

# Course evaluation

**Course:**Design of experimentts:MASC05

**Evaluated on LTH:** Yes

**Lecturer:**Fredrik Olsson

**Number of students:** 14

**Grades:** 5 VG, 6 G, 3 U

## Summary:

Overall the students were satisfied although there were some technical issues due the distance education.

## Comments:

The course work overall well. The problems that occured due to the Corona pandemic will be reoslved until next time.

# Course evaluation report - CEQ, FMSF65

## Basic facts

Course name	<b>Design of Experiments</b>		
Course code	FMSF65		<b>Study hours according the curricula</b>
ECTS credits	7.5 hp		Lectures 14 h
Year	201920		Group work 14 h
Study period the course was finished	VT_LP2		Laboratories 14 h
Programme	all (W)		Time with supervisor 1 h
Registrated students	16		Self study time 150 h
Number answers and response rate	11 / 69 %		
Number answers from males	5		
Number answers from females	5		

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

## Summary of questionnaires

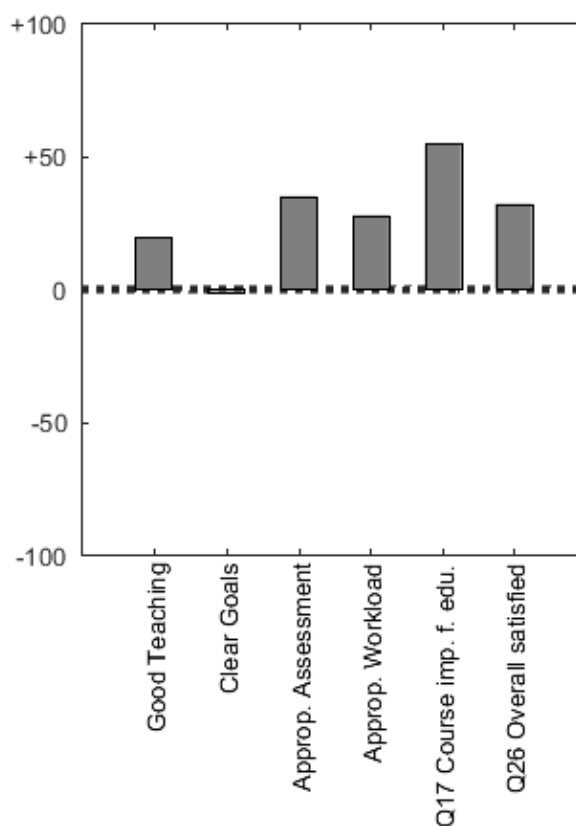
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

### Presence at teaching

Part of teaching	Number	Share
0 %	0	0 %
20 %	0	0 %
40 %	0	0 %
60 %	0	0 %
80 %	4	36 %
100 %	5	45 %

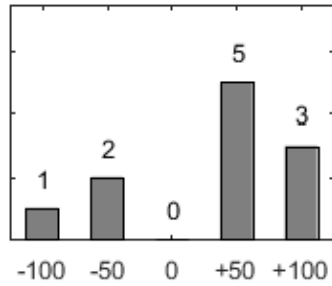
### CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	+19	61
Clear Goals and Standards	-1	69
Appropriate Assessment	+35	40
Appropriate Workload	+28	56
Generic Skills	+27	46
<b>Special questions</b>		
The course seems important for my edu.	+55	35
Overall, I am satisfied with this course	+32	68



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

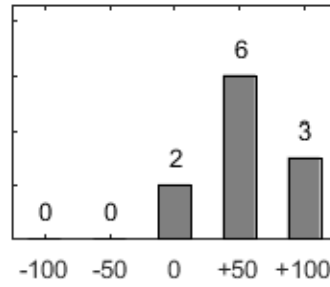
**Distribution of the answers from question 17: "The course seems important for my education"**



