

# Course evaluation

**Course:** Linear and logistic regression:MASM22

**Evaluated on LTH:** Yes

**Lecturer:**Anna Lindgren

**Number of students:**18

**Grades:** 6 VG, 9 G, 3 U

## Summary:

The students were to a great extent really satisfied.

## Comments:

The course works well and will essentially be given in the same way next time.

# Course evaluation report - CEQ, FMSN30

## Basic facts

Course name	<b>Linear and Logistic Regression</b>		
Course code	FMSN30		
ECTS credits	7.5 hp		
Year	201920		
Study period the course was finished	VT_LP2		
Programme	all		
Registrated students	40		
Number answers and response rate	19 / 48 %		
Number answers from males	7		
Number answers from females	9		
		<b>Study hours according the curricula</b>	
		Lectures	24 h
		Group work	0 h
		Laboratories	26 h
		Time with supervisor	2 h
		Self study time	120 h

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

## Summary of questionnaires

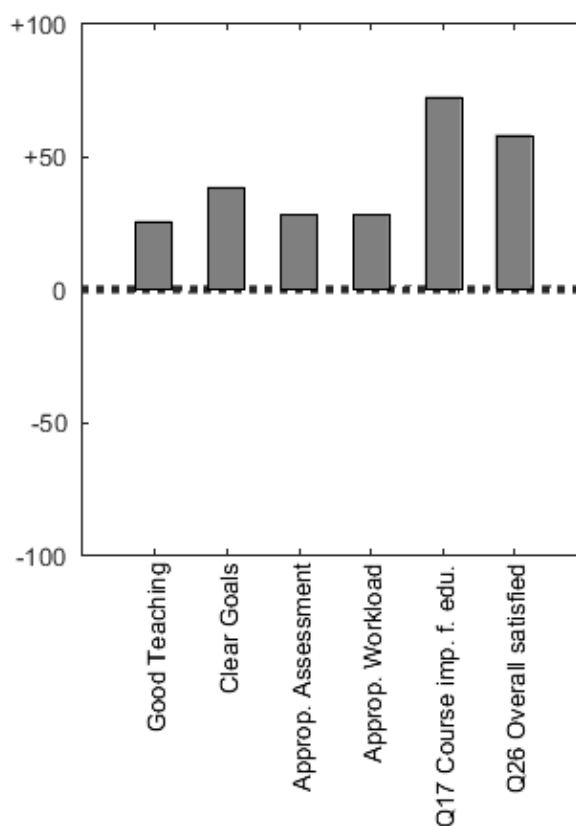
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

### Presence at teaching

Part of teaching	Number	Share
0 %	0	0 %
20 %	1	5 %
40 %	0	0 %
60 %	2	11 %
80 %	6	32 %
100 %	8	42 %

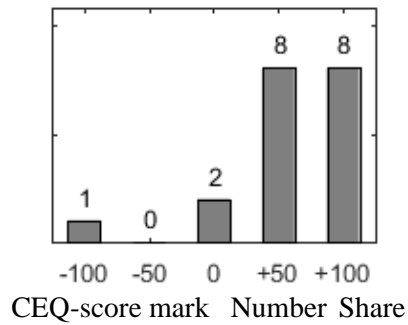
### CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	+25	46
Clear Goals and Standards	+38	55
Appropriate Assessment	+28	38
Appropriate Workload	+28	53
Generic Skills	+31	51
<b>Special questions</b>		
The course seems important for my edu.	+72	43
Overall, I am satisfied with this course	+58	51



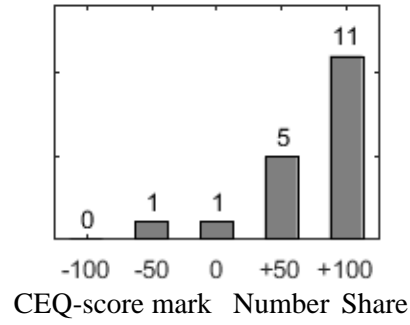
**Distribution of the answers from question 26: "Overall, I am satisfied with this course"**

