Course Analysis for MATB22 and ÄMAD02 Linear Algebra 2, Spring Term 2023

Course Information

Lecturer: Kjell Elfström
Teaching assistants: Niklas Kotarsky, Thomas Munn, Jan Henrik Thomm
Number of students:
MATB22: 57 newly registered and 16 re-registered.
ÄMAD02: 3 newly registered and 9 re-registered.
10 students answered the course evaluation, 6 of them are enrolled on the Bachelor's Programme in Mathematics, 1 on the Bachelor's Programme in Physics and 3 on other programmes.

Examination

Project: 47 MATB22 students passed. Not applicable to ÄMAD02.
Written examination:

- Ordinary examination on 16 March 2023: 37 out of 50 MATB22 candidates passed and none out of 4 ÄMAD02 candidates passed.
- Resit examination on 15 April 2023: 15 out of 22 MATB22 candidates passed and 1 out of 4 ÄMAD02 candidates passed.

Final grades
In all, 50 MATB22 students, including some re-registered students, have got their final grade.
25 passed with distinction.
25 passed.
For ÄMAD02 students, I refer to Anna-Maria.

Course Evaluation

Summary of student's answers:
The response was positive, except maybe for the seminars. See the following pages.
Teachers' comments:
The course consisted of lectures and seminars on campus. A project consisting of exercises in Python is also included in the course. The textbook 'Linear Algebra' is written by me (Kjell Elfström).
Changes from the previous course realisation: None.
**Suggestions for the next course realisation:** None.

MATB22-vt23

Answer Count: 10

I have studied this course as part of

I have studied this course as part of	Number of responses
Bachelor´s Programme in Mathematics	6 (60,0%)
Bachelor´s Programme in Physics, Theoretical Physics, Astronomy	1 (10,0%)
Bachelor´s Programme, other specialisation	3 (30,0%)
Master's Programme in Mathematics	0 (0,0%)
Master´s Programme in Mathematical Statistics	0 (0,0%)
Master´s Programme, other specialisation	0 (0,0%)
Teacher Education	0 (0,0%)
Other programme or as stand-alone course	0 (0,0%)
Total	10 (100,0%)
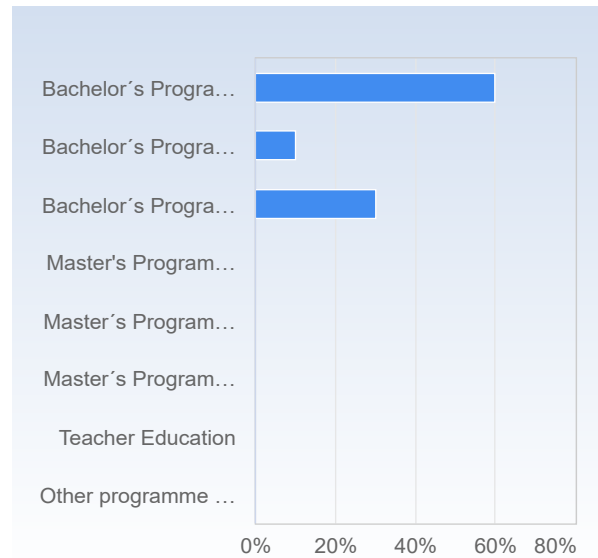
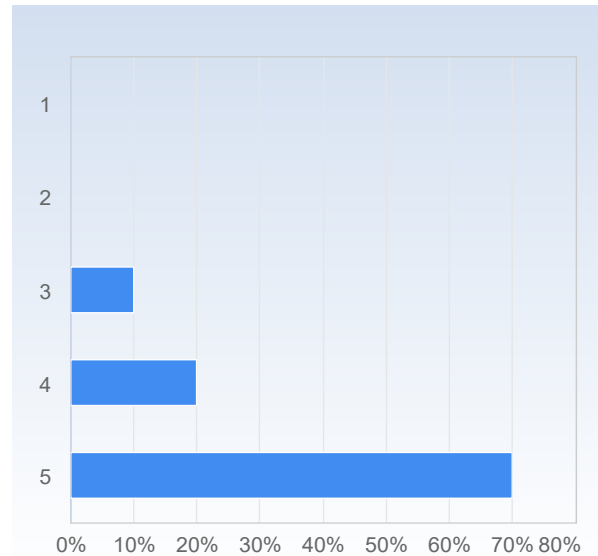|	Mean	Standard Deviation
I have studied this course as part of	1,7	0,9

On the scale 1-5 select the option that best matches your opinion: 1= disagree completely → 3= partly agree → 5= agree completely

## 2. My prior knowledge has been sufficient to assimilate the contents of this course.

2. My prior knowledge has been sufficient to assimilate the contents of this course.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (10,0%)
4	2 (20,0%)
5	7 (70,0%)
Total	10 (100,0%)

	Mean	Standard Deviation
2. My prior knowledge has been sufficient to assimilate the contents of this course.	4,6	0,7