CEQ-score mark Number Share

Dissatisfied (<0)	3	27 %
Neutral (0)	0	0 %
Satisfied (>0)	8	73 %
No answer	0	0 %

Mean of CEQ-score	+32
Standard deviation (StdDev)	68
Males	+60
Females	+30



CEQ-score mark Number Share

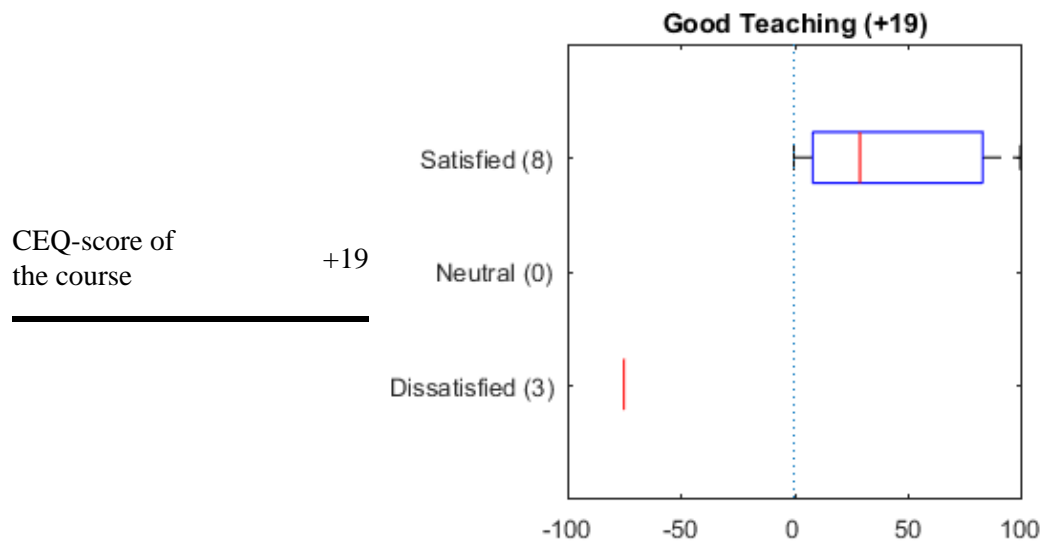
-100	0	0 %
-50	0	0 %
+0	2	18 %
+50	6	55 %
+100	3	27 %

Mean of CEQ-score	+55
Standard deviation (StdDev)	35
Males	+50
Females	+60

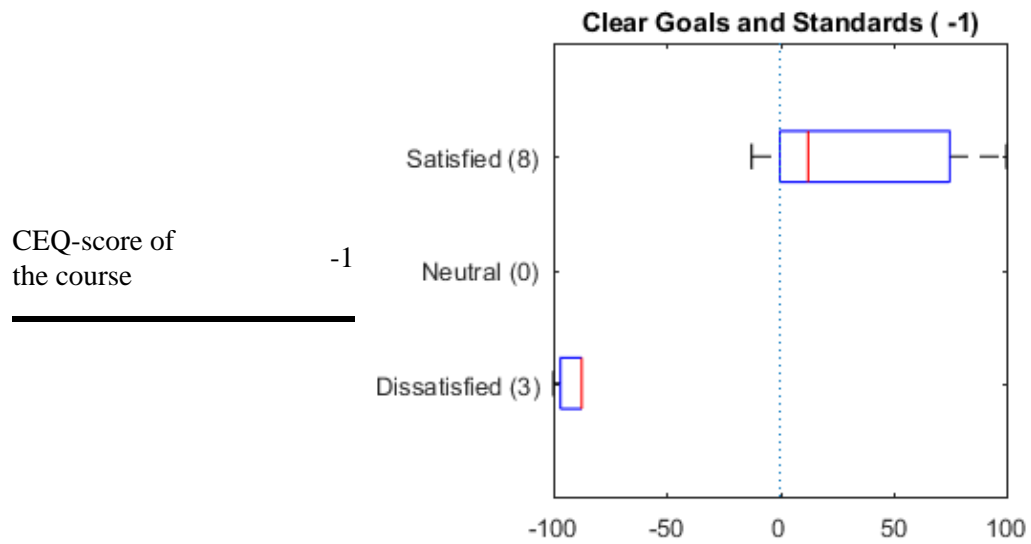
## Summary scales divided on satisfaction