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



Dissatisfied (<0)	1	5 %
Neutral (0)	2	11 %
Satisfied (>0)	16	84 %
No answer	0	0 %

Mean of CEQ-score	+58
Standard deviation (StdDev)	51
Males	+43
Females	+83



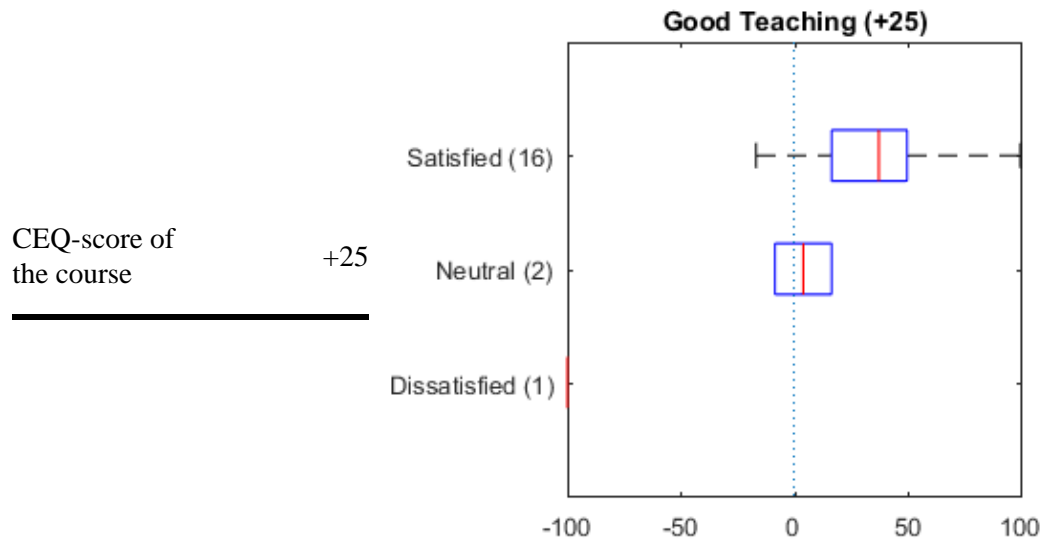
-100	0	0 %
-50	1	5 %
+0	1	5 %
+50	5	26 %
+100	11	58 %

Mean of CEQ-score	+72
Standard deviation (StdDev)	43
Males	+67
Females	+83

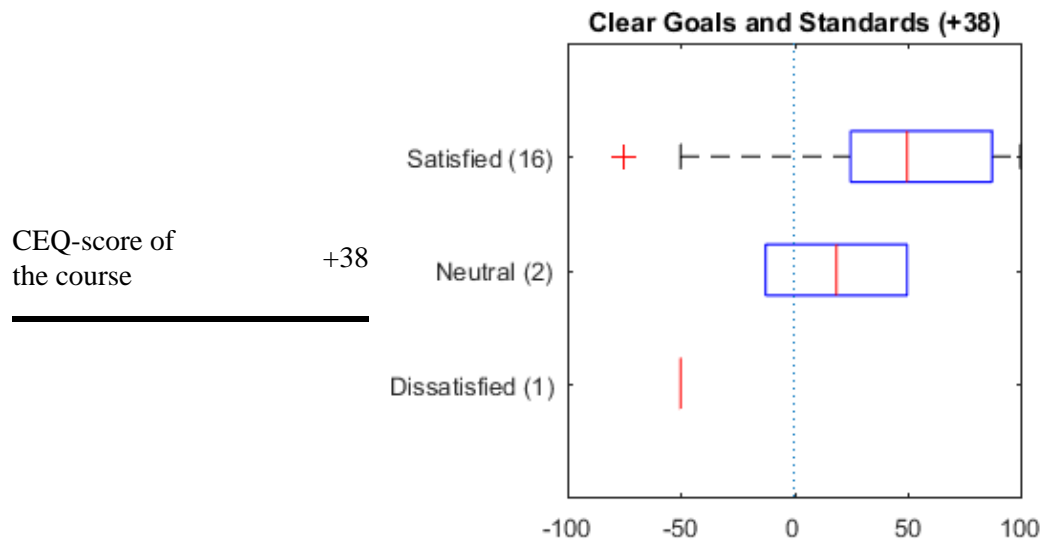
## Summary scales divided on satisfaction