3. I have participated actively in the course.

3. I have participated actively in the course.	Number of responses
1	0 (0,0%)
2	1 (10,0%)
3	0 (0,0%)
4	2 (20,0%)
5	7 (70,0%)
Total	10 (100,0%)
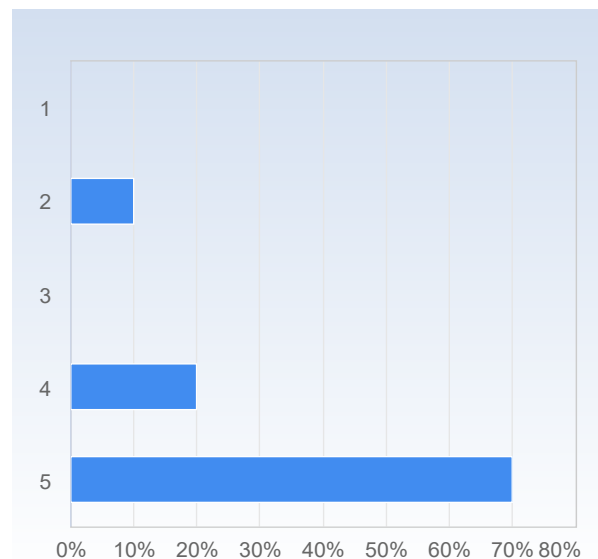
	Mean	Standard Deviation
3. I have participated actively in the course.	4,5	1,0

Average number of hours spent in total on the course per week (including scheduled activities):

Average number of hours spent in total on the course per week (including scheduled activities):	Number of responses
4 - 5	0 (0,0%)
6 - 7	2 (20,0%)
8 - 9	0 (0,0%)
10 - 11	1 (10,0%)
12 - 13	1 (10,0%)
14 - 15	1 (10,0%)
16 - 17	0 (0,0%)
18 - 19	0 (0,0%)
20 - 21	5 (50,0%)
22 - 23	0 (0,0%)
Total	10 (100,0%)
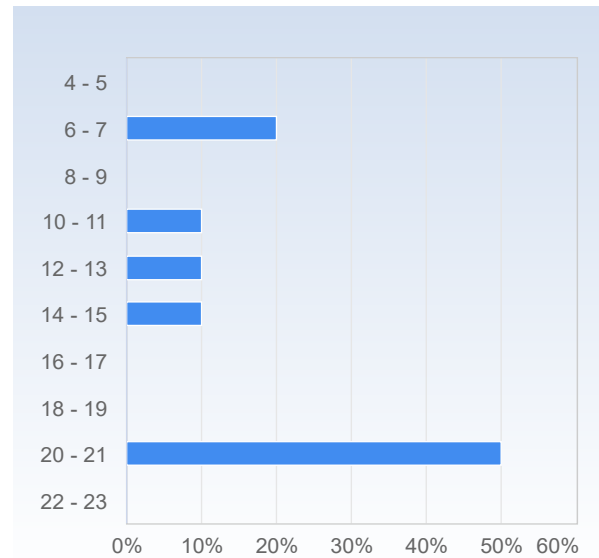
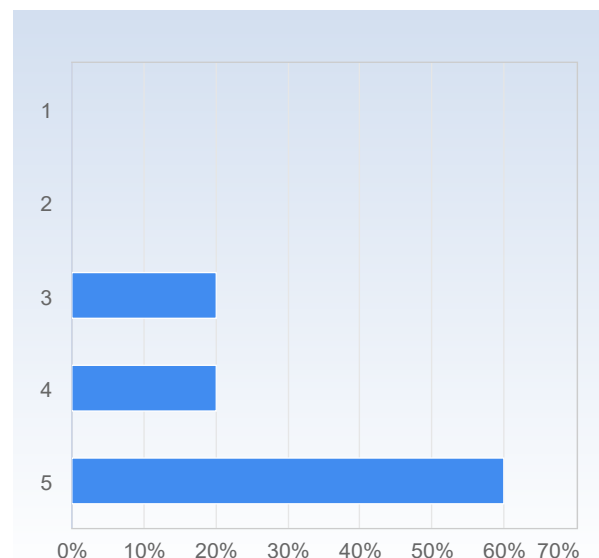|	Mean	Standard Deviation
Average number of hours spent in total on the course per week (including scheduled activities):	14,9	6,0

The course in general

On the scale 1-5 select the option that best matches your opinion: 1= disagree completely → 3= partly agree → 5= agree completely

The way the course was taught and organised suited me.

The way the course was taught and organised suited me.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	2 (20,0%)
4	2 (20,0%)
5	6 (60,0%)
Total	10 (100,0%)

	Mean	Standard Deviation
The way the course was taught and organised suited me.	4,4	0,8

# The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.

The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (10,0%)
4	3 (30,0%)
5	6 (60,0%)
Total	10 (100,0%)
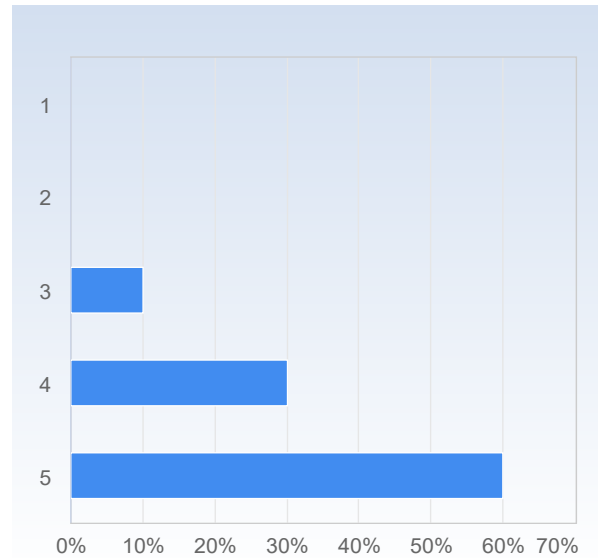
	Mean	Standard Deviation
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	4,5	0,7

The lectures were valuable for my learning.