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

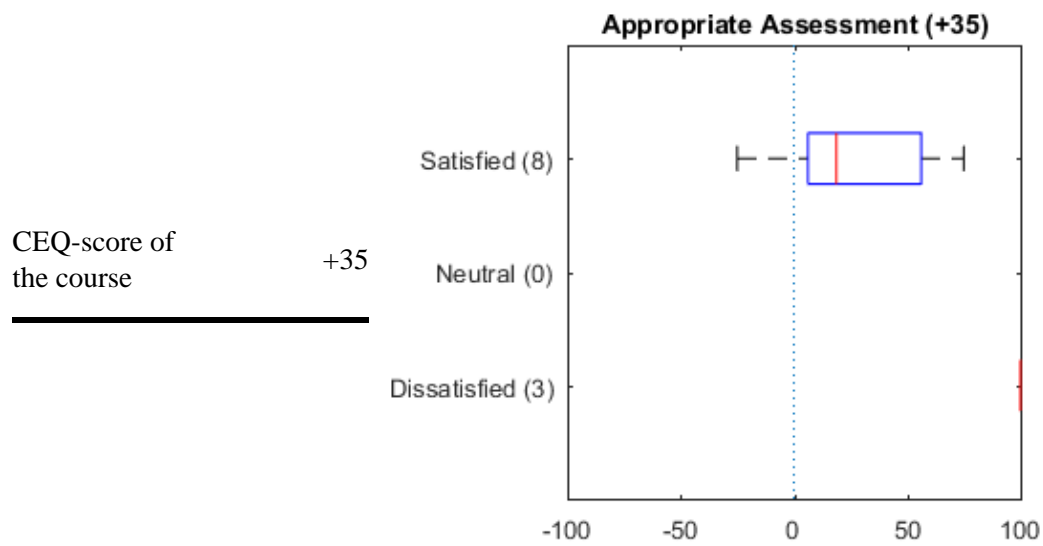
**Good Teaching**



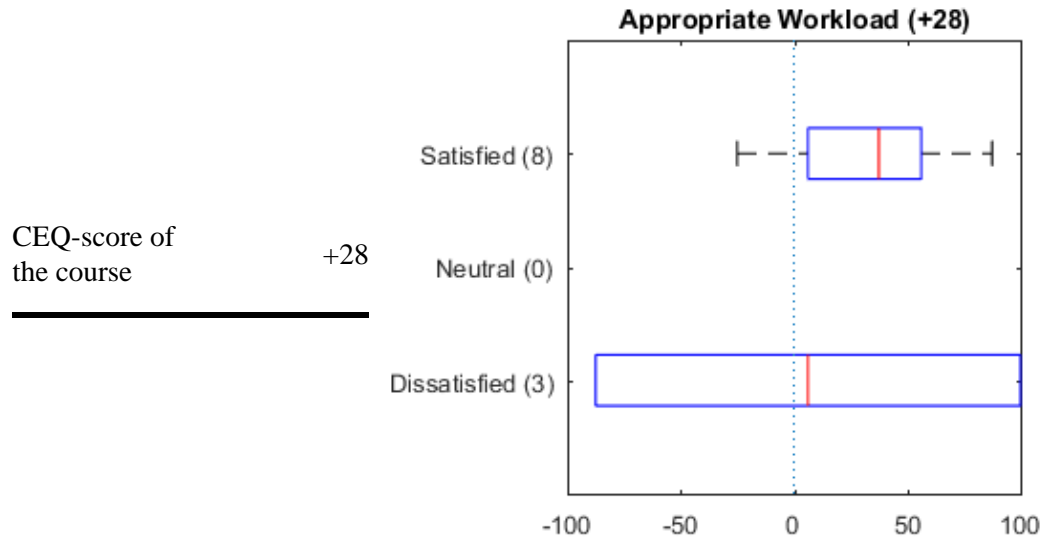
**Clear Goals and Standards**



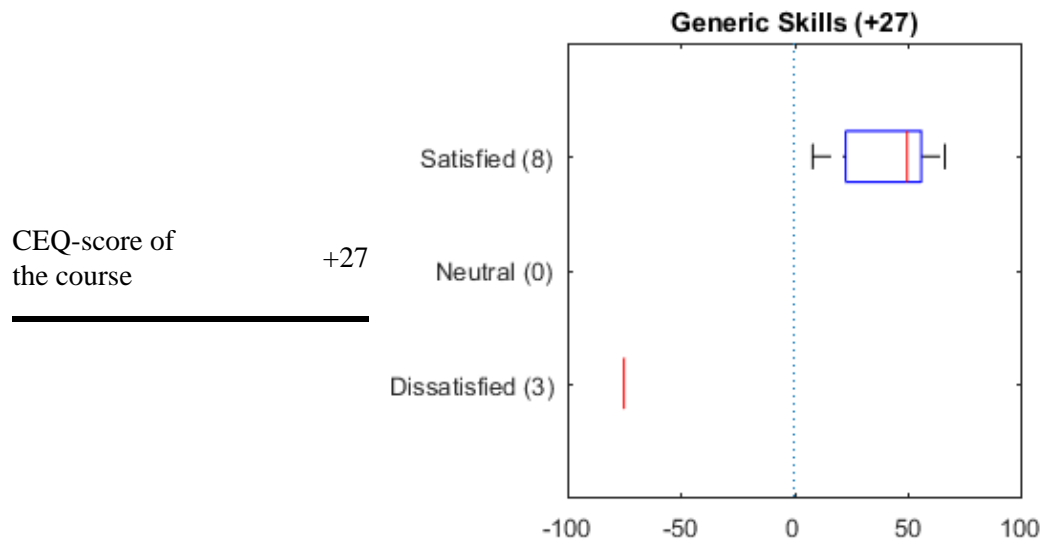
