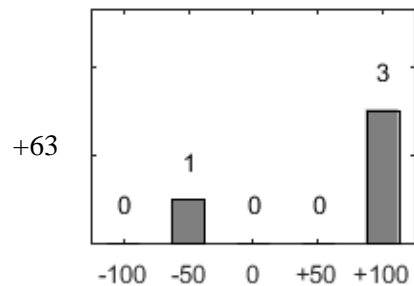
**8. To do well in this course all you really needed was a good memory**



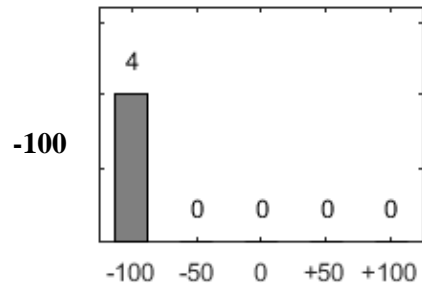
**12. The teachers seemed more interested in testing what I had memorised than what I had understood**



**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 (+16)

Question	CEQ-score	Histogram												
<b>4. The workload has been much too heavy</b>	<b>+0</b>	<p>A histogram for question 4. The x-axis represents CEQ scores from -100 to +100 in increments of 50. The y-axis represents frequency. There are four bars: at -100 (frequency 1), at -50 (frequency 1), at 0 (frequency 0), at +50 (frequency 1), and at +100 (frequency 1).</p> <table border="1"> <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>0</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	0	+50	1	+100	1
Score	Frequency													
-100	1													
-50	1													
0	0													
+50	1													
+100	1													
14. I was generally given enough time to understand the things I had to learn	+25	<p>A histogram for question 14. The x-axis represents CEQ scores from -100 to +100 in increments of 50. The y-axis represents frequency. There are five bars: at -100 (frequency 0), at -50 (frequency 1), at 0 (frequency 1), at +50 (frequency 1), and at +100 (frequency 1).</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>0</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>1</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	0	-50	1	0	1	+50	1	+100	1
Score	Frequency													
-100	0													
-50	1													
0	1													
+50	1													
+100	1													
<b>22. There was a lot of pressure on me as a student in this course</b>	<b>+13</b>	<p>A histogram for question 22. The x-axis represents CEQ scores from -100 to +100 in increments of 50. The y-axis represents frequency. There are five bars: at -100 (frequency 0), at -50 (frequency 2), at 0 (frequency 0), at +50 (frequency 1), and at +100 (frequency 1).</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>0</td> </tr> <tr> <td>-50</td> <td>2</td> </tr> <tr> <td>0</td> <td>0</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	0	-50	2	0	0	+50	1	+100	1
Score	Frequency													
-100	0													
-50	2													
0	0													
+50	1													
+100	1													
<b>24. The sheer volume of work in this course made it impossible to comprehend everything thoroughly</b>	<b>-50</b>	<p>A histogram for question 24. The x-axis represents CEQ scores from -100 to +100 in increments of 50. The y-axis represents frequency. There are five bars: at -100 (frequency 2), at -50 (frequency 0), at 0 (frequency 2), at +50 (frequency 0), and at +100 (frequency 0).</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Frequency</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>2</td> </tr> <tr> <td>+50</td> <td>0</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	0	0	2	+50	0	+100	0
Score	Frequency													
-100	2													
-50	0													
0	2													
+50	0													
+100	0													

## Generic Skills (-14)

Question	CEQ-score	Histogram												
2. The course has developed my problem-solving skills	+50	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>0</td><td>1</td><td>0</td><td>1</td><td>2</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	0	1	0	1	2
Score	-100	-50	0	+50	+100									
Count	0	1	0	1	2									
5. The course has sharpened my analytic skills	+50	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>0</td><td>1</td><td>0</td><td>1</td><td>2</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	0	1	0	1	2
Score	-100	-50	0	+50	+100									
Count	0	1	0	1	2									
9. The course helped me develop my ability to work in a group	-100	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>3</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	3	0	0	0	0
Score	-100	-50	0	+50	+100									
Count	3	0	0	0	0									
10. The course has made me feel more confident about tackling new and unfamiliar problems	+25	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>1</td><td>0</td><td>0</td><td>2</td><td>1</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	1	0	0	2	1
Score	-100	-50	0	+50	+100									
Count	1	0	0	2	1									
11. The course has improved my skills in written communication	+25	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	0	1	1	1	1
Score	-100	-50	0	+50	+100									
Count	0	1	1	1	1									
23. The course has helped me to develop the ability to plan my work	-13	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Count</th><td>2</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> </table>	Score	-100	-50	0	+50	+100	Count	2	0	0	1	1
Score	-100	-50	0	+50	+100									
Count	2	0	0	1	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

Intressant kurs och inspirerande föreläsare. Väldigt bra på att förklara och bra videor på canvas!

Föreläsaren var mycket bra på att presentera innehållet och förklara!

#### Neutral students

#### Dissatisfied students

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

#### Satisfied students

This concerns only the LTH-side of the course: I feel that we at the engineering mathematics program get the opportunity to study this course way too late. This is not at all with regards to difficulty, but rather since it could give great background to later courses. This is not unprecedented, since other courses are given this treatment such as algebraic structures (which is deemed an advanced course on both LTH and NF). I personally feel that I would have gotten much more out of courses such as functional analysis or even applied mathematics ("kontinuerliga system") if I had read calculus of variations beforehand.

Even if not too many students would want to study more than full time, having Calculus of Variations as an extra alternative will at least get it on the minds of many that it is something worth reading.

Jag tyckte det var svårt att veta vilken nivå man behövde ligga på för att få godkänt. Det skulle vara bra om man visade hur man förväntas dubbelkolla sina lösningar. Hemtentorna tar väldigt lång tid. Har pratat med andra som också tycker det är väldigt stort arbete

Hemtentorna var en otroligt hög arbetsbelastning, la säkert 80h sammanlagt på dom. Hade varit bättre med en vanlig tenta, eller mer jämn arbetsbelastning över kursens gång.

#### Neutral students

#### Dissatisfied students