



Matematikcentrum

Matematik NF

## Course Analysis for MATA22 Linear Algebra 1 Autumn 2023

**Lecturer:** Anna-Maria Persson

**Seminar leaders:** Henrik Ekström, Jorge Asategui, Raul Hindov

**Number of students:** The course Linear Algebra 1 is given for students enrolled in the Bachelor's Programme at the Faculty of Science (mathematics and physics), as well as part of a course package comprising 30 credits for students aiming to pursue a future career as mathematics teachers. This semester the course has not been offered as a free-standing course.

There were 100 new registered students (87 new Bachelor students and 13 students enrolled on the course package) and 7 re-registered students. A subset of the re-registered students had already completed some of the examination parts but have not received a final grade during previous semesters.

### Examination

The assessment comprises a project consisting of several group and individual assignments (1.5 credits) and a final written examination (6 credits).

Examination results:

- 94 students participated in the ordinary written examination (6 credits) and 59 of them passed.
- 38 students participated in the resit examination and 19 passed.
- 85 students completed all the assignments included in the project work.
- 74 of students (of which 1 re-registered) have passed all examination parts, 38 of them with the grade *pass with distinction*.

### Course evaluation

**Summary of students answers:**

46 students answered the course evaluation questionnaire that was open during four weeks, from the ordinary written examination until the day after the resit examination. 42 of the respondents have been taking the course within the Bachelor's programme (23 in mathematics and 19 in physics) and 4 of the respondents have taken the course within the course package mentioned above or as free-standing (most probably re-registered from a previous semester). A preliminary report of the survey results was presented to the students in connection to the ordinary exam-viewing meeting. The students answers are summarized in the following pages. The majority of the students seem to be satisfied with the course in general regarding contents, teaching, organisation and assessment. The

students' answers are presented at the end of this document.

**Teacher's comments:**

The group of students admitted to the Bachelor's programme in both mathematics and physics was comparable to the autumn semester of 2022. The number of students admitted to the course package has also been comparable to the previous autumn semester, but almost half of the admitted students declined their study places or discontinued their studies in close connection to the start of the semester (12 students).

The lectures have been held for the entire student group while the seminars and exercise classes have been conducted in parallel sessions for smaller groups of students. In addition, weekly exercise classes and mentor meetings have been offered to assist students' self studies.

The attendance to the teaching sessions has been comparable to the previous autumn semester and the activity level during seminars was higher compared to past semesters before the pandemic. As in the previous autumn semester, the evaluation reports show that the students value the lectures and the seminars more than the exercise classes and mentor meetings when it comes to the impact of the various teaching activities on their learning.

The results of the first-time registered Bachelor students on the written examination as well as the quality of the submitted project assignments have increased in comparison with previous years. The number of students who received the grade *pass with distinction* has been relatively high. On the other hand, the results obtained by the students enrolled on the course package have unfortunately been extremely low as only 3 of the 13 registered students have completed all examination parts. This might depend on the students' background knowledge and participation on the preparatory course but can also be correlated with the students' motivation for joining the course.

**Changes from the previous course realisation.**

During the autumn semester of 2022 the course was scheduled at a slower study pace than usual, during september-november. The purpose of this change was to facilitate a better flow and interaction between the parallel courses MATA21 Analysis in One Variable, 15 credits, and NUMA01, Computational Programming with Python, 7.5 credits. Since the course evaluation results from last year revealed that the students perceived rather a lack of flow in the teaching activities within the course (as sometimes too long periods of time passed between two consecutive teaching sessions) and we could not measure any clear positive effects of this change, the course was again given at 50% study pace during the first half of this autumn semester. This seems to have worked well and the majority of the students replied that they perceive the workload evenly distributed during the course.

Also, based on the conclusions from the previous course evaluations, the online platform (canvas page) for the recently developed preparatory course MNXA21 Refresher Course in Mathematics, 1.5 credits, has been made available to the admitted students at an earlier stage and in a more flexible manner. 37 of the students who filled in the course evaluation survey have taken (parts of) the preparatory course. The majority of the students indicated that their prior knowledge has been sufficient to assimilate the contents of this course.