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

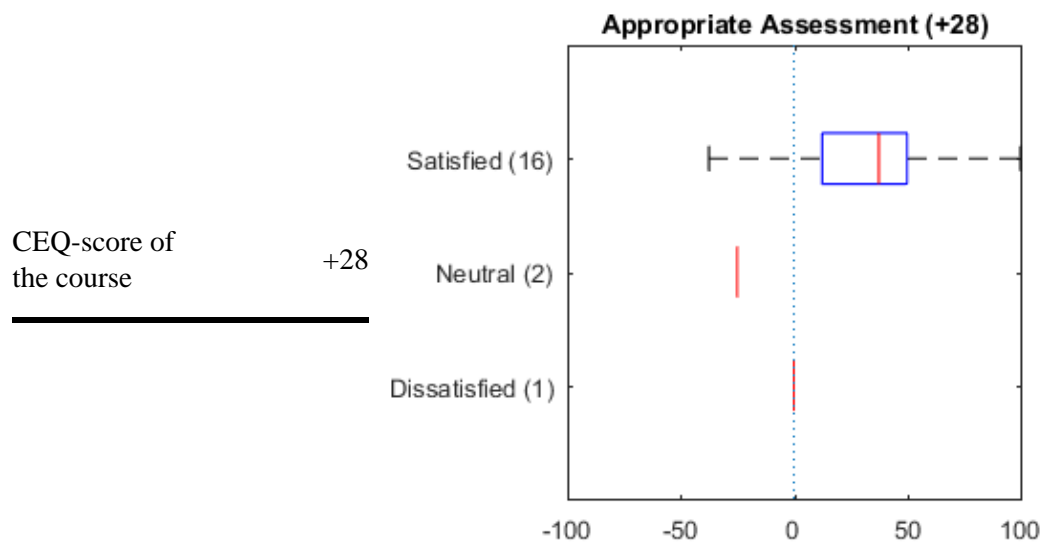
**Good Teaching**



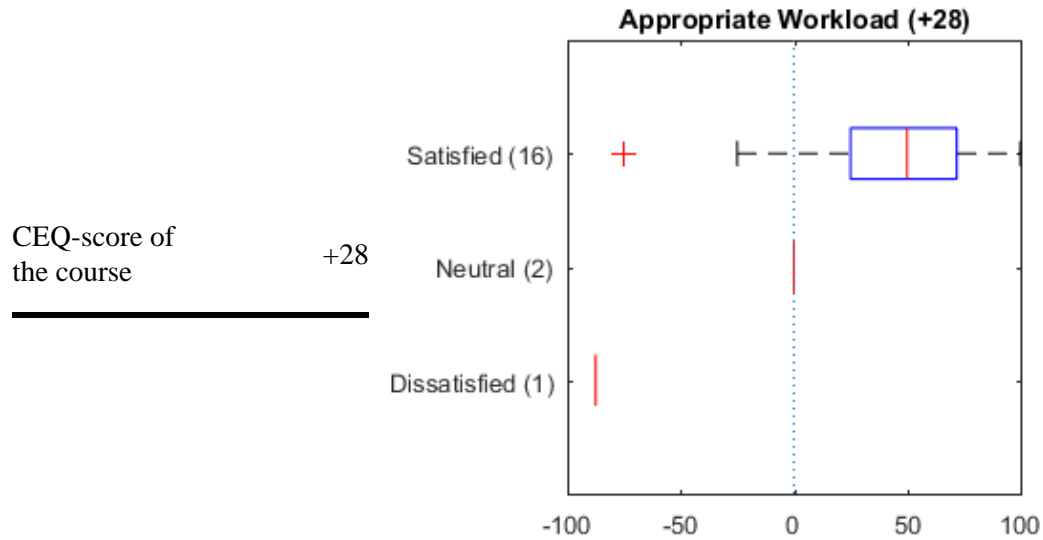
**Clear Goals and Standards**



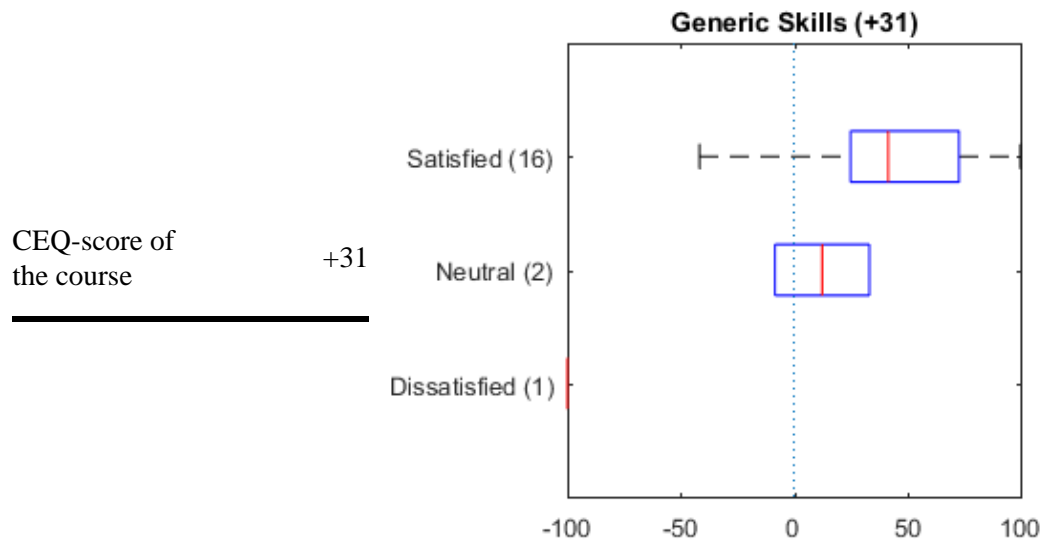
**Appropriate Assessment**



**Appropriate