The lectures were valuable for my learning.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (10,0%)
4	4 (40,0%)
5	5 (50,0%)
Total	10 (100,0%)
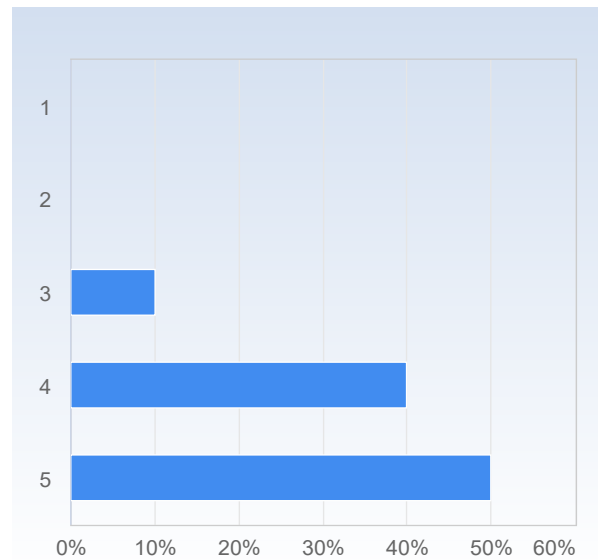
	Mean	Standard Deviation
The lectures were valuable for my learning.	4,4	0,7

The seminars were valuable for my learning.

The seminars were valuable for my learning.	Number of responses
1	0 (0,0%)
2	4 (40,0%)
3	3 (30,0%)
4	2 (20,0%)
5	1 (10,0%)
Total	10 (100,0%)
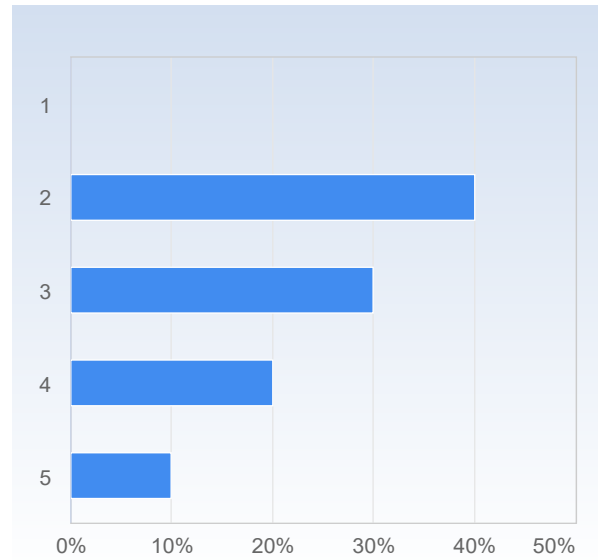
	Mean	Standard Deviation
The seminars were valuable for my learning.	3,0	1,1

Studying on my own was valuable for my learning.

Studying on my own was valuable for my learning.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	3 (30,0%)
5	7 (70,0%)
Total	10 (100,0%)
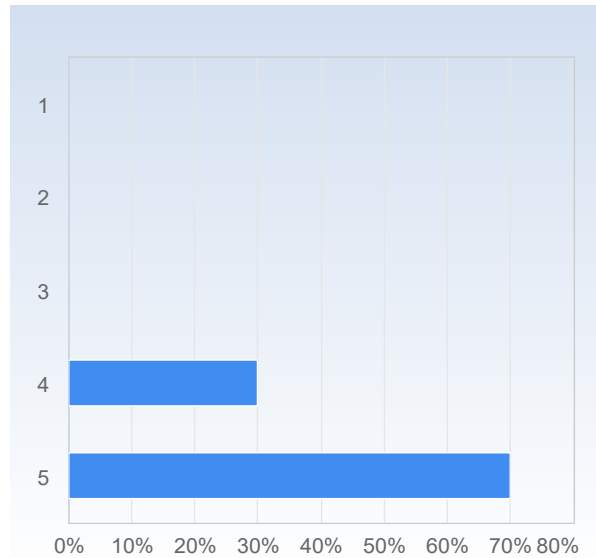
	Mean	Standard Deviation
Studying on my own was valuable for my learning.	4,7	0,5

The course literature/material was a valuable learning resource.

| The course literature/material was a valuable learning resource.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	3 (30,0%)
5	7 (70,0%)
Total	10 (100,0%)
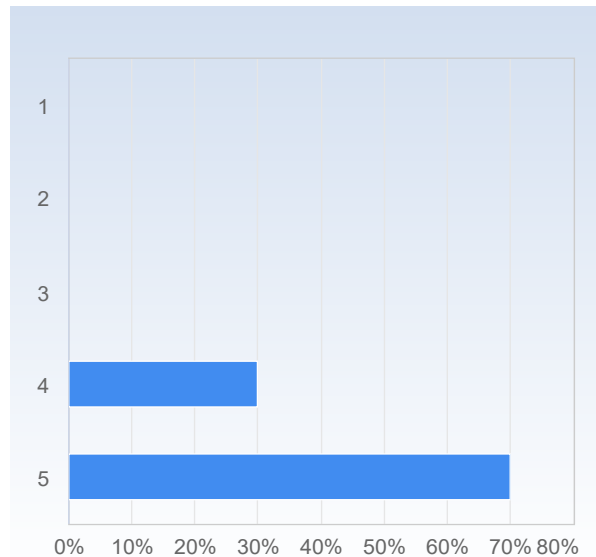
	Mean	Standard Deviation
The course literature/material was a valuable learning resource.	4,7	0,5