However, since the pass rate among the students who took the course within the course package has been extremely low in comparison to the results obtained by the students enrolled in the Bachelor's programme, one should consider extra support for this particular student group.

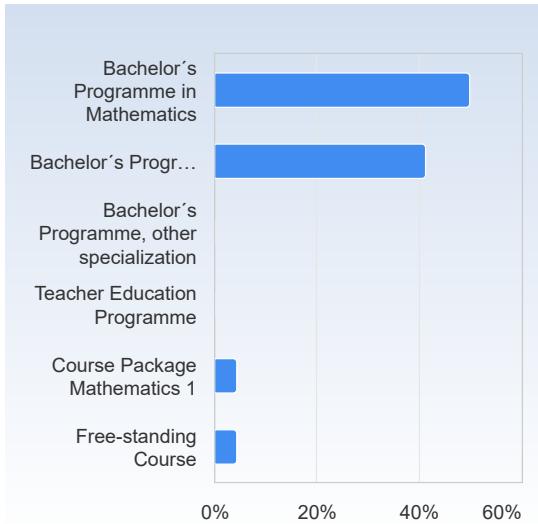
**Suggestions for the next course realisation:** The course will be given in Swedish during the upcoming spring semester. Since the exercise classes and mentor meetings have had a low attendance this semester, one should adjust the number of hours offered on these activities to the size of the current student group and possibly direct some of the resources to the students in need of extra support.

## Linear Algebra 1, Autumn 2023

Respondents: 120  
Answer Count: 46  
Answer Frequency: 38.33%

### I have studied this course as part of

I have studied this course as part of	Number of responses
Bachelor's Programme in Mathematics	23 (50.0%)
Bachelor's Programme in Physics, Theoretical Physics, Astronomy	19 (41.3%)
Bachelor's Programme, other specialization	0 (0.0%)
Teacher Education Programme	0 (0.0%)
Course Package Mathematics 1	2 (4.3%)
Free-standing Course	2 (4.3%)
Total	46 (100.0%)



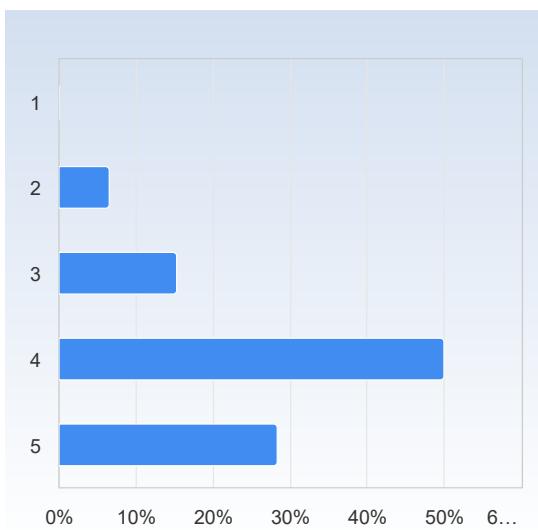
I have studied this course as part of	Mean	Standard Deviation
	2.2	2.6

### 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 has been satisfactory.

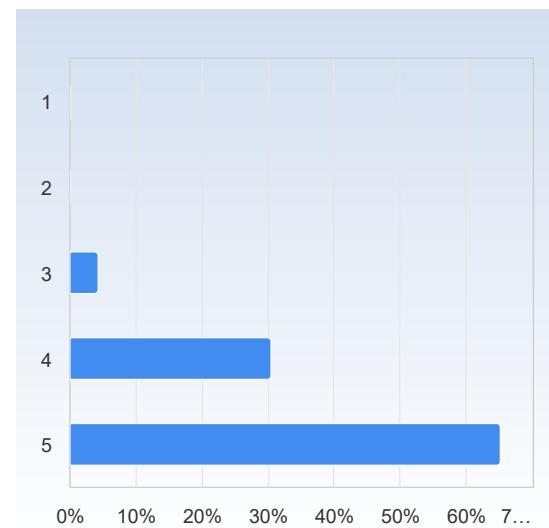
The way the course was taught and organised has been satisfactory.	Number of responses
1	0 (0.0%)
2	3 (6.5%)
3	7 (15.2%)
4	23 (50.0%)
5	13 (28.3%)
Total	46 (100.0%)