Workload**



**Generic Skills**

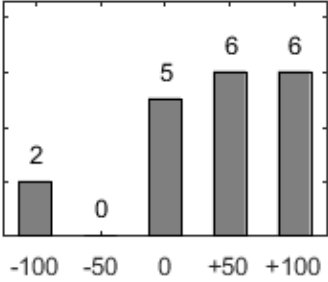
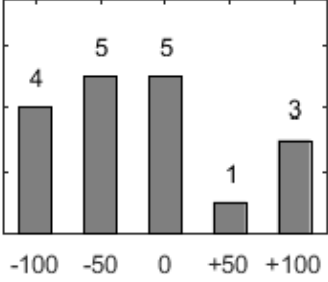
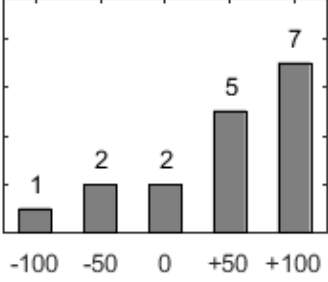
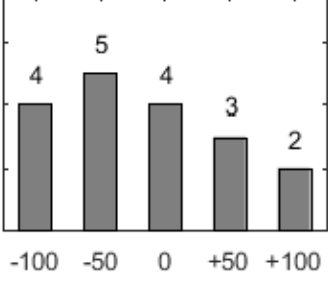
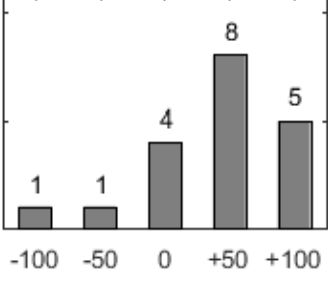
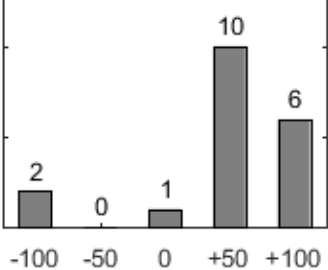


