



LUND UNIVERSITY
Faculty of Science

Centre for Mathematical Sciences
Division of Mathematics and Numerical Analysis

Course Analysis for MATB25 Discrete Mathematics Autumn 2023

Course Information

Lecturer: Anna Torstensson

Teaching assistants: Jan Henrik Thomm

Number of students:

27 newly registered and 5 re-registered.

9 students answered the course evaluation (includes also ÄMAD04 and FMAB75 students)

Examination

Programmingproject: 20 students passed.

Oral examination: 20 students passed.

Written examination: 20 students passed.

- Ordinary examination 18/12 2023: 18 students participated and 18 of them passed.
- Resit examination 9/1 2024: 4 students participated and 2 of them passed.

Final grades:

In all, 20 students, including 1 re-registered student, have got their final grade.

12 passed with distinction.

8 passed.

Course Evaluation

Summary of student's answers:

The students that answered were in general happy with the course overall, even though there were some suggestions for smaller adjustments. One may suspect, however, that it was the most satisfied and active students that answered as they participated more in lectures than the average student. Note that the evaluation included also students from the Faculty of Engineering taking the course together with the students from Faculty of Science.

Teachers' comments:

This term the teaching had a flipped classroom design. There were two 2-hour lectures in the each week introducing that week's topics and the second one centered around difficult concepts and problem solving. More elaborate lectures containing a detailed exposition of both theory and problem solving were provided as films in Canvas. Each week there were two units with accompanying videos and guides for working with videos, the textbook and exercise problems. The students were expected to work on the units at home, and then bring questions to the exercises classes that were offered twice a week. The attendance rate was higher than previous years for both lectures and exercise classes and the students more active. This is compared to when the course was held in the spring so that affects the selection of students coming, especially from LTH. Still only about half of the students attended lectures and around 25% the exercise classes.

Changes from the previous course realisation:

Small improvements of the Canvas material to make navigation easier. The second lecture each week was always adopted to questions that came up during lectures and seminars so it has different content each year.

Suggestions for the next course realisation:

Remind the students of the importance of filling in the course evaluation. Include (an existing recorded) guest lecture on applications of discrete math in the program.

Course evaluation report - CEQ, FMAB75

Basic facts

Course name	Discrete Mathematics		
Course code	FMAB75		
ECTS credits	7.5 hp	Study hours according the curricula	
Year	202324	Lectures	54 h
Study period the course was finished	HT_LP2	Group work	0 h
Programme	all	Laboratories	0 h
Registrated students	66	Time with supervisor	2 h
Number answers and response rate	10 / 15 %	Self study time	144 h
Number answers from males	6		
Number answers from females	3		

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

Summary of questionnaires

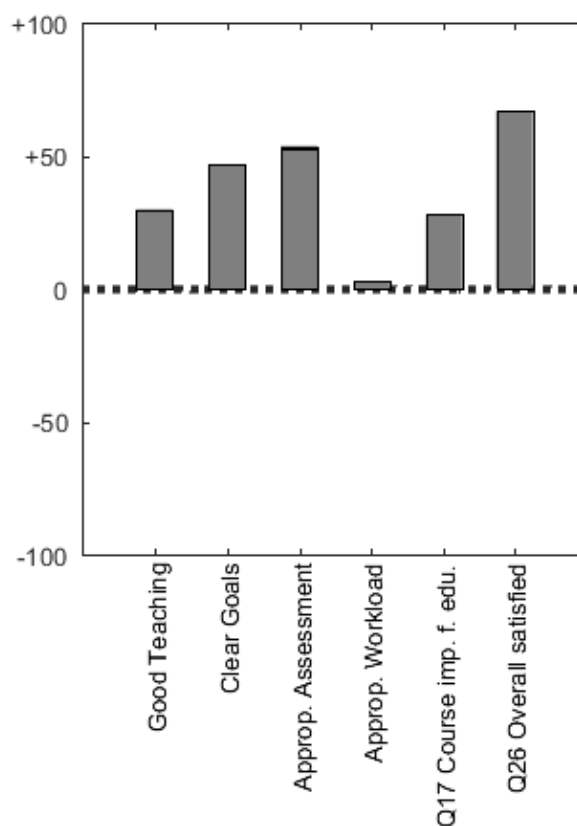
The CEQ-score span between -100 och +100, there -100 means that "I fully disagree to the statement" and +100 "I fully agree to the statement".