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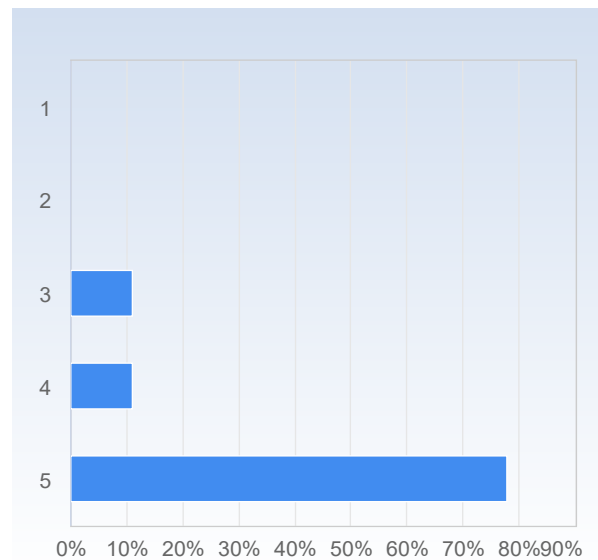
The assignments were valuable for my learning.

The assignments were valuable for my learning.	Number of responses
1	1 (10,0%)
2	2 (20,0%)
3	2 (20,0%)
4	1 (10,0%)
5	4 (40,0%)
Total	10 (100,0%)
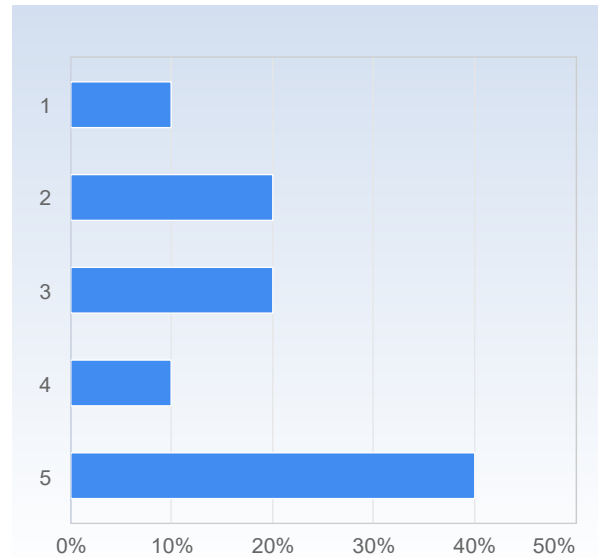
	Mean	Standard Deviation
The assignments were valuable for my learning.	3,5	1,5

The information I received before the course start was satisfactory.

The information I received before the course start was satisfactory.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (11,1%)
4	1 (11,1%)
5	7 (77,8%)
Total	9 (100,0%)

	Mean	Standard Deviation
The information I received before the course start was satisfactory.	4,7	0,7

The communication with the teaching staff during the course was good.

| The communication with the teaching staff during the course was good.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	2 (20,0%)
5	8 (80,0%)
Total	10 (100,0%)
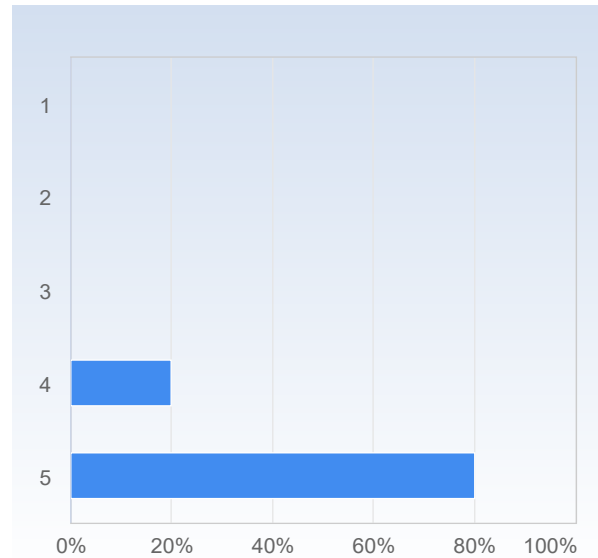
	Mean	Standard Deviation
The communication with the teaching staff during the course was good.	4,8	0,4

It was clear throughout the course what was expected of me.

It was clear throughout the course what was expected of me.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	3 (30,0%)
5	7 (70,0%)
Total	10 (100,0%)
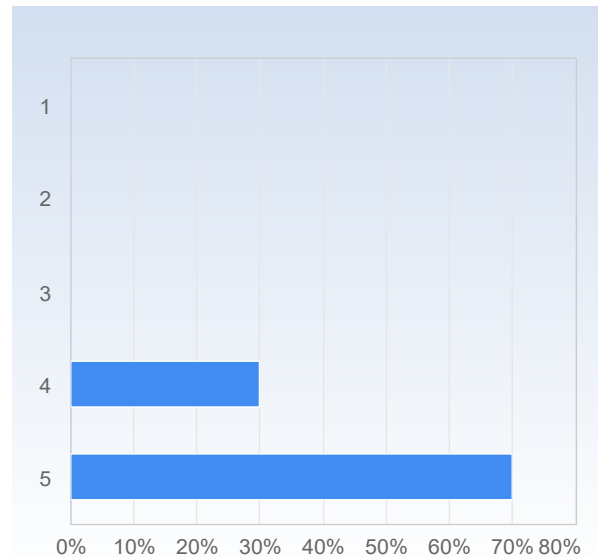
	Mean	Standard Deviation
It was clear throughout the course what was expected of me.	4,7	0,5

# I have received valuable feedback from my teacher/teachers during the course.

I have received valuable feedback from my teacher /teachers during the course.	Number of responses
1	1 (10,0%)
2	2 (20,0%)
3	2 (20,0%)
4	1 (10,0%)
5	4 (40,0%)
Total	10 (100,0%)

	Mean	Standard Deviation
I have received valuable feedback from my teacher/teachers during the course.	3,5	1,5

The course had a reasonable workload.