	Mean	Standard Deviation
The way the course was taught and organised has been satisfactory.	4.0	0.8

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

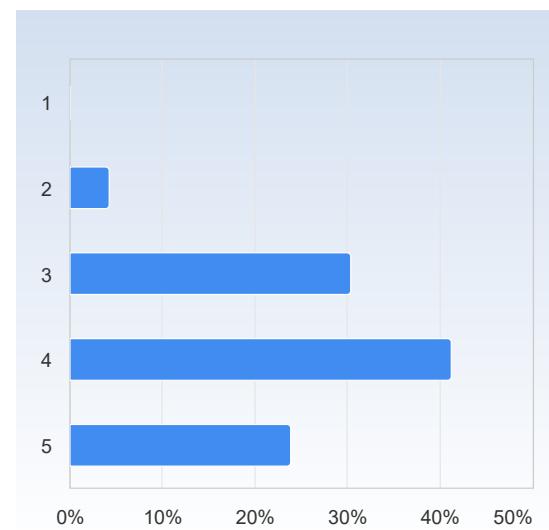
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	Number of responses
1	0 (0.0%)
2	0 (0.0%)
3	2 (4.3%)
4	14 (30.4%)
5	30 (65.2%)
Total	46 (100.0%)



	Mean	Standard Deviation
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	4.6	0.6

**The lectures were valuable for my learning.**

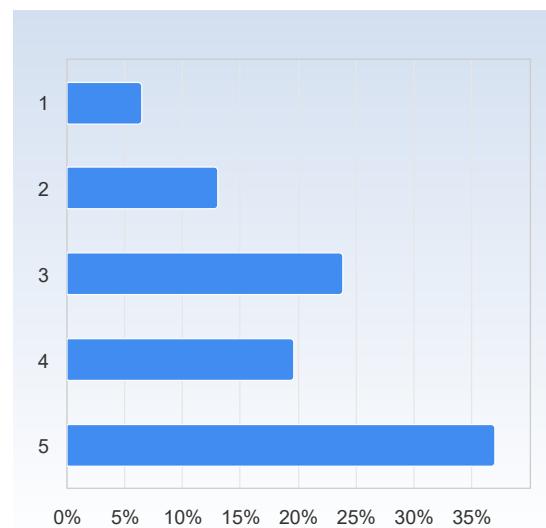
The lectures were valuable for my learning.	Number of responses
1	0 (0.0%)
2	2 (4.3%)
3	14 (30.4%)
4	19 (41.3%)
5	11 (23.9%)
Total	46 (100.0%)



	Mean	Standard Deviation
The lectures were valuable for my learning.	3.8	0.8

**The seminars were valuable for my learning.**

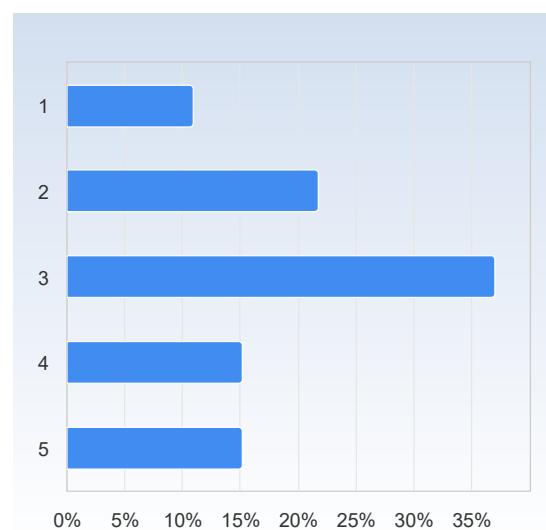
The seminars were valuable for my learning.	Number of responses
1	3 (6.5%)
2	6 (13.0%)
3	11 (23.9%)
4	9 (19.6%)
5	17 (37.0%)
Total	46 (100.0%)



