

# Course evaluation report - CEQ, FMSF15

## Basic facts

Course name	<b>Markov Processes</b>		
Course code	FMSF15		
ECTS credits	7.5 hp	<b>Study hours according</b>	<b>the curricula</b>
Year	202526	Lectures	26 h
Study period the course was finished	HT_LP1	Group work	16 h
Programme	all	Laboratories	6 h
Registrated students	52	Time with supervisor	0 h
Number answers and response rate	11 / 21 %	Self study time	140 h
Number answers from males	7		
Number answers from females	4		

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

## Summary of questionnaires

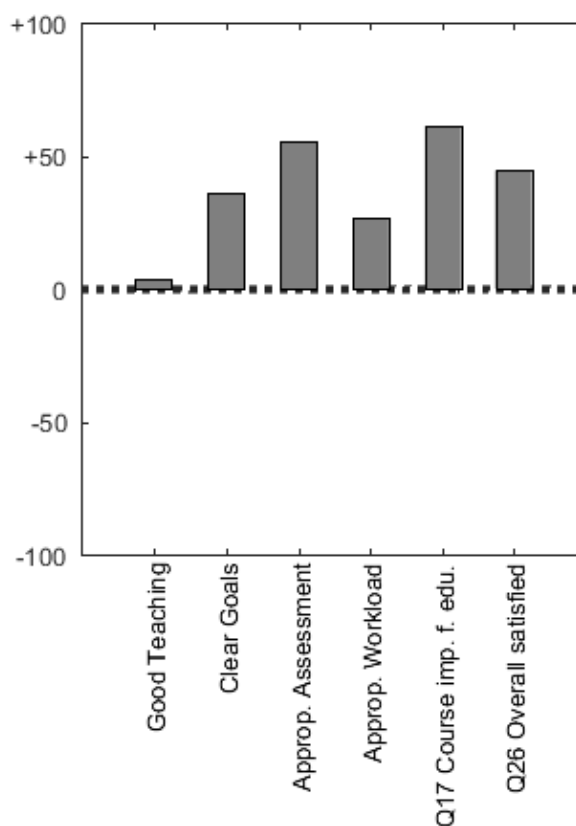
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

### Presence at teaching

Part of teaching	Number	Share
0 %	1	9 %
20 %	2	18 %
40 %	0	0 %
60 %	2	18 %
80 %	5	45 %
100 %	1	9 %

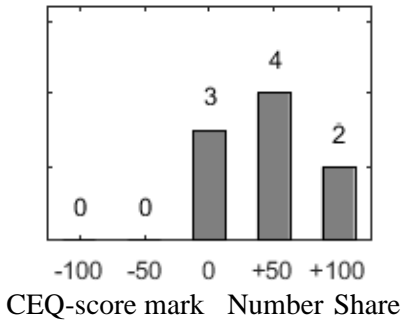
### CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	+4	51
Clear Goals and Standards	+36	41
Appropriate Assessment	+55	48
Appropriate Workload	+27	42
Generic Skills	+26	21
<b>Special questions</b>		
The course seems important for my edu.	+61	22
Overall, I am satisfied with this course	+44	39



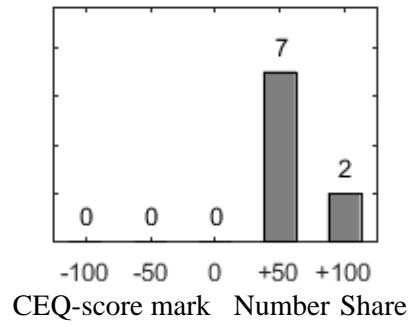
**Distribution of the answers from question 26: "Overall, I am satisfied with this course"**

**Distribution of the answers from question 17: "The course seems important for my education"**



Category	Number	Share
Dissatisfied (<0)	0	0 %
Neutral (0)	3	27 %
Satisfied (>0)	6	55 %
No answer	2	18 %