The course had a reasonable workload.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (10,0%)
4	1 (10,0%)
5	8 (80,0%)
Total	10 (100,0%)
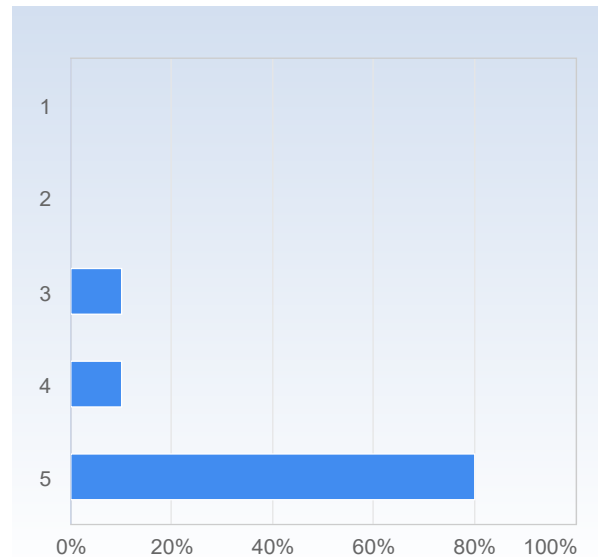
	Mean	Standard Deviation
The course had a reasonable workload.	4,7	0,7

The workload was evenly distributed throughout the course.

The workload was evenly distributed throughout the course.	Number of responses
1	0 (0,0%)
2	1 (10,0%)
3	1 (10,0%)
4	2 (20,0%)
5	6 (60,0%)
Total	10 (100,0%)
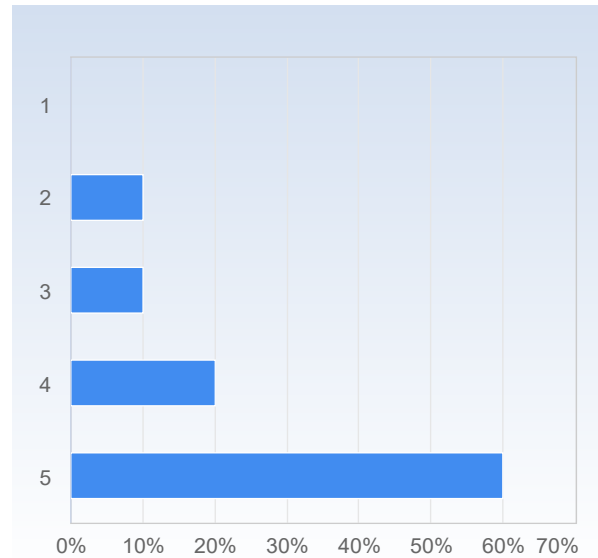
	Mean	Standard Deviation
The workload was evenly distributed throughout the course.	4,3	1,1

The examination matched the contents and level of the course.

| The examination matched the contents and level of the course.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	1 (10,0%)
4	0 (0,0%)
5	9 (90,0%)
Total	10 (100,0%)
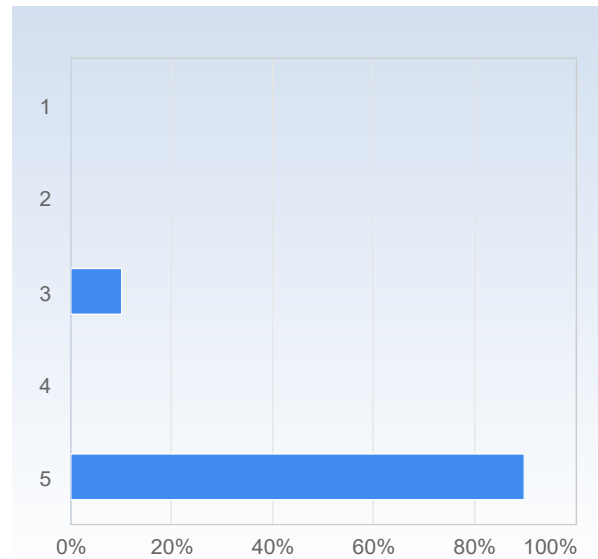
	Mean	Standard Deviation
The examination matched the contents and level of the course.	4,8	0,6

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Overall, I am satisfied with the course.

| Overall, I am satisfied with the course.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	5 (50,0%)
5	5 (50,0%)
Total	10 (100,0%)
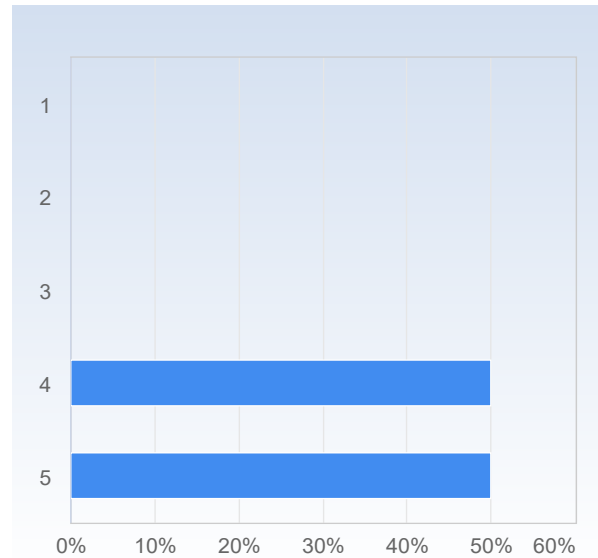
	Mean	Standard Deviation
Overall, I am satisfied with the course.	4,5	0,5

On the development of generic skills
On the scale 1-5 select the option that best matches your opinion: 1= disagree completely → 3= partly agree → 5= agree completely

The course has increased my ability to read a mathematical text.