The seminars were valuable for my learning.	Mean	Standard Deviation
	3.7	1.3

**The exercise classes were valuable for my learning.**

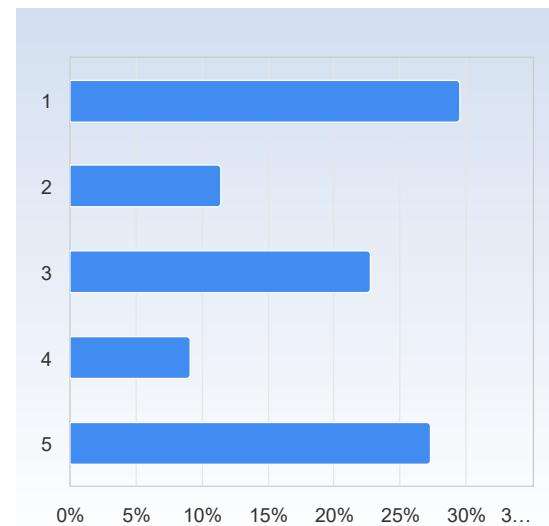
The exercise classes were valuable for my learning.	Number of responses
1	5 (10.9%)
2	10 (21.7%)
3	17 (37.0%)
4	7 (15.2%)
5	7 (15.2%)
Total	46 (100.0%)



The exercise classes were valuable for my learning.	Mean	Standard Deviation
	3.0	1.2

**The mentor meetings were valuable for my learning.**

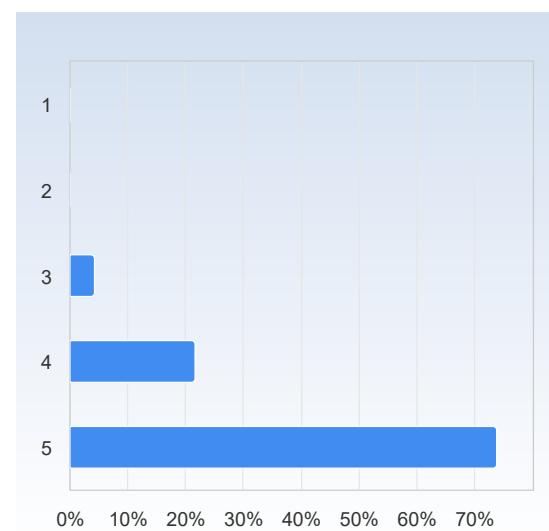
The mentor meetings were valuable for my learning.	Number of responses
1	13 (29.5%)
2	5 (11.4%)
3	10 (22.7%)
4	4 (9.1%)
5	12 (27.3%)
Total	44 (100.0%)



The mentor meetings were valuable for my learning.	Mean	Standard Deviation
	2.9	1.6

**Studying on my own was valuable for my learning.**

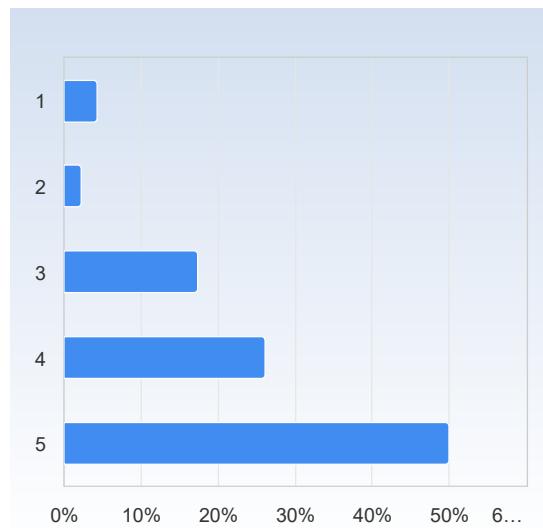
Studying on my own was valuable for my learning.	Number of responses
1	0 (0.0%)
2	0 (0.0%)
3	2 (4.3%)
4	10 (21.7%)
5	34 (73.9%)
Total	46 (100.0%)