Mean of CEQ-score: +44  
 Standard deviation (StdDev): 39



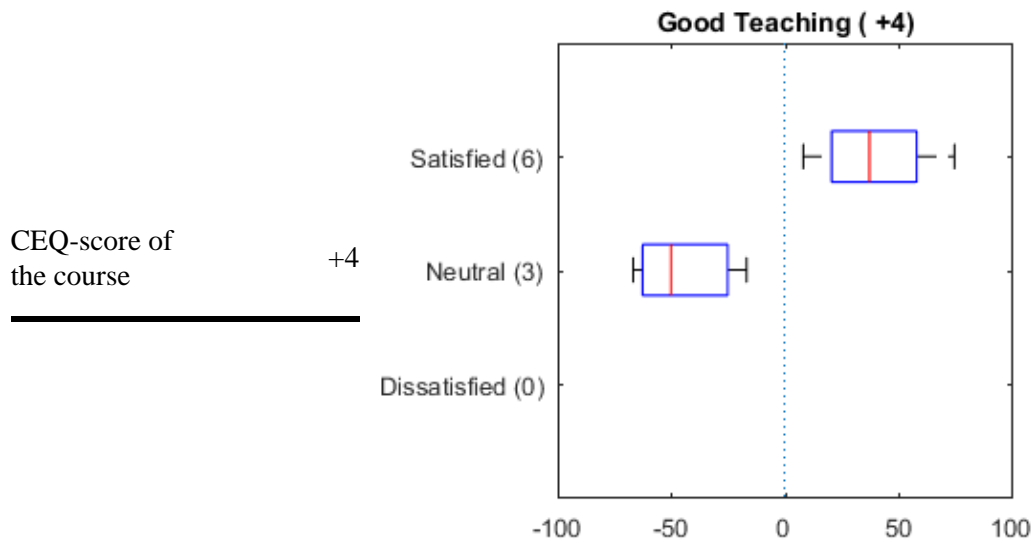
CEQ-score mark	Number	Share
-100	0	0 %
-50	0	0 %
+0	0	0 %
+50	7	64 %
+100	2	18 %

Mean of CEQ-score: +61  
 Standard deviation (StdDev): 22

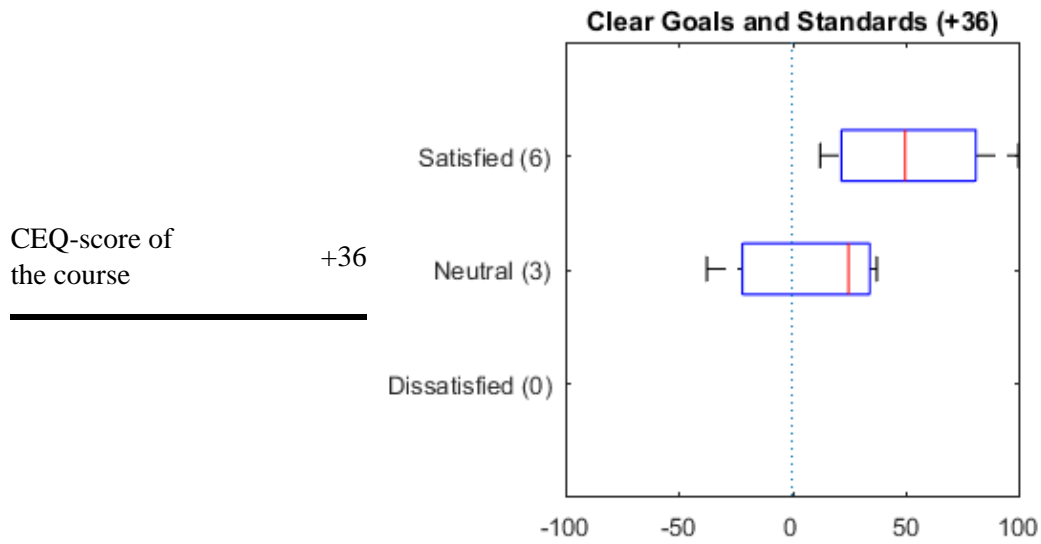
**Summary scales divided on satisfaction**