**Answers to each question**

*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*

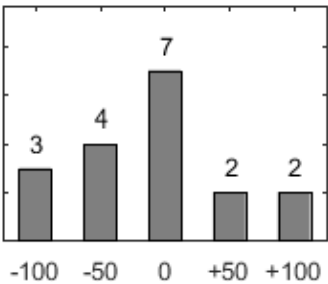
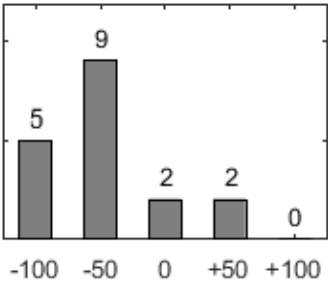
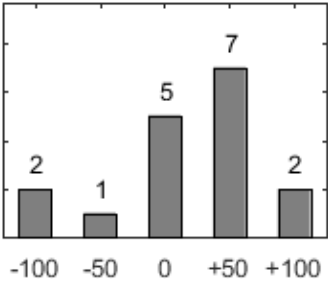
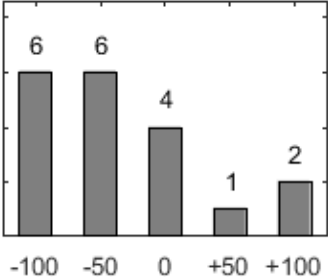
## Good Teaching (+25)

Question	CEQ-score	Histogram												
3. The teaching has motivated me to do my best	+37	 <table border="1"> <caption>Data for Histogram 3</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>5</td> </tr> <tr> <td>+50</td> <td>6</td> </tr> <tr> <td>+100</td> <td>6</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	0	0	5	+50	6	+100	6
Score	Frequency													
-100	2													
-50	0													
0	5													
+50	6													
+100	6													
7. During the course I have received many valuable comments on my achievements	-17	 <table border="1"> <caption>Data for Histogram 7</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>4</td> </tr> <tr> <td>-50</td> <td>5</td> </tr> <tr> <td>0</td> <td>5</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>3</td> </tr> </tbody> </table>	Score	Frequency	-100	4	-50	5	0	5	+50	1	+100	3
Score	Frequency													
-100	4													
-50	5													
0	5													
+50	1													
+100	3													
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	+44	 <table border="1"> <caption>Data for Histogram 15</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>2</td> </tr> <tr> <td>+50</td> <td>5</td> </tr> <tr> <td>+100</td> <td>7</td> </tr> </tbody> </table>	Score	Frequency	-100	1	-50	2	0	2	+50	5	+100	7
Score	Frequency													
-100	1													
-50	2													
0	2													
+50	5													
+100	7													
18. The teaching staff normally gave me helpful feedback on the progress of my work	-17	 <table border="1"> <caption>Data for Histogram 18</caption> <thead> <tr> <th>Score</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100</td> <td>4</td> </tr> <tr> <td>-50</td> <td>5</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	4	-50	5	0	4	+50	3	+100	2
Score	Frequency													
-100	4													
-50	5													
0	4													
+50	3													
+100	2													
19. My lecturers were extremely good at explaining things	+39	 <table border="1"> <caption>Data for Histogram 19</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>4</td> </tr> <tr> <td>+50</td> <td>8</td> </tr> <tr> <td>+100</td> <td>5</td> </tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	4	+50	8	+100	5
Score	Frequency													
-100	1													
-50	1													
0	4													
+50	8													
+100	5													
21. The teachers on the course worked hard to make the subject interesting	+47	 <table border="1"> <caption>Data for Histogram 21</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>10</td> </tr> <tr> <td>+100</td> <td>6</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	0	0	1	+50	10	+100	6
Score	Frequency													
-100	2													
-50	0													
0	1													
+50	10													
+100	6													