Studying on my own was valuable for my learning.	Mean	Standard Deviation
	4.7	0.6

**The course literature/material was a valuable learning resource.**

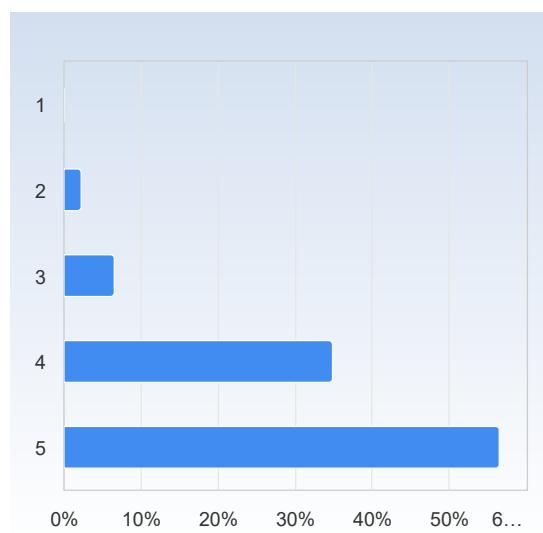
The course literature/material was a valuable learning resource.	Number of responses
1	2 (4.3%)
2	1 (2.2%)
3	8 (17.4%)
4	12 (26.1%)
5	23 (50.0%)
Total	46 (100.0%)



The course literature/material was a valuable learning resource.	Mean	Standard Deviation
The course literature/material was a valuable learning resource.	4.2	1.1

**The course website in Canvas worked well as a learning platform.**

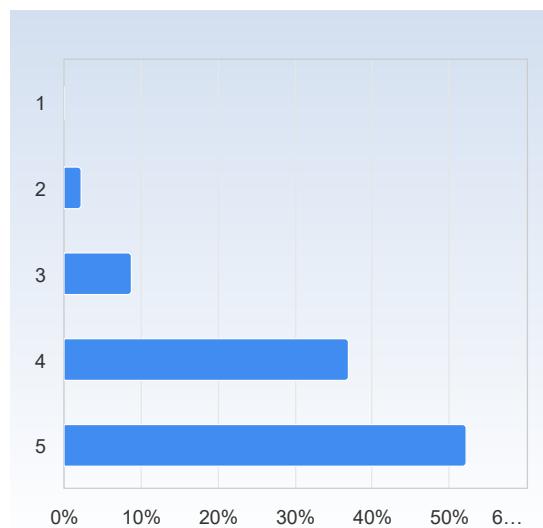
The course website in Canvas worked well as a learning platform.	Number of responses
1	0 (0.0%)
2	1 (2.2%)
3	3 (6.5%)
4	16 (34.8%)
5	26 (56.5%)
Total	46 (100.0%)



The course website in Canvas worked well as a learning platform.	Mean	Standard Deviation
The course website in Canvas worked well as a learning platform.	4.5	0.7