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

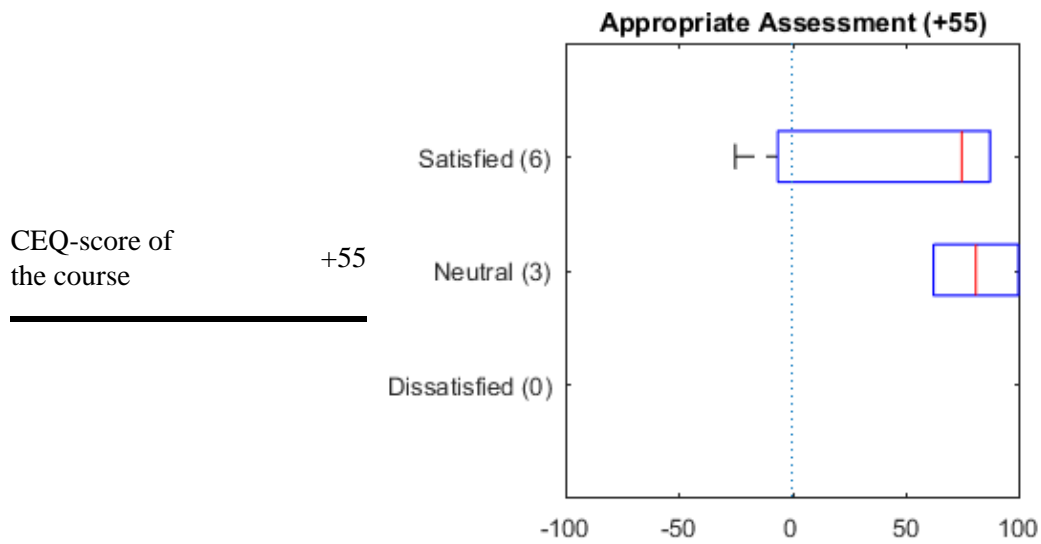
**Good Teaching**



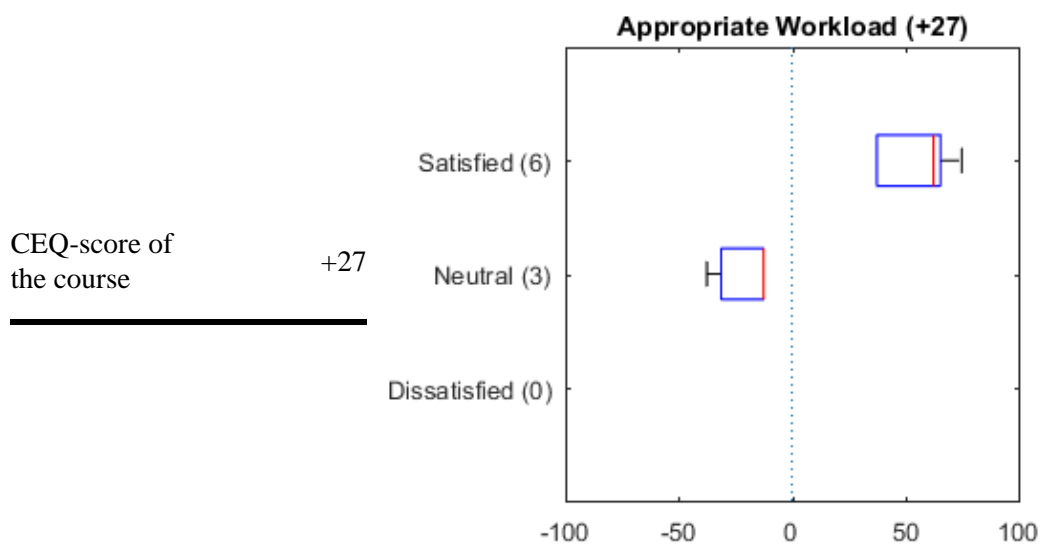
### Clear Goals and Standards



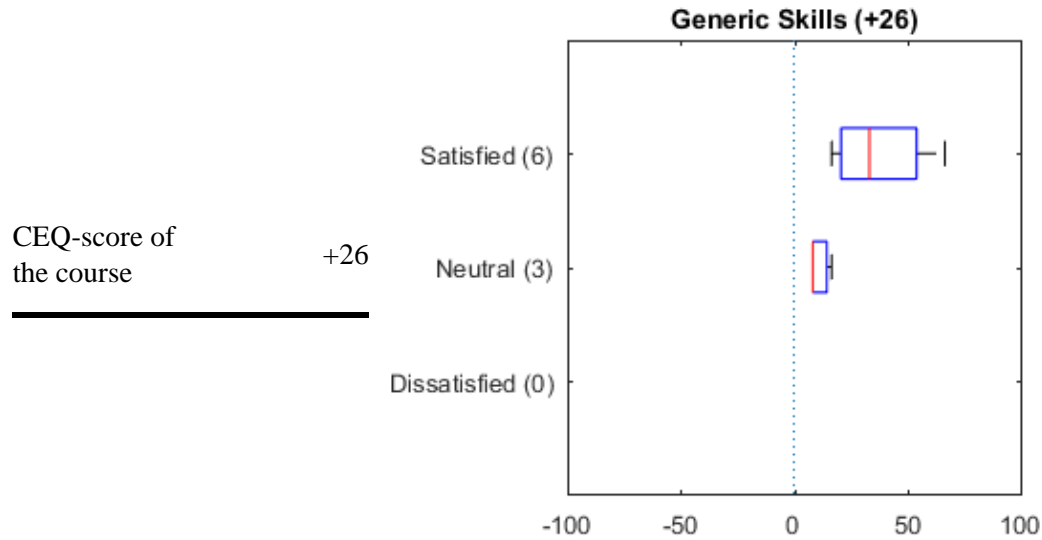
### Appropriate Assessment



### 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*

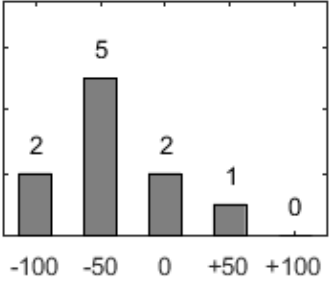
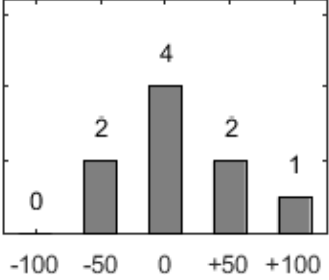
**Good Teaching ( +4)**

Question	CEQ-score	Histogram												
3. The teaching has motivated me to do my best	+38	<table border="1"> <caption>Histogram for Question 3</caption> <thead> <tr> <th>Score Bin</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>0</td></tr> <tr><td>-75 to -50</td><td>1</td></tr> <tr><td>-50 to -25</td><td>2</td></tr> <tr><td>-25 to 0</td><td>3</td></tr> <tr><td>0 to 25</td><td>3</td></tr> </tbody> </table>	Score Bin	Frequency	-100 to -75	0	-75 to -50	1	-50 to -25	2	-25 to 0	3	0 to 25	3
Score Bin	Frequency													
-100 to -75	0													
-75 to -50	1													
-50 to -25	2													
-25 to 0	3													
0 to 25	3													
7. During the course I have received many valuable comments on my achievements	-36	<table border="1"> <caption>Histogram for Question 7</caption> <thead> <tr> <th>Score Bin</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>4</td></tr> <tr><td>-75 to -50</td><td>1</td></tr> <tr><td>-50 to -25</td><td>1</td></tr> <tr><td>-25 to 0</td><td>2</td></tr> <tr><td>0 to 25</td><td>0</td></tr> </tbody> </table>	Score Bin	Frequency	-100 to -75	4	-75 to -50	1	-50 to -25	1	-25 to 0	2	0 to 25	0
Score Bin	Frequency													
-100 to -75	4													
-75 to -50	1													
-50 to -25	1													
-25 to 0	2													