Presence at teaching

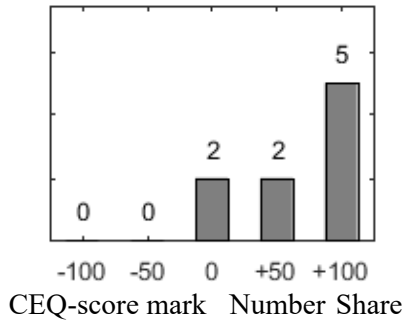
Part of teaching	Number	Share
0 %	0	0 %
20 %	1	10 %
40 %	1	10 %
60 %	2	20 %
80 %	2	20 %
100 %	4	40 %

CEQ-scales & special questions

Scale	CEQ-score	StdDev
Good Teaching	+30	32
Clear Goals and Standards	+46	33
Appropriate Assessment	+54	37
Appropriate Workload	+3	48
Generic Skills	+36	29
Special questions		
The course seems important for my edu.	+28	57
Overall, I am satisfied with this course	+67	43

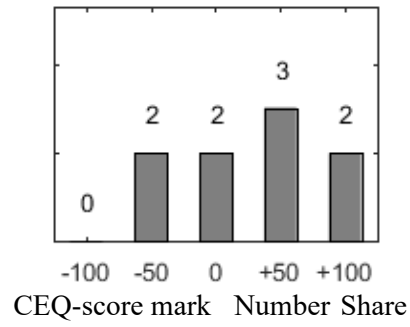


Distribution of the answers from question 26: "Overall, I am satisfied with this course" **Distribution of the answers from question 17: "The course seems important for my education"**



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

Mean of CEQ-score	+67
Standard deviation (StdDev)	43



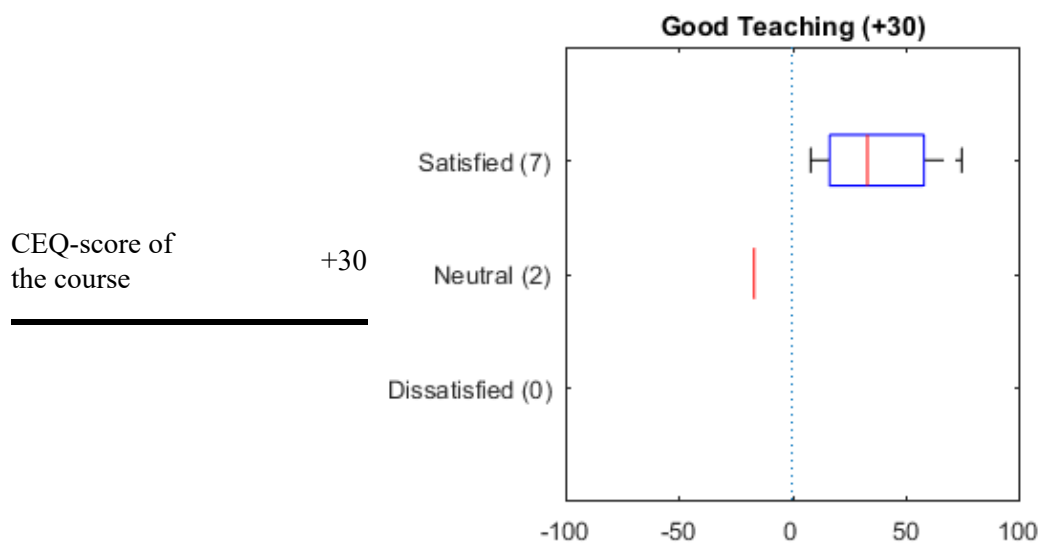
Category	Number	Share
-100	0	0 %
-50	2	20 %
+0	2	20 %
+50	3	30 %
+100	2	20 %