**The information I received before the course start was satisfactory.**

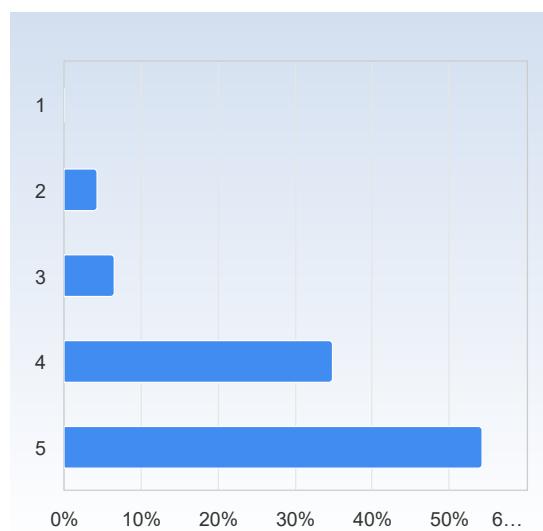
The information I received before the course start was satisfactory.	Number of responses
1	0 (0.0%)
2	1 (2.2%)
3	4 (8.7%)
4	17 (37.0%)
5	24 (52.2%)
Total	46 (100.0%)



The information I received before the course start was satisfactory.	Mean	Standard Deviation
	4.4	0.7

**The communication with the teaching staff during the course was satisfactory.**

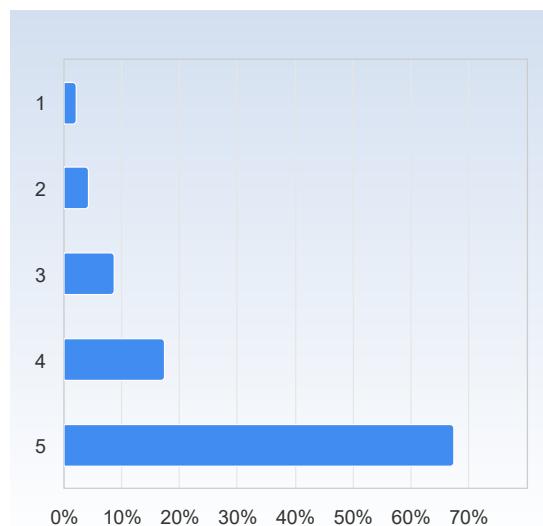
The communication with the teaching staff during the course was satisfactory.	Number of responses
1	0 (0.0%)
2	2 (4.3%)
3	3 (6.5%)
4	16 (34.8%)
5	25 (54.3%)
Total	46 (100.0%)



The communication with the teaching staff during the course was satisfactory.	Mean	Standard Deviation
	4.4	0.8

**The assignments have been valuable for my learning.**

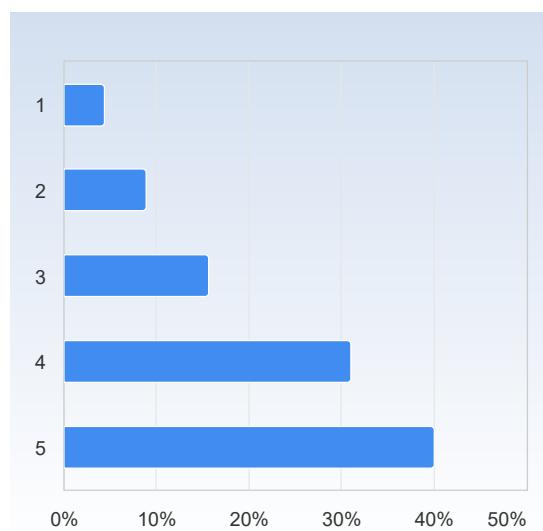
The assignments have been valuable for my learning.	Number of responses
1	1 (2.2%)
2	2 (4.3%)
3	4 (8.7%)
4	8 (17.4%)
5	31 (67.4%)
Total	46 (100.0%)



The assignments have been valuable for my learning.	Mean	Standard Deviation
	4.4	1.0