0 to 25	0													
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	+0	<table border="1"> <caption>Histogram for Question 15</caption> <thead> <tr> <th>Score Bin</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>0</td></tr> <tr><td>-75 to -50</td><td>2</td></tr> <tr><td>-50 to -25</td><td>4</td></tr> <tr><td>-25 to 0</td><td>2</td></tr> <tr><td>0 to 25</td><td>1</td></tr> </tbody> </table>	Score Bin	Frequency	-100 to -75	0	-75 to -50	2	-50 to -25	4	-25 to 0	2	0 to 25	1
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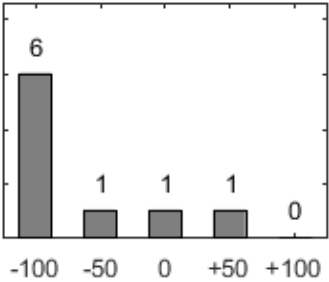
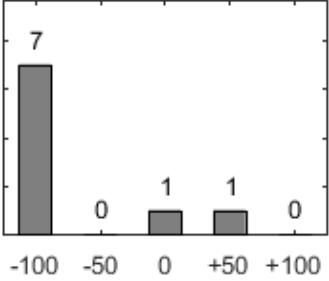
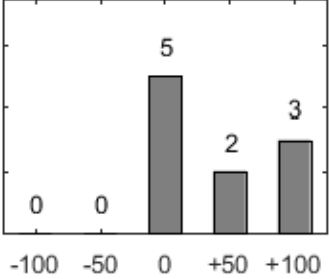
Question	CEQ-score	Histogram												
18. The teaching staff normally gave me helpful feedback on the progress of my work	-6	<table border="1"> <tr><th>Score</th><td>-100</td><td>-50</td><td>0</td><td>+50</td><td>+100</td></tr> <tr><th>Frequency</th><td>0</td><td>4</td><td>3</td><td>2</td><td>0</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	0	4	3	2	0
Score	-100	-50	0	+50	+100									
Frequency	0	4	3	2	0									
19. My lecturers were extremely good at explaining things	+0	<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>Frequency</th><td>2</td><td>1</td><td>3</td><td>1</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	2	1	3	1	3
Score	-100	-50	0	+50	+100									
Frequency	2	1	3	1	3									
21. The teachers on the course worked hard to make the subject interesting	+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>Frequency</th><td>0</td><td>2</td><td>2</td><td>2</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	0	2	2	2	3
Score	-100	-50	0	+50	+100									
Frequency	0	2	2	2	3									