Mean of CEQ-score	+28
Standard deviation (StdDev)	57

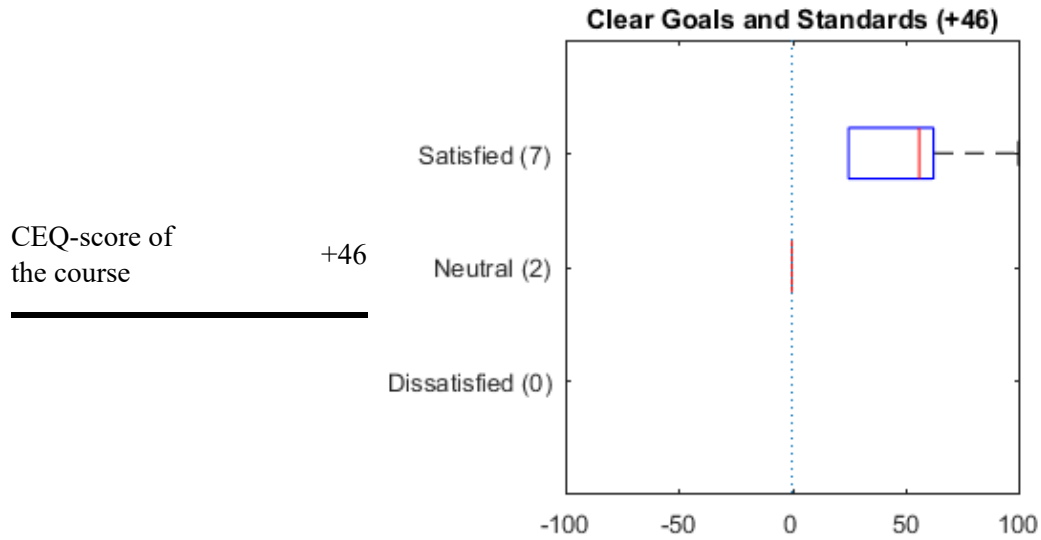
Summary scales divided on satisfaction

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

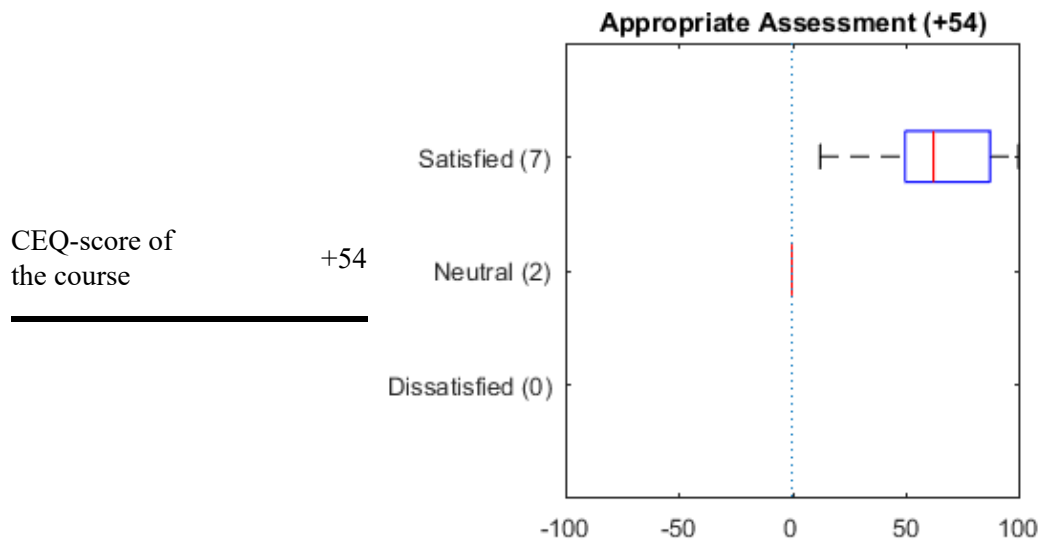
Good Teaching



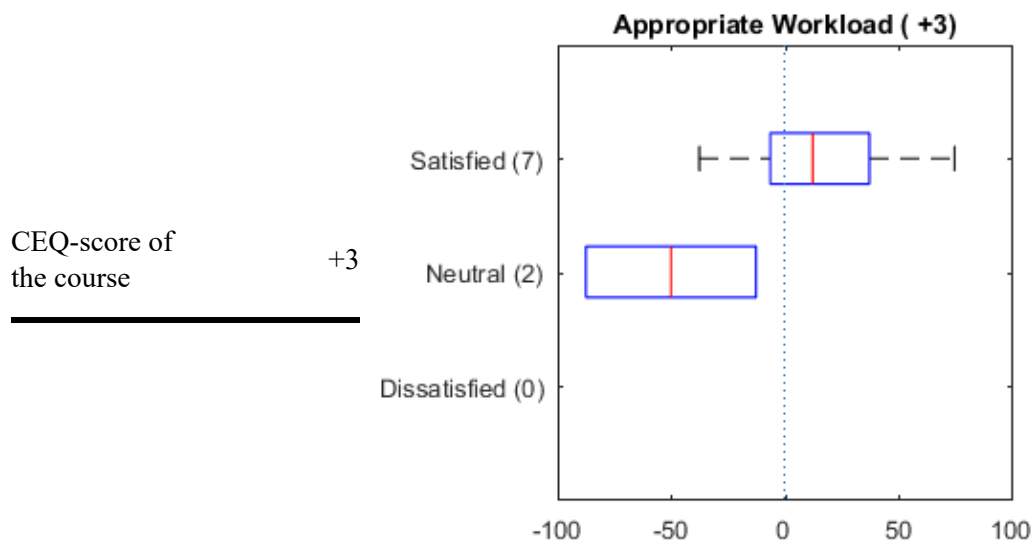
Clear Goals and Standards



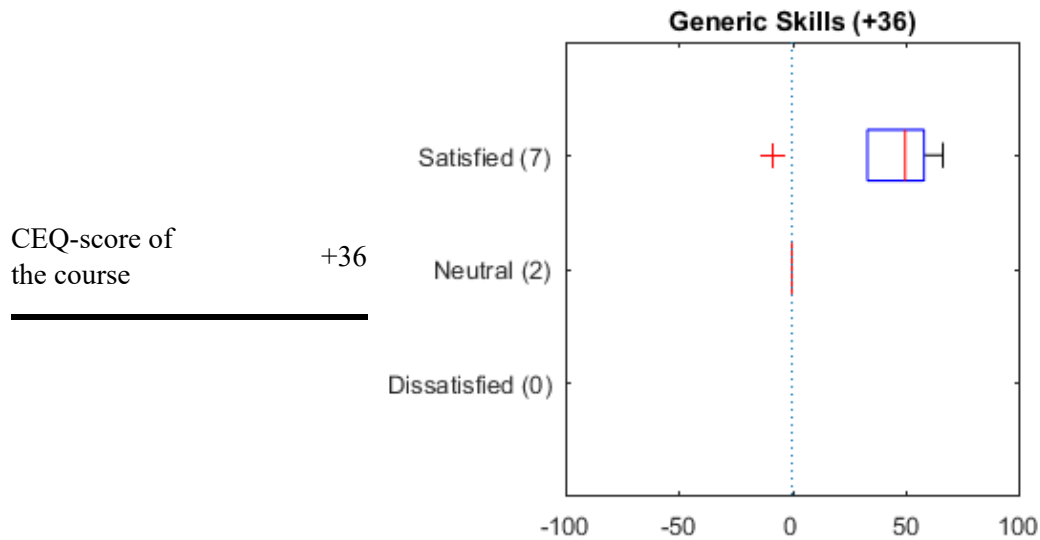
Appropriate Assessment



Appropriate Workload



Generic Skills



Answers to each question

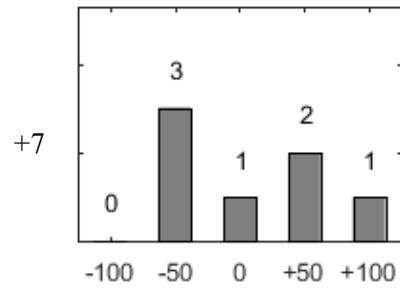
The questions in bold are reverse positive.

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

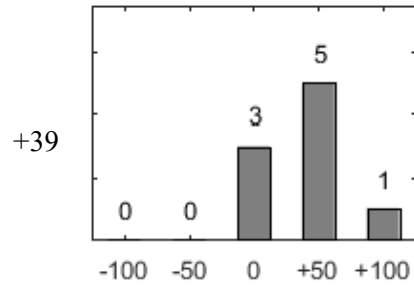
Good Teaching (+30)

Question	CEQ-score	Histogram
3. The teaching has motivated me to do my best	+50	
7. During the course I have received many valuable comments on my achievements	-6	
15. The teachers made a real effort to understand the problems and difficulties one might be having in this course	+28	