**I have received valuable feedback from my teachers during the course.**

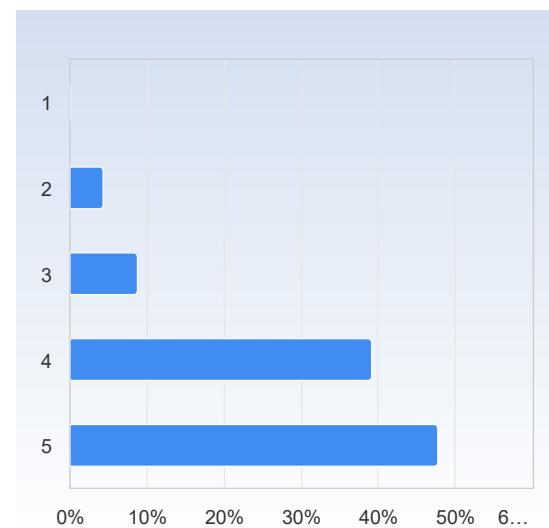
I have received valuable feedback from my teachers during the course.	Number of responses
1	2 (4.4%)
2	4 (8.9%)
3	7 (15.6%)
4	14 (31.1%)
5	18 (40.0%)
Total	45 (100.0%)



I have received valuable feedback from my teachers during the course.	Mean	Standard Deviation
	3.9	1.2

**The course had a reasonable workload.**

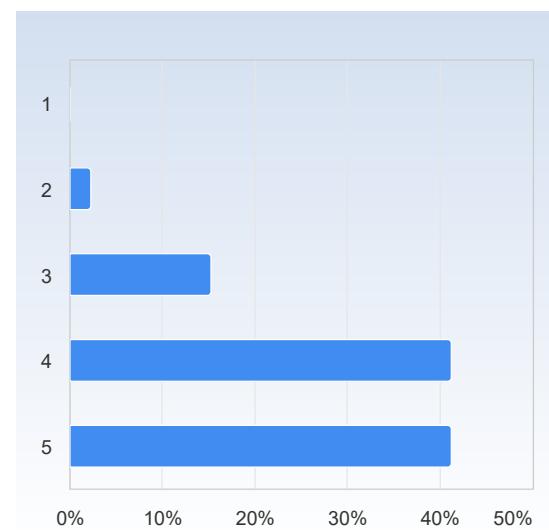
The course had a reasonable workload.	Number of responses
1	0 (0.0%)
2	2 (4.3%)
3	4 (8.7%)
4	18 (39.1%)
5	22 (47.8%)
Total	46 (100.0%)



The course had a reasonable workload.	Mean	Standard Deviation
	4.3	0.8

**The workload was evenly distributed throughout the course.**

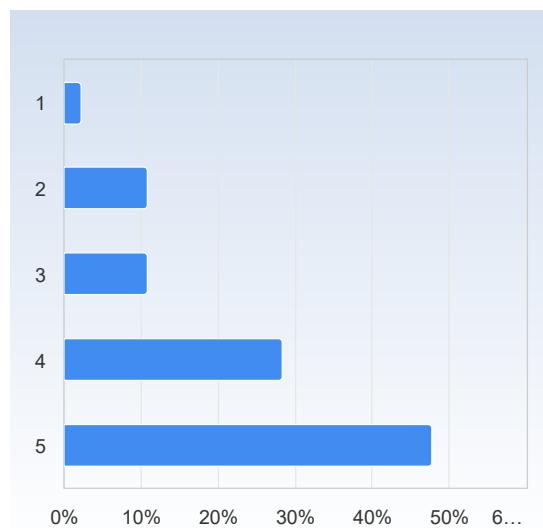
The workload was evenly distributed throughout the course.	Number of responses
1	0 (0.0%)
2	1 (2.2%)
3	7 (15.2%)
4	19 (41.3%)
5	19 (41.3%)
Total	46 (100.0%)



The workload was evenly distributed throughout the course.	Mean	Standard Deviation
	4.2	0.8