**Appropriate Assessment**



**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*

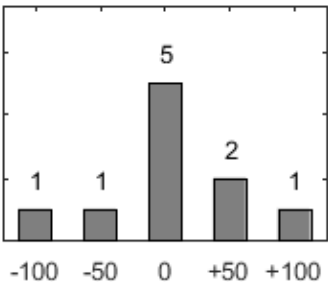
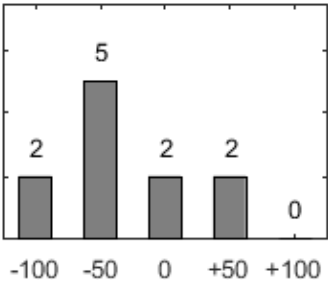
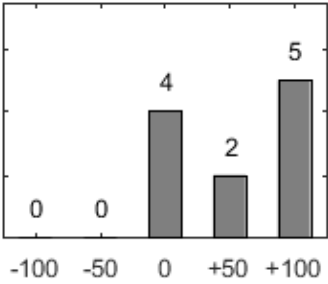
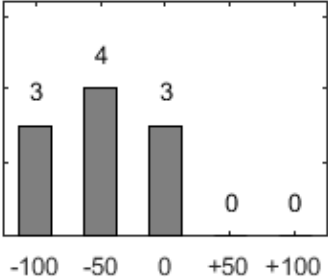
## Good Teaching (+19)