## Clear Goals and Standards (+38)

Question	CEQ-score	Histogram												
1. It was easy to know the standard of work expected	+39	<table border="1"> <caption>Histogram Data for Question 1</caption> <thead> <tr> <th>Bin Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100 to -50</td> <td>1</td> </tr> <tr> <td>-50 to 0</td> <td>2</td> </tr> <tr> <td>0 to 50</td> <td>3</td> </tr> <tr> <td>50 to 100</td> <td>7</td> </tr> <tr> <td>100 to 150</td> <td>6</td> </tr> </tbody> </table>	Bin Range	Frequency	-100 to -50	1	-50 to 0	2	0 to 50	3	50 to 100	7	100 to 150	6
Bin Range	Frequency													
-100 to -50	1													
-50 to 0	2													
0 to 50	3													
50 to 100	7													
100 to 150	6													
6. I usually had a clear idea of where I was going and what was expected of me in this course	+44	<table border="1"> <caption>Histogram Data for Question 6</caption> <thead> <tr> <th>Bin Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100 to -50</td> <td>2</td> </tr> <tr> <td>-50 to 0</td> <td>1</td> </tr> <tr> <td>0 to 50</td> <td>3</td> </tr> <tr> <td>50 to 100</td> <td>3</td> </tr> <tr> <td>100 to 150</td> <td>9</td> </tr> </tbody> </table>	Bin Range	Frequency	-100 to -50	2	-50 to 0	1	0 to 50	3	50 to 100	3	100 to 150	9
Bin Range	Frequency													
-100 to -50	2													
-50 to 0	1													
0 to 50	3													
50 to 100	3													
100 to 150	9													
<b>13. It was often hard to discover what was expected of me in this course</b>	-39	<table border="1"> <caption>Histogram Data for Question 13</caption> <thead> <tr> <th>Bin Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100 to -50</td> <td>5</td> </tr> <tr> <td>-50 to 0</td> <td>7</td> </tr> <tr> <td>0 to 50</td> <td>3</td> </tr> <tr> <td>50 to 100</td> <td>3</td> </tr> <tr> <td>100 to 150</td> <td>0</td> </tr> </tbody> </table>	Bin Range	Frequency	-100 to -50	5	-50 to 0	7	0 to 50	3	50 to 100	3	100 to 150	0
Bin Range	Frequency													
-100 to -50	5													
-50 to 0	7													
0 to 50	3													
50 to 100	3													
100 to 150	0													
25. The teachers made it clear right from the start what they expected from the students	+26	<table border="1"> <caption>Histogram Data for Question 25</caption> <thead> <tr> <th>Bin Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>-100 to -50</td> <td>2</td> </tr> <tr> <td>-50 to 0</td> <td>2</td> </tr> <tr> <td>0 to 50</td> <td>5</td> </tr> <tr> <td>50 to 100</td> <td>4</td> </tr> <tr> <td>100 to 150</td> <td>6</td> </tr> </tbody> </table>	Bin Range	Frequency	-100 to -50	2	-50 to 0	2	0 to 50	5	50 to 100	4	100 to 150	6
Bin Range	Frequency													
-100 to -50	2													
-50 to 0	2													
0 to 50	5													
50 to 100	4													
100 to 150	6													

## Appropriate Assessment (+28)

Question	CEQ-score	Histogram												
8. To do well in this course all you really needed was a good memory	-11	 <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>3</td> </tr> <tr> <td>-50</td> <td>4</td> </tr> <tr> <td>0</td> <td>7</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Frequency	-100	3	-50	4	0	7	+50	2	+100	2
Score	Frequency													
-100	3													
-50	4													
0	7													
+50	2													
+100	2													
12. The teachers seemed more interested in testing what I had memorised than what I had understood	-47	 <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>5</td> </tr> <tr> <td>-50</td> <td>9</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	5	-50	9	0	2	+50	2	+100	0
Score	Frequency													
-100	5													
-50	9													
0	2													
+50	2													
+100	0													
16. The assessment methods employed in this course required an in-depth understanding of the course content	+18	 <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>2</td> </tr> <tr> <td>-50</td> <td>1</td> </tr> <tr> <td>0</td> <td>5</td> </tr> <tr> <td>+50</td> <td>7</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	1	0	5	+50	7	+100	2
Score	Frequency													
-100	2													
-50	1													
0	5													
+50	7													
+100	2													
20. Too much of the assessment was just about facts	-34	 <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>6</td> </tr> <tr> <td>-50</td> <td>6</td> </tr> <tr> <td>0</td> <td>4</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	6	0	4	+50	1	+100	2
Score	Frequency													
-100	6													
-50	6													
0	4													
+50	1													
+100	2													