The course has increased my ability to read a mathematical text.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (40,0%)
4	2 (20,0%)
5	4 (40,0%)
Total	10 (100,0%)
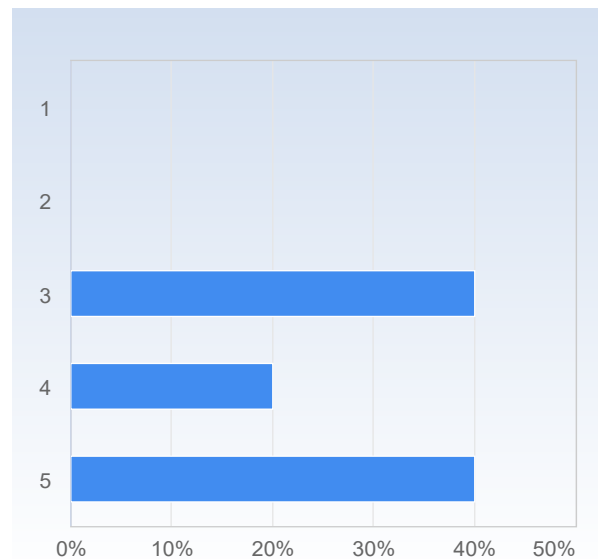
	Mean	Standard Deviation
The course has increased my ability to read a mathematical text.	4,0	0,9

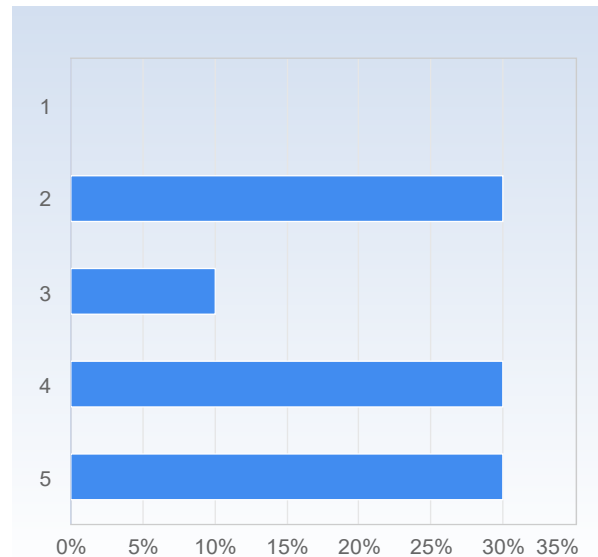## The course has increased my ability to communicate the subject in writing.

The course has increased my ability to communicate the subject in writing.	Number of responses
1	0 (0,0%)
2	2 (20,0%)
3	2 (20,0%)
4	3 (30,0%)
5	3 (30,0%)
Total	10 (100,0%)
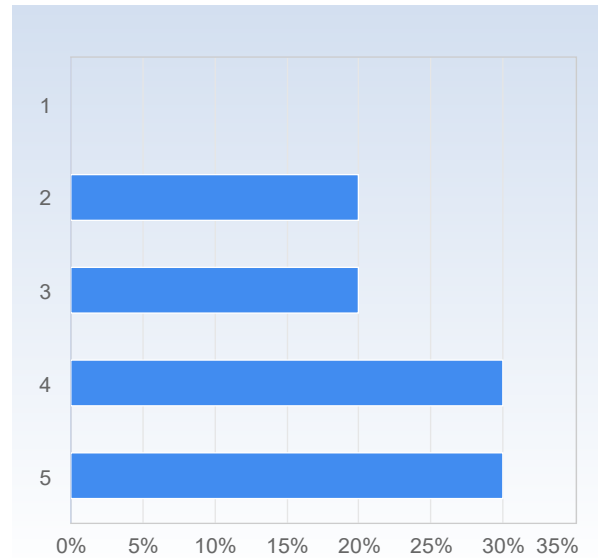
	Mean	Standard Deviation
The course has increased my ability to communicate the subject in writing.	3,7	1,2

The course has increased my ability to communicate the subject orally.

The course has increased my ability to communicate the subject orally.	Number of responses
1	0 (0,0%)
2	3 (30,0%)
3	1 (10,0%)
4	3 (30,0%)
5	3 (30,0%)
Total	10 (100,0%)

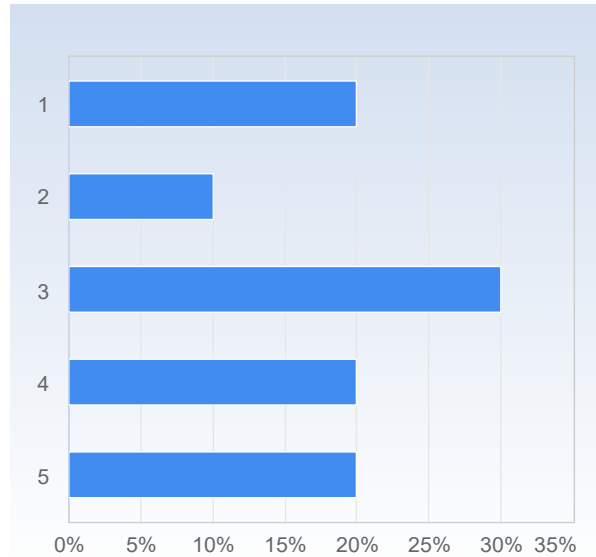|	Mean	Standard Deviation
The course has increased my ability to communicate the subject orally.	3,6	1,3

The course has increased my ability to cooperate.