Question	CEQ-score	Histogram												
3. The teaching has motivated me to do my best	+5	<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>2</td><td>2</td><td>3</td><td>2</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	2	2	2	3	2
Score	-100	-50	0	+50	+100									
Frequency	2	2	2	3	2									
7. During the course I have received many valuable comments on my achievements	+18	<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>3</td><td>3</td><td>3</td><td>2</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	0	3	3	3	2
Score	-100	-50	0	+50	+100									
Frequency	0	3	3	3	2									
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	+15	<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>0</td><td>4</td><td>1</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	2	0	4	1	3
Score	-100	-50	0	+50	+100									
Frequency	2	0	4	1	3									
18. The teaching staff normally gave me helpful feedback on the progress of my work	+10	<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>0</td><td>5</td><td>0</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	2	0	5	0	3
Score	-100	-50	0	+50	+100									
Frequency	2	0	5	0	3									
19. My lecturers were extremely good at explaining things	+30	<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>1</td><td>1</td><td>2</td><td>3</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	1	1	2	3	3
Score	-100	-50	0	+50	+100									
Frequency	1	1	2	3	3									
21. The teachers on the course worked hard to make the subject interesting	+18	<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>1</td><td>1</td><td>5</td><td>1</td><td>3</td></tr> </table>	Score	-100	-50	0	+50	+100	Frequency	1	1	5	1	3
Score	-100	-50	0	+50	+100									
Frequency	1	1	5	1	3									

## Clear Goals and Standards ( -1)

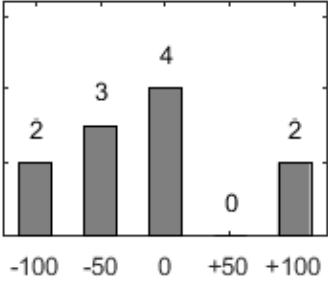
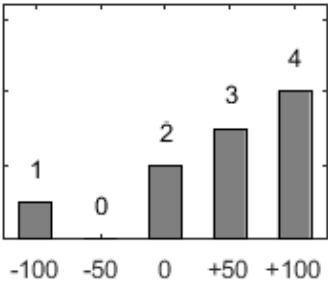
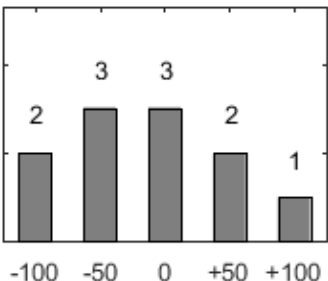
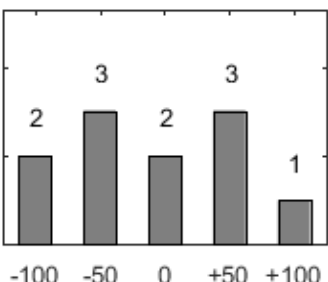
Question	CEQ-score	Histogram												
1. It was easy to know the standard of work expected	+0	<table border="1"> <caption>Histogram Data for Question 1</caption> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>3</td> </tr> <tr> <td>-50</td> <td>0</td> </tr> <tr> <td>0</td> <td>4</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Count	-100	3	-50	0	0	4	+50	2	+100	2
Score	Count													
-100	3													
-50	0													
0	4													
+50	2													
+100	2													
6. I usually had a clear idea of where I was going and what was expected of me in this course	+9	<table border="1"> <caption>Histogram Data for Question 6</caption> <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>3</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	1	0	4	+50	1	+100	3
Score	Count													
-100	2													
-50	1													
0	4													
+50	1													
+100	3													
<b>13. It was often hard to discover what was expected of me in this course</b>	+5	<table border="1"> <caption>Histogram Data for Question 13</caption> <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>2</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	1	0	4	+50	2	+100	2
Score	Count													
-100	2													
-50	1													
0	4													
+50	2													
+100	2													
25. The teachers made it clear right from the start what they expected from the students	-9	<table border="1"> <caption>Histogram Data for Question 25</caption> <thead> <tr> <th>Score</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>3</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>3</td> </tr> <tr> <td>+50</td> <td>3</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Count	-100	3	-50	1	0	3	+50	3	+100	1
Score	Count													
-100	3													
-50	1													
0	3													
+50	3													
+100	1													