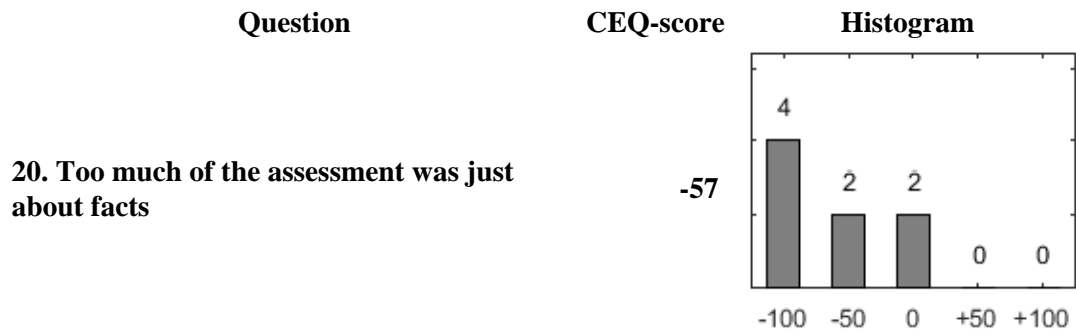
### Clear Goals and Standards (+36)

Question	CEQ-score	Histogram												
1. It was easy to know the standard of work expected	+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>Frequency</th><td>0</td><td>0</td><td>3</td><td>3</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	0	0	3	3	3
Score	-100	-50	0	+50	+100									
Frequency	0	0	3	3	3									
6. I usually had a clear idea of where I was going and what was expected of me in this course	+38	<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>Frequency</th><td>0</td><td>2</td><td>2</td><td>2</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	0	2	2	2	3
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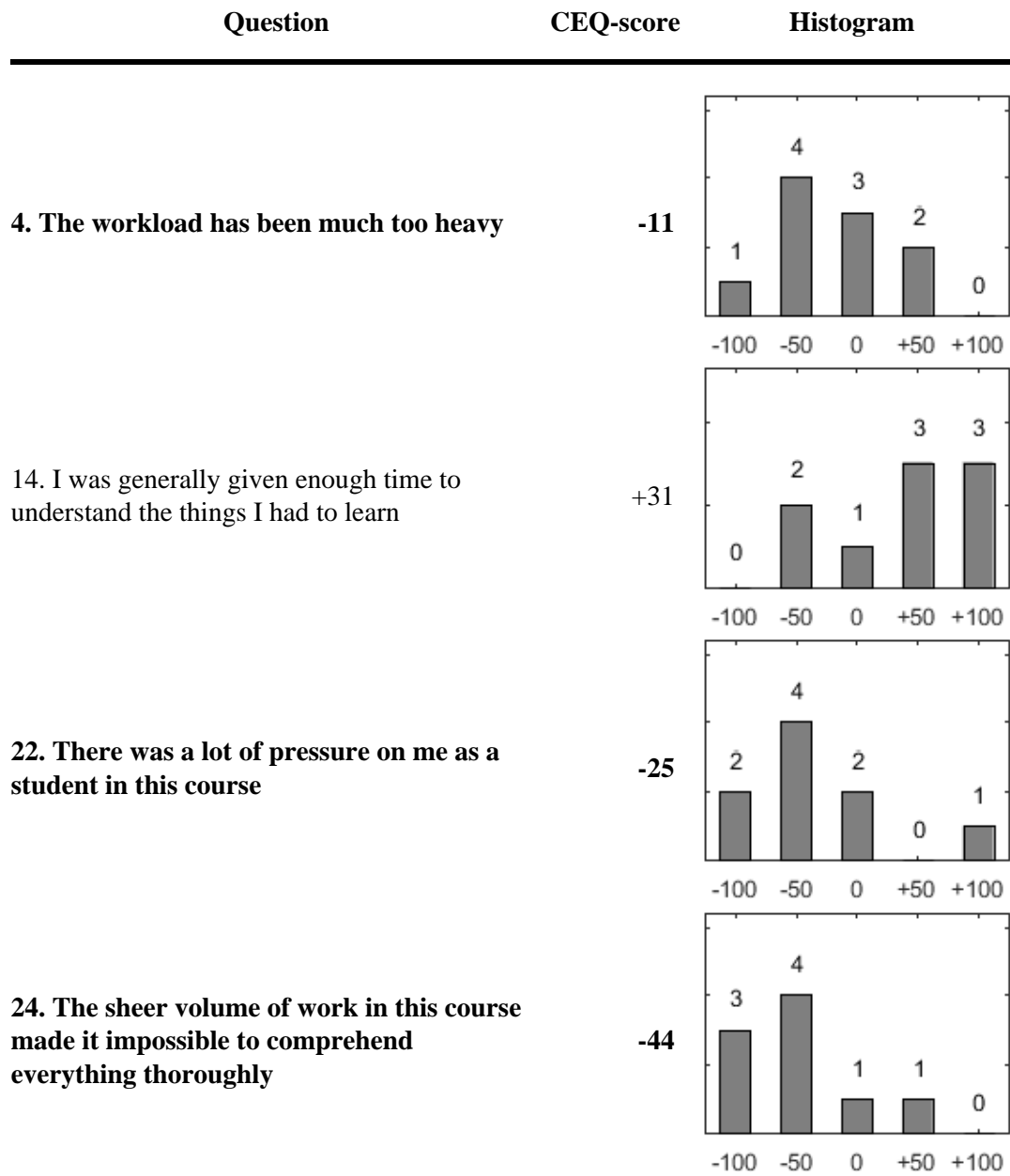
Question	CEQ-score	Histogram												
13. It was often hard to discover what was expected of me in this course	-39	 <table border="1"> <caption>Histogram Data for Question 13</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>2</td></tr> <tr><td>-50</td><td>5</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	Frequency	-100	2	-50	5	0	2	+50	1	+100	0
Score	Frequency													
-100	2													
-50	5													
0	2													
+50	1													
+100	0													
25. The teachers made it clear right from the start what they expected from the students	+13	 <table border="1"> <caption>Histogram Data for Question 25</caption> <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>4</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>1</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	2	0	4	+50	2	+100	1
Score	Frequency													
-100	0													
-50	2													
0	4													
+50	2													
+100	1													

### Appropriate Assessment (+55)

Question	CEQ-score	Histogram												
8. To do well in this course all you really needed was a good memory	-63	 <table border="1"> <caption>Histogram Data for Question 8</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>1</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>1</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	6	-50	1	0	1	+50	1	+100	0
Score	Frequency													
-100	6													
-50	1													
0	1													
+50	1													
+100	0													
12. The teachers seemed more interested in testing what I had memorised than what I had understood	-69	 <table border="1"> <caption>Histogram Data for Question 12</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>7</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>0</td></tr> </tbody> </table>	Score	Frequency	-100	7	-50	0	0	1	+50	1	+100	0
Score	Frequency													
-100	7													
-50	0													
0	1													
+50	1													
+100	0													
16. The assessment methods employed in this course required an in-depth understanding of the course content	+33	 <table border="1"> <caption>Histogram Data for Question 16</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>0</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>5</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>3</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	5	+50	2	+100	3
Score	Frequency													
-100	0													
-50	0													
0	5													
+50	2													
+100	3													