The course has increased my ability to cooperate.	Number of responses
1	1 (10,0%)
2	2 (20,0%)
3	5 (50,0%)
4	1 (10,0%)
5	1 (10,0%)
Total	10 (100,0%)
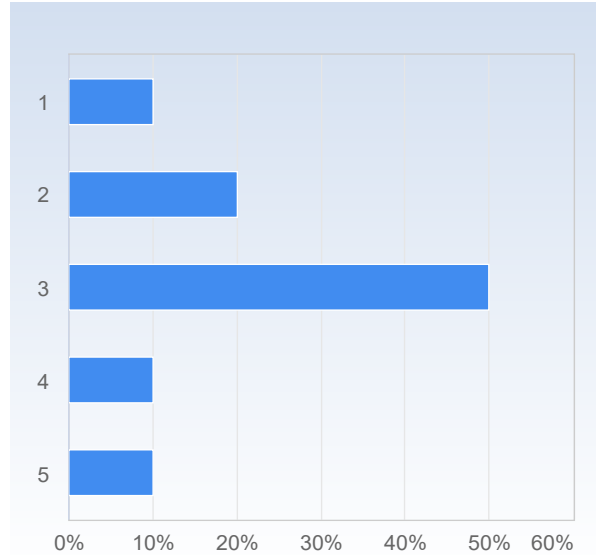
	Mean	Standard Deviation
The course has increased my ability to cooperate.	2,9	1,1

The course has increased my ability to search and process information.

The course has increased my ability to search and process information.	Number of responses
1	2 (20,0%)
2	1 (10,0%)
3	3 (30,0%)
4	2 (20,0%)
5	2 (20,0%)
Total	10 (100,0%)

	Mean	Standard Deviation
The course has increased my ability to search and process information.	3,1	1,4

The course has increased my ability to analyze and solve problems.

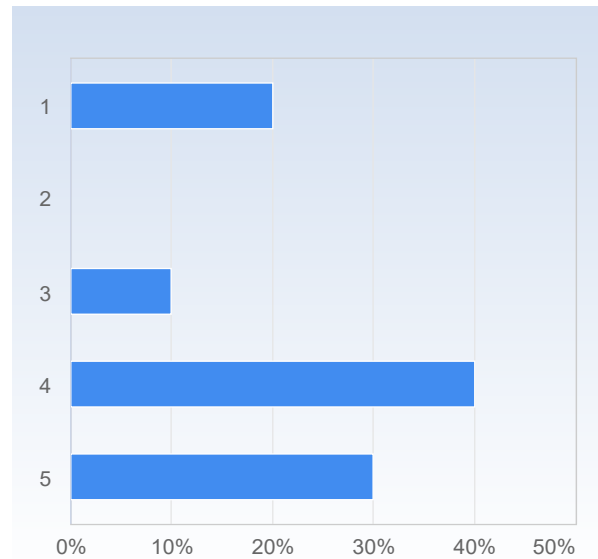| The course has increased my ability to analyze and solve problems.	Number of responses
1	0 (0,0%)
2	1 (10,0%)
3	1 (10,0%)
4	4 (40,0%)
5	4 (40,0%)
Total	10 (100,0%)
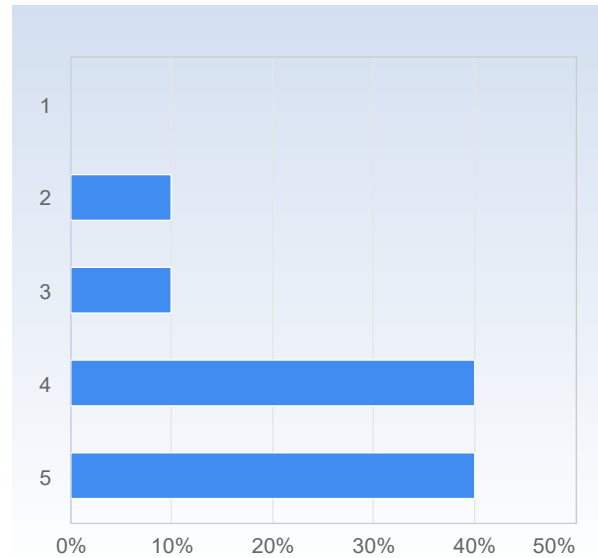
	Mean	Standard Deviation
The course has increased my ability to analyze and solve problems.	4,1	1,0

As a result of this course, I feel confident about tackling unfamiliar problems.

As a result of this course, I feel confident about tackling unfamiliar problems.	Number of responses
1	2 (20,0%)
2	0 (0,0%)
3	1 (10,0%)
4	4 (40,0%)
5	3 (30,0%)
Total	10 (100,0%)

	Mean	Standard Deviation
As a result of this course, I feel confident about tackling unfamiliar problems.	3,6	1,5