## Appropriate Assessment (+35)

Question	CEQ-score	Histogram												
8. To do well in this course all you really needed was a good memory	+5	 <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>1</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>5</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	5	+50	2	+100	1
Score	Frequency													
-100	1													
-50	1													
0	5													
+50	2													
+100	1													
12. The teachers seemed more interested in testing what I had memorised than what I had understood	-32	 <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>2</td> </tr> <tr> <td>-50</td> <td>5</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	5	0	2	+50	2	+100	0
Score	Frequency													
-100	2													
-50	5													
0	2													
+50	2													
+100	0													
16. The assessment methods employed in this course required an in-depth understanding of the course content	+55	 <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>4</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>5</td> </tr> </tbody> </table>	Score	Frequency	-100	0	-50	0	0	4	+50	2	+100	5
Score	Frequency													
-100	0													
-50	0													
0	4													
+50	2													
+100	5													
20. Too much of the assessment was just about facts	-50	 <table border="1"> <caption>Histogram Data for Question 20</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>4</td> </tr> <tr> <td>0</td> <td>3</td> </tr> <tr> <td>+50</td> <td>0</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Frequency	-100	3	-50	4	0	3	+50	0	+100	0
Score	Frequency													
-100	3													
-50	4													
0	3													
+50	0													
+100	0													



## Appropriate Workload (+28)

Question	CEQ-score	Histogram												
4. The workload has been much too heavy	-14	 <table border="1"> <caption>Histogram Data for Question 4</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>3</td> </tr> <tr> <td>0</td> <td>4</td> </tr> <tr> <td>+50</td> <td>0</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	3	0	4	+50	0	+100	2
Score	Frequency													
-100	2													
-50	3													
0	4													
+50	0													
+100	2													
14. I was generally given enough time to understand the things I had to learn	+45	 <table border="1"> <caption>Histogram Data for Question 14</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>3</td> </tr> <tr> <td>+100</td> <td>4</td> </tr> </tbody> </table>	Score	Frequency	-100	1	-50	0	0	2	+50	3	+100	4
Score	Frequency													
-100	1													
-50	0													
0	2													
+50	3													
+100	4													
22. There was a lot of pressure on me as a student in this course	-14	 <table border="1"> <caption>Histogram Data for Question 22</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>3</td> </tr> <tr> <td>0</td> <td>3</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	3	0	3	+50	2	+100	1
Score	Frequency													
-100	2													
-50	3													
0	3													
+50	2													
+100	1													
24. The sheer volume of work in this course made it impossible to comprehend everything thoroughly	-9	 <table border="1"> <caption>Histogram Data for Question 24</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>3</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>3</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	3	0	2	+50	3	+100	1
Score	Frequency													
-100	2													
-50	3													
0	2													
+50	3													
+100	1													

## Generic Skills (+27)

Question	CEQ-score	Histogram												
2. The course has developed my problem-solving skills	+32	<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>1</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>6</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	1	+50	6	+100	2
Score	Frequency													
-100	1													
-50	1													
0	1													
+50	6													
+100	2													
5. The course has sharpened my analytic skills	+39	<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>0</td></tr> <tr><td>-50</td><td>1</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+50</td><td>4</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	0	-50	1	0	2	+50	4	+100	2
Score	Frequency													
-100	0													
-50	1													
0	2													
+50	4													
+100	2													
9. The course helped me develop my ability to work in a group	+0	<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>2</td></tr> <tr><td>-50</td><td>1</td></tr> <tr><td>0</td><td>2</td></tr> <tr><td>+50</td><td>5</td></tr> <tr><td>+100</td><td>0</td></tr> </tbody> </table>	Score	Frequency	-100	2	-50	1	0	2	+50	5	+100	0
Score	Frequency													
-100	2													
-50	1													
0	2													
+50	5													
+100	0													
10. The course has made me feel more confident about tackling new and unfamiliar problems	+27	<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>2</td></tr> <tr><td>-50</td><td>0</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>6</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	2	-50	0	0	1	+50	6	+100	2
Score	Frequency													
-100	2													
-50	0													
0	1													
+50	6													
+100	2													
11. The course has improved my skills in written communication	+14	<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>0</td></tr> <tr><td>0</td><td>4</td></tr> <tr><td>+50</td><td>3</td></tr> <tr><td>+100</td><td>2</td></tr> </tbody> </table>	Score	Frequency	-100	2	-50	0	0	4	+50	3	+100	2
Score	Frequency													
-100	2													
-50	0													
0	4													
+50	3													
+100	2													
23. The course has helped me to develop the ability to plan my work	+5	<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>1</td></tr> <tr><td>-50</td><td>2</td></tr> <tr><td>0</td><td>3</td></tr> <tr><td>+50</td><td>3</td></tr> <tr><td>+100</td><td>1</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	2	0	3	+50	3	+100	1
Score	Frequency													
-100	1													
-50	2													
0	3													
+50	3													
+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