## Appropriate Workload (+28)

Question	CEQ-score	Histogram												
4. The workload has been much too heavy	-11	<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>7</td> </tr> <tr> <td>0</td> <td>5</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>3</td> </tr> </tbody> </table>	Score	Frequency	-100	2	-50	7	0	5	+50	1	+100	3
Score	Frequency													
-100	2													
-50	7													
0	5													
+50	1													
+100	3													
14. I was generally given enough time to understand the things I had to learn	+47	<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>0</td> </tr> <tr> <td>-50</td> <td>2</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>9</td> </tr> <tr> <td>+100</td> <td>5</td> </tr> </tbody> </table>	Score	Frequency	-100	0	-50	2	0	2	+50	9	+100	5
Score	Frequency													
-100	0													
-50	2													
0	2													
+50	9													
+100	5													
22. There was a lot of pressure on me as a student in this course	-32	<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>5</td> </tr> <tr> <td>-50</td> <td>6</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	5	-50	6	0	5	+50	2	+100	1
Score	Frequency													
-100	5													
-50	6													
0	5													
+50	2													
+100	1													
24. The sheer volume of work in this course made it impossible to comprehend everything thoroughly	-29	<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>6</td> </tr> <tr> <td>-50</td> <td>5</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	Frequency	-100	6	-50	5	0	4	+50	2	+100	2
Score	Frequency													
-100	6													
-50	5													
0	4													
+50	2													
+100	2													

## Generic Skills (+31)

Question	CEQ-score	Histogram												
2. The course has developed my problem-solving skills	+50	<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>2</td></tr> <tr><td>0</td><td>1</td></tr> <tr><td>+50</td><td>7</td></tr> <tr><td>+100</td><td>8</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	2	0	1	+50	7	+100	8
Score	Frequency													
-100	1													
-50	2													
0	1													
+50	7													
+100	8													
5. The course has sharpened my analytic skills	+28	<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>3</td></tr> <tr><td>0</td><td>4</td></tr> <tr><td>+50</td><td>5</td></tr> <tr><td>+100</td><td>5</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	3	0	4	+50	5	+100	5
Score	Frequency													
-100	1													
-50	3													
0	4													
+50	5													
+100	5													
9. The course helped me develop my ability to work in a group	+31	<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>1</td></tr> <tr><td>-50</td><td>1</td></tr> <tr><td>0</td><td>5</td></tr> <tr><td>+50</td><td>8</td></tr> <tr><td>+100</td><td>3</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	1	0	5	+50	8	+100	3
Score	Frequency													
-100	1													
-50	1													
0	5													
+50	8													
+100	3													
10. The course has made me feel more confident about tackling new and unfamiliar problems	+42	<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>0</td></tr> <tr><td>0</td><td>6</td></tr> <tr><td>+50</td><td>5</td></tr> <tr><td>+100</td><td>6</td></tr> </tbody> </table>	Score	Frequency	-100	1	-50	0	0	6	+50	5	+100	6
Score	Frequency													
-100	1													
-50	0													
0	6													
+50	5													
+100	6													
11. The course has improved my skills in written communication	+19	<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>3</td></tr> <tr><td>-50</td><td>2</td></tr> <tr><td>0</td><td>3</td></tr> <tr><td>+50</td><td>5</td></tr> <tr><td>+100</td><td>5</td></tr> </tbody> </table>	Score	Frequency	-100	3	-50	2	0	3	+50	5	+100	5
Score	Frequency													
-100	3													
-50	2													
0	3													
+50	5													
+100	5													
23. The course has helped me to develop the ability to plan my work	+18	<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>2</td></tr> <tr><td>-50</td><td>2</td></tr> <tr><td>0</td><td>6</td></tr> <tr><td>+50</td><td>5</td></tr> <tr><td>+100</td><td>4</td></tr> </tbody> </table>	Score	Frequency	-100	2	-50	2	0	6	+50	5	+100	4
Score	Frequency													
-100	2													
-50	2													
0	6													
+50	5													
+100	4													

## Free text answers

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

### What were the best aspects of the course

#### Satisfied students

We could model real COVID-19 data. That was super cool and made me feel like I can already do something relevant!