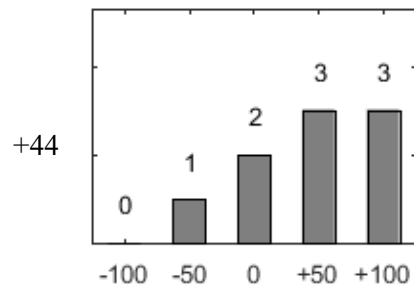
18. The teaching staff normally gave me helpful feedback on the progress of my work



19. My lecturers were extremely good at explaining things



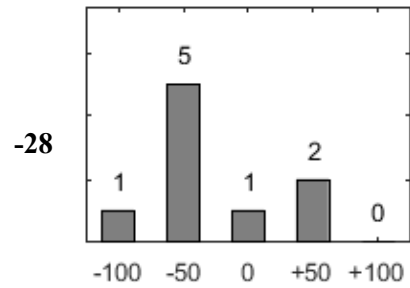
21. The teachers on the course worked hard to make the subject interesting



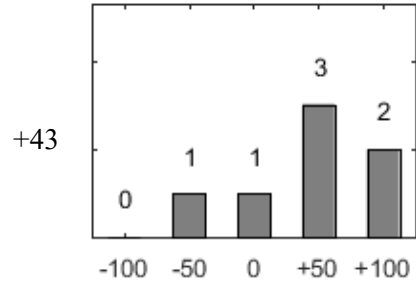
Clear Goals and Standards (+46)

Question	CEQ-score	Histogram												
1. It was easy to know the standard of work expected	+28	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</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>3</td> </tr> <tr> <td>+50</td> <td>4</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Count	-100	0	-50	1	0	3	+50	4	+100	1
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-50	1													
0	3													
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6. I usually had a clear idea of where I was going and what was expected of me in this course	+33	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</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>3</td> </tr> <tr> <td>+50</td> <td>3</td> </tr> <tr> <td>+100</td> <td>2</td> </tr> </tbody> </table>	Score	Count	-100	0	-50	1	0	3	+50	3	+100	2
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13. It was often hard to discover what was expected of me in this course



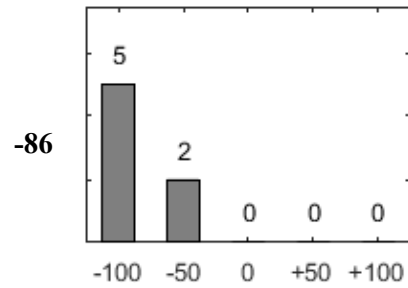
25. The teachers made it clear right from the start what they expected from the students



Appropriate Assessment (+54)

Question	CEQ-score	Histogram												
8. To do well in this course all you really needed was a good memory	-33	<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>4</td> </tr> <tr> <td>0</td> <td>1</td> </tr> <tr> <td>+50</td> <td>2</td> </tr> <tr> <td>+100</td> <td>0</td> </tr> </tbody> </table>	Score	Count	-100	2	-50	4	0	1	+50	2	+100	0
Score	Count													
-100	2													
-50	4													
0	1													
+50	2													
+100	0													
12. The teachers seemed more interested in testing what I had memorised than what I had understood	-31	<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>4</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	Count	-100	2	-50	4	0	0	+50	1	+100	1
Score	Count													
-100	2													
-50	4													
0	0													
+50	1													
+100	1													
16. The assessment methods employed in this course required an in-depth understanding of the course content	+57	<table border="1"> <thead> <tr> <th>Score</th> <th>Count</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>0</td> </tr> <tr> <td>+50</td> <td>3</td> </tr> <tr> <td>+100</td> <td>3</td> </tr> </tbody> </table>	Score	Count	-100	0	-50	1	0	0	+50	3	+100	3
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20. Too much of the assessment was just about facts



Appropriate Workload (+3)

Question	CEQ-score	Histogram												
4. The workload has been much too heavy	-17	<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>4</td> </tr> <tr> <td>0</td> <td>2</td> </tr> <tr> <td>+50</td> <td>1</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Count	-100	1	-50	4	0	2	+50	1	+100	1
Score	Count													
-100	1													
-50	4													
0	2													
+50	1													
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14. I was generally given enough time to understand the things I had to learn	-6	<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>3</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	Count	-100	1	-50	3	0	2	+50	2	+100	1
Score	Count													
-100	1													
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0	2													
+50	2													
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22. There was a lot of pressure on me as a student in this course	+22	<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>0</td> </tr> <tr> <td>0</td> <td>3</td> </tr> <tr> <td>+50</td> <td>4</td> </tr> <tr> <td>+100</td> <td>1</td> </tr> </tbody> </table>	Score	Count	-100	1	-50	0	0	3	+50	4	+100	1
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24. The sheer volume of work in this course made it impossible to comprehend everything thoroughly	-22	<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>3</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	1	-50	3	0	4	+50	1	+100	0
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+100	0													