I liked the workload, having so many exercises, labs and project made me really learn the theory/methods we had learnt about.

fun course that gave theory about stuff that is not normally in my program.

The project was really fun to do (even though the results maybe not was as good). Could have had more time to discuss with the professor to expand it even more.

Roliga datorlabbar och slutprojekt.

Mycket bra videoföreläsningar. Roligt kursinnehåll.

Med tanke på att kursen var anpassad till distansundervisning pga. Covid tycker jag att den valda formen med videoföreläsningar var jättebra. Jämfört med andra kurser som haft interaktiv undervisning (på zoom) så är videoföreläsningar oslagbart, de är mycket lättare att koncentrera sig på och man kan kolla när man vill och flera ggr om det är något man behöver repetera. Dessutom var de mycket pedagogiskt gjorda (möjligen lite för långsamma ibland).

#### Neutral students

#### Dissatisfied students

Intressant ämne

Innehållet är intressant

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

#### Satisfied students

I would add a lab about replicated full factorial design.

I would have appreciated if there was more "real labs". The course is not that time consuming, so maybe one or two labs, and not just the project, were the students gets to collect the data (I know it would have been hard at this time). For example we could have gotten to do an anova on a pH-test or something similar

Eventuellt ha en "frågestund" en gång i veckan så att man kan ställa frågor om de inspelade föreläsningarna. Såklart är det svårt att veta i och med att det var första terminen med covid. Men om det i framtiden kommer att vara online föreläsningar igen rekommenderar jag frågestunder.

Labbarna var mycket lärorika, men det blev lite för många labbrapporter.

Överblicken över kursens delar på Canvas kunde varit bättre och mer komplett. Nu behövde man växla mellan canvas, en kurshemsida plus kolla sin mailkorg. Det hade också varit bättre om varje föreläsningvideo hade placerats på en egen sida, som det var nu började alla åtta (?) videos laddas ner till datorn varje gång man gick in på sidan, vilket resulterade dels i att det tog tid, dels vid några tillfällen att min dator låste sig för att det blev för stor mängd data att ladda ner.

### **Neutral students**

### **Dissatisfied students**

Svårt att veta om labbarna var rätt när det skedde på distans. Hade varit bättre att låta alla göra det och sen ha något slags seminarieliknande på zoom i smågrupper och diskutera igenom snarare än skriva rapport. Var tidsödande och kändes onödigt enligt mig. Projektet borde vara i större grupper och mer riktat på förberedelsen snarare än undersökningen. Känns som kursen vill täcka för mycket så det blir liksom väldigt lite kunskap om väldigt mycket men inte särskilt konkret. Tycker dessutom det är alldeles för mycket arbete i kursen, med lab + inlämning varje vecka (6 st) + projekt + tenta. För mycket vs hur många poäng kursen är. Jag tycker att det borde kunna vara en godkäntgräns vid labbar och projekt och frivillig tenta för högre betyg.

Jag tror att detta är en kurs som lidit mycket av att gå på distans så dessa kommentarer är bara relevanta för det formatet på kursen. Det har varit svårt att veta vad som krävts under kursen, så tydligare riktlinjer om det hade varit trevligt. Man har saknat muntlig handledning på plats, så om kursen ska ges på distans igen så hade nån typ av muntlig handledning och kanske någon diskussionsövning varit bra för förståelsen.