Also the different stages of review were helpful to get a better feeling how a good report can and should be written.

Anna really made an effort to help students, was super quick to reply to emails and generally extremely kind and helpful.

Väldigt användbart och intressant.

Bra upplägg med labbar, projekt och munta!

Riktigt rolig kurs och en bra föreläsare på det. Bra upplägg också på labbar och projekt, det gjorde så att man var med och tvingades plugga lite hela tiden vilket bara är bra, jämfört med att skjuta upp allt tills sista veckan och sitta 12h om dagen...

Det bästa har varit upplägget, mycket roligt att jobba med projekt löpande under kursen, vilket ger en insikt i hur man kan applicera regression i arbetslivet.

En av de bättre kurserna jag läst!

Variationen av examinationsformer. Att det varit kontinuerligt med obligatoriska uppgifter. Väldigt bra upplägg

Roligt med aktuell data som man har en relation till (t.ex att Lund var med i väderdatan och att göra modell över Covid-19). Bra att det var samma data på både linjär och logistisk regression så att man snabbt kom in i det och tydligare förstod skillnaden.

Man fick bra hjälp på övningarna och det var lärorikt att kamratgranska andras rapporter.

Det har varit lärorikt och roligt att läsa kursen! Det kändes väldigt bra att ha dessa kunskaper innan machine learning. Projekten var bra och man lärde sig mycket, även roliga ämnen på projekten.

Pedagogiskt upplagda laborationer/projekt med ledande frågor. Superbra upplägg på Canvas med modulindelning och lätt att överskåda kursen. Kändes som kursen överlag var väldigt bra strukturerad!

Tydliga instruktioner på labbar och inlämningar. Tydligt vad man ska kunna för att klara kursen.

Bra med intro till att arbeta i R. Bra "statistisk allmänbildning".

#### Neutral students

Engagerad lärare

### **Dissatisfied students**

I sometimes felt that the teacher did not fully understand the subject.

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

### **Satisfied students**

Sometimes I got lost in all the canvas submenus.

Tydligheten med vad som förväntas i form av prestation från studenterna.

Mer feedback hade varit bra, har varit svårt att veta vad man förstått och vad man inte förstått.

Det är lite synd att man knappt får någon feedback på projekten. Det finns egentligen ingen morot alls att göra bra projekt mer än för sin egen skull, eftersom att de inte har något alls med betyget att göra. Hade varit lite roligare om man på något sätt blev lite belönad för bra rapporter, känns ju egentligen lite onödigt att lägga mycket tid på en rapport om man inte ens får feedback mer än att bra rapport du är godkänd .

Jag hade uppskattat lite mer repetition från grundkursen i början och ibland mer grafiska beskrivningar innan man får se formler/härledningar på föreläsningarna.

Jag fick ingen/lite feedback på projekten. Även om jag blev godkänd direkt är det bra med feedback. Jag hade svårt att hänga med i föreläsningarna, jag hade önskat mer bilder och förklaringar. Det var lite otydligt hur mycket som förväntades av en på projekten.

Det tog rätt lång tid att ta sig igenom laborationerna och projekten. Skulle säga att arbetsbelastningen var relativt hög.

Det hade gärna fått vara mer fokus på teorin. Stor del av föreläsningarna gick åt till genomgångna exempel i R vilket jag tycker var lite av ett slöseri med tid. Bra att gå igenom R i början men problemen är oftast av liknande karaktär så det hade varit mer intressant att endast diskutera modellernas resultat (tabeller och figurer, i stället för att gå igenom all kod). Den tid man frigör på det sättet hade kunnat gå till att diskutera modellerna och skattningarna mer, exempelvis härleda den asymptotiska fördelningen av parametrar i logistisk regression och gå igenom härledningen av AIC från KL-divergens.

### **Neutral students**

För mycket fokus på skrivande och redovisande, mer borde vara på att arbeta med materialet

### **Dissatisfied students**