Generic Skills (+36)

Question	CEQ-score	Histogram																		
2. The course has developed my problem-solving skills	+72	<table border="1"> <caption>Data for Histogram 2</caption> <thead> <tr> <th>Score Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>0</td></tr> <tr><td>-75 to -50</td><td>0</td></tr> <tr><td>-50 to -25</td><td>0</td></tr> <tr><td>-25 to 0</td><td>0</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>5</td></tr> <tr><td>75 to 100</td><td>4</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	0	-75 to -50	0	-50 to -25	0	-25 to 0	0	0 to 25	0	25 to 50	0	50 to 75	5	75 to 100	4
Score Range	Frequency																			
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75 to 100	4																			
5. The course has sharpened my analytic skills	+56	<table border="1"> <caption>Data for Histogram 5</caption> <thead> <tr> <th>Score Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>0</td></tr> <tr><td>-75 to -50</td><td>0</td></tr> <tr><td>-50 to -25</td><td>0</td></tr> <tr><td>-25 to 0</td><td>1</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>6</td></tr> <tr><td>75 to 100</td><td>2</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	0	-75 to -50	0	-50 to -25	0	-25 to 0	1	0 to 25	0	25 to 50	0	50 to 75	6	75 to 100	2
Score Range	Frequency																			
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9. The course helped me develop my ability to work in a group	+38	<table border="1"> <caption>Data for Histogram 9</caption> <thead> <tr> <th>Score Range</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>0</td></tr> <tr><td>-25 to 0</td><td>1</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>5</td></tr> <tr><td>75 to 100</td><td>1</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	0	-75 to -50	1	-50 to -25	0	-25 to 0	1	0 to 25	0	25 to 50	0	50 to 75	5	75 to 100	1
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10. The course has made me feel more confident about tackling new and unfamiliar problems	+61	<table border="1"> <caption>Data for Histogram 10</caption> <thead> <tr> <th>Score Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>0</td></tr> <tr><td>-75 to -50</td><td>0</td></tr> <tr><td>-50 to -25</td><td>0</td></tr> <tr><td>-25 to 0</td><td>1</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>5</td></tr> <tr><td>75 to 100</td><td>3</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	0	-75 to -50	0	-50 to -25	0	-25 to 0	1	0 to 25	0	25 to 50	0	50 to 75	5	75 to 100	3
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11. The course has improved my skills in written communication	-11	<table border="1"> <caption>Data for Histogram 11</caption> <thead> <tr> <th>Score Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>1</td></tr> <tr><td>-75 to -50</td><td>3</td></tr> <tr><td>-50 to -25</td><td>0</td></tr> <tr><td>-25 to 0</td><td>2</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>3</td></tr> <tr><td>75 to 100</td><td>0</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	1	-75 to -50	3	-50 to -25	0	-25 to 0	2	0 to 25	0	25 to 50	0	50 to 75	3	75 to 100	0
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50 to 75	3																			
75 to 100	0																			
23. The course has helped me to develop the ability to plan my work	+13	<table border="1"> <caption>Data for Histogram 23</caption> <thead> <tr> <th>Score Range</th> <th>Frequency</th> </tr> </thead> <tbody> <tr><td>-100 to -75</td><td>1</td></tr> <tr><td>-75 to -50</td><td>1</td></tr> <tr><td>-50 to -25</td><td>0</td></tr> <tr><td>-25 to 0</td><td>1</td></tr> <tr><td>0 to 25</td><td>0</td></tr> <tr><td>25 to 50</td><td>0</td></tr> <tr><td>50 to 75</td><td>5</td></tr> <tr><td>75 to 100</td><td>0</td></tr> </tbody> </table>	Score Range	Frequency	-100 to -75	1	-75 to -50	1	-50 to -25	0	-25 to 0	1	0 to 25	0	25 to 50	0	50 to 75	5	75 to 100	0
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