### Appropriate Workload (+27)



## Generic Skills (+26)

Question	CEQ-score	Histogram														
2. The course has developed my problem-solving skills	+56	<table border="1"> <caption>Frequency Distribution for Question 2</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>0</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+25</td><td>5</td></tr> <tr><td>+50</td><td>3</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	1	+25	5	+50	3	+100	0
Score	Frequency															
-100	0															
-50	0															
0	1															
+25	5															
+50	3															
+100	0															
5. The course has sharpened my analytic skills	+50	<table border="1"> <caption>Frequency Distribution for Question 5</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>0</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+25</td><td>6</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	1	+25	6	+50	2	+100	0
Score	Frequency															
-100	0															
-50	0															
0	1															
+25	6															
+50	2															
+100	0															
9. The course helped me develop my ability to work in a group	-6	<table border="1"> <caption>Frequency Distribution for Question 9</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>1</td></tr> <tr><td>-75</td><td>2</td></tr> <tr><td>-25</td><td>4</td></tr> <tr><td>+25</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	1	-75	2	-25	4	+25	2	+50	0	+100	0
Score	Frequency															
-100	1															
-75	2															
-25	4															
+25	2															
+50	0															
+100	0															
10. The course has made me feel more confident about tackling new and unfamiliar problems	+44	<table border="1"> <caption>Frequency Distribution for Question 10</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>0</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+25</td><td>6</td></tr> <tr><td>+50</td><td>2</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	2	+25	6	+50	2	+100	0
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-50	0															
0	2															
+25	6															
+50	2															
+100	0															
11. The course has improved my skills in written communication	-19	<table border="1"> <caption>Frequency Distribution for Question 11</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>1</td></tr> <tr><td>-75</td><td>3</td></tr> <tr><td>-25</td><td>2</td></tr> <tr><td>+25</td><td>2</td></tr> <tr><td>+50</td><td>1</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	1	-75	3	-25	2	+25	2	+50	1	+100	0
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-75	3															
-25	2															
+25	2															
+50	1															
+100	0															
23. The course has helped me to develop the ability to plan my work	+31	<table border="1"> <caption>Frequency Distribution for Question 23</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100</td><td>0</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>4</td></tr> <tr><td>+25</td><td>5</td></tr> <tr><td>+50</td><td>0</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	4	+25	5	+50	0	+100	0
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+50	0															
+100	0															

## Free text answers

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

### What were the best aspects of the course

#### Satisfied students

Videoföreläsningarna var ett bra hjälpmedel om man av någon anledning missat en föreläsning

I really liked that the internal logic of the course was easy to follow. The next lecture was built upon the previous in a logical fashion.

I liked learning about the concepts of the course

Spännande ämne. Bra ordning att introducera de olika koncepten i. Bra föreläsningar!

Professor Stanislav Volkov is an amazing lecturer, his explanations and presentation of the lecture contents are world class. I really admire how clear he is able to explain the mathematical proofs in the course. He has a great way to keep the class interested as well.

#### Neutral students

Lab sessions with TA

#### Dissatisfied students

#### No answer whether satisfied or not

Föreläsaren var VÄLDIGT duktig! Pedagogisk och gjorde ämnet intressant!

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

#### Satisfied students

The last question on the exam was about queueing theory and it just happened that the method to solve problem was covered in the course EITG20 Queueing Theory. I think the queueing theory segment of the course could be better coordinated and cross checked with that course.

Also I am still not sure how Markov processes are relevant to computer security.

The lecture were often difficult to understand. There was sometimes so much math in the board, that it was difficult to know what was important and what was not.

At the same time the exercises and exam felt not too difficult

Jag tycker det hade kunnat vara bra att ha lite mer koppling till vad man faktiskt kan modellera som markovprocess/kedja och inte. Kan känna lite att jag vet väldigt bra hur man räknar ut stationär fördelning för mm1 kö men inte riktigt när man skulle använda en mm1 kö och för vad och när det inte lämpar sig.

**Neutral students**

**Dissatisfied students**

**No answer whether satisfied or not**

Det var lite oklarheter kring labbarna tyckte jag. Hade varit hjälpsamt med en kort kommentar om rapporten och närvarande på labbtillfällen och så vidare i själva labbeskrivningen eller däromkring på canvas. Nu fanns ingen info så allt gick i frågelådan på canvas och ville man hitta info var det där man behövde leta. En kommentar att "Labbtillfällen är inte obligatoriska utan finns tillgängliga för hjälp. Inlämningen ska inkludera svar på förberedelsefrågor och labbfrågor (inklusive extra kod och relevanta figurer) och behöver inte vara en vetenskaplig text med teori, metod, etcetera." hade räckt:))