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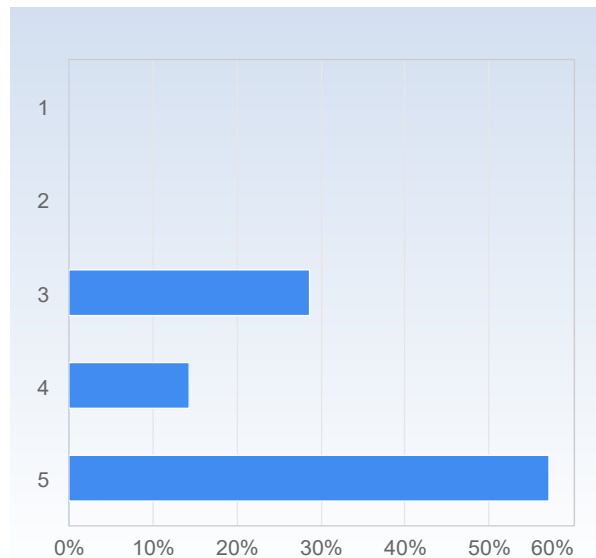
On the programming project

On a scale 1-5 select the option that best matches your opinion: 1= disagree completely → 3= partly agree → 5= agree completely

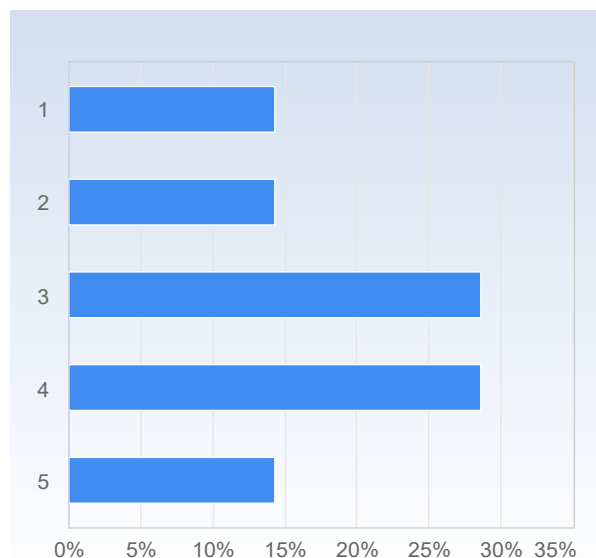### The programming project is closely related to the course contents.

The programming project is closely related to the course contents.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	2 (28,6%)
4	1 (14,3%)
5	4 (57,1%)
Total	7 (100,0%)

	Mean	Standard Deviation
The programming project is closely related to the course contents.	4,3	1,0

Owing to the programming project, I have increased my programming skills in Python.

Owing to the programming project, I have increased my programming skills in Python.	Number of responses
1	1 (14,3%)
2	1 (14,3%)
3	2 (28,6%)
4	2 (28,6%)
5	1 (14,3%)
Total	7 (100,0%)

	Mean	Standard Deviation
Owing to the programming project, I have increased my programming skills in Python.	3,1	1,3

I believe that the programming project has been valuable for my future learning.

I believe that the programming project has been valuable for my future learning.	Number of responses
1	1 (14,3%)
2	2 (28,6%)
3	2 (28,6%)
4	1 (14,3%)
5	1 (14,3%)
Total	7 (100,0%)
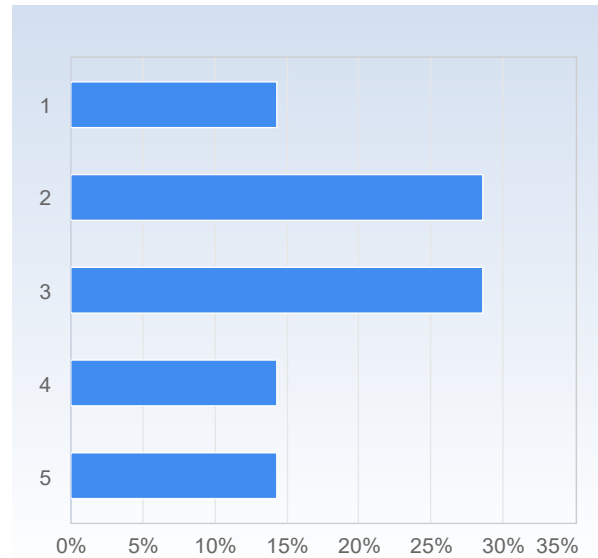
	Mean	Standard Deviation
I believe that the programming project has been valuable for my future learning.	2,9	1,3

What did you appreciate most with the course?

What did you appreciate most with the course?
The lectures
The course literature was very helpful
The seminar teachers going through different ways to think about the problems and the theory of the course. Them explaining how to approach some problems and how to develop an intuition for example in the context of finding eigenvalues. It was nice to have someone explain not just how it works, but how to understand it.
The course literature was great. It was informative but concise, with useful examples and clear explanations.
How closely related the lectures, seminars and course literature was. I liked how there always were some examples during the lectures, so that I definitely could solve most of the seminar exercises. Moreover, if I couldn't attend a lecture, I could catch up using the book without the fear of missing out on content or understanding. Also, the book was very clear and well-written with good examples and exercises.

What do you think should be improved?

What do you think should be improved?
The seminars, the teachers didn't use the same methods as Kjell when solving exercises.
The workload and homework was occasionally a bit much
This responsibility is probably of the students, but what I was most worried about the exam was how I was not completely familiar with all of the theory. The lecture notes were good in the sense that they were comprehensive, but I would have needed something like flashcards or a complementary compilation of (overviews of) theorems or some sort of chart connecting the concepts together. Again, this is something I should have organised myself, but I found myself prioritising other things in my revision.
Calmer pace during the lectures, more time spent developing intuition for certain concepts (for example kernel and image).

Have you during this course experienced course literature, staff or teaching methods to be discriminatory in any way (gender, ethnicity, etc.)?

Have you during this course experienced course literature, staff or teaching methods to be discriminatory in any way (gender, ethnicity, etc.)?
No
No
Nope