### The examination matched the contents and level of the course.

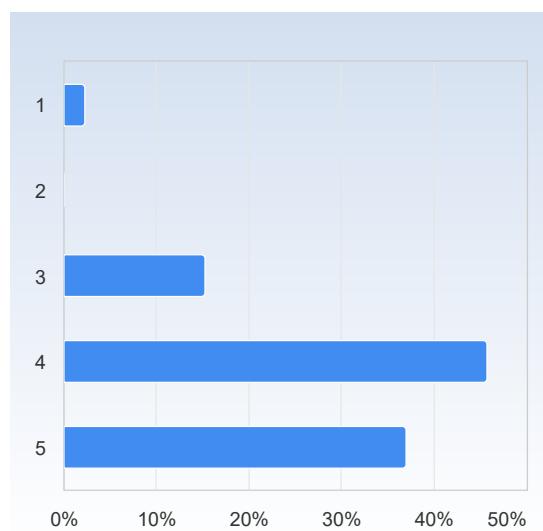
The examination matched the contents and level of the course.	Number of responses
1	1 (2.2%)
2	5 (10.9%)
3	5 (10.9%)
4	13 (28.3%)
5	22 (47.8%)
Total	46 (100.0%)



The examination matched the contents and level of the course.	Mean	Standard Deviation
The examination matched the contents and level of the course.	4.1	1.1

### Overall, I am satisfied with the course.

Overall, I am satisfied with the course.	Number of responses
1	1 (2.2%)
2	0 (0.0%)
3	7 (15.2%)
4	21 (45.7%)
5	17 (37.0%)
Total	46 (100.0%)



Overall, I am satisfied with the course.	Mean	Standard Deviation
Overall, I am satisfied with the course.	4.2	0.8

#### Kommentar

Seminars and Assignments were a great learning tool.

I found the workload was a bit too heavy in the last week. There was no way to prepare properly for the seminars in the last week. Maybe if I'd realized the week before I would have managed but two past papers a day was a bit too much for me.

Det var för svårt för att vara en kurs utan förkunskapskrav. Det kändes som att kurserna riktade sig till de som läst Linjär Algebra på gymnasiet.

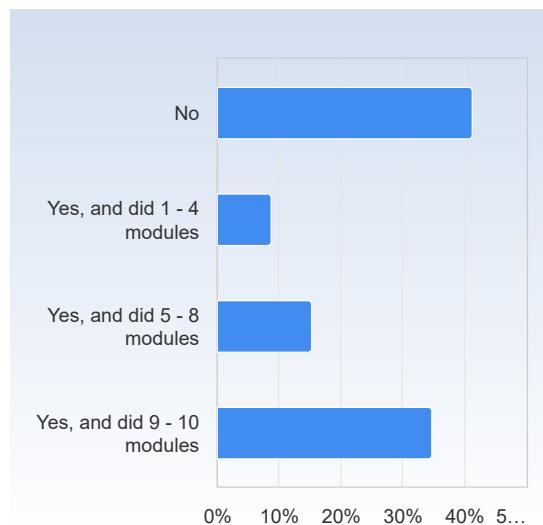
The lectures and contents of the course are very comprehensible and both the lecturer and my mentor were very passionate about clarifying doubts and answering questions which were certainly helpful in understanding and learning the course. The assignment structure as an introduction to mathematical writing was very interesting and I believe would be substantial for the future courses.

It was taught well by the lecturer. However, I wish there was more time till the final examination and also an optional midterm would have been nice.

Personally I had different needs throughout the progression of the course. At the start it was a bit of an adjustment period and I didn't have any prior experience with linear algebra from high school. Even with a full preparatory summer course in math from Stockholm University (with a high grade), linear algebra felt very hard to grasp at the start. For example, following the lectures (a lot of new mathematical language) and reading the text could be difficult. A bit more emphasis in the teaching on making concepts more "accessible" would have been great. Over all, I am very happy with the course structure, variety of assignments and helpful mentors!

## Did you take the refresher course MNXA21 before starting this course?

Did you take the refresher course MNXA21 before starting this course?	Number of responses
No	19 (41.3%)
Yes, and did 1 - 4 modules	4 (8.7%)
Yes, and did 5 - 8 modules	7 (15.2%)
Yes, and did 9 - 10 modules	16 (34.8%)
Total	46 (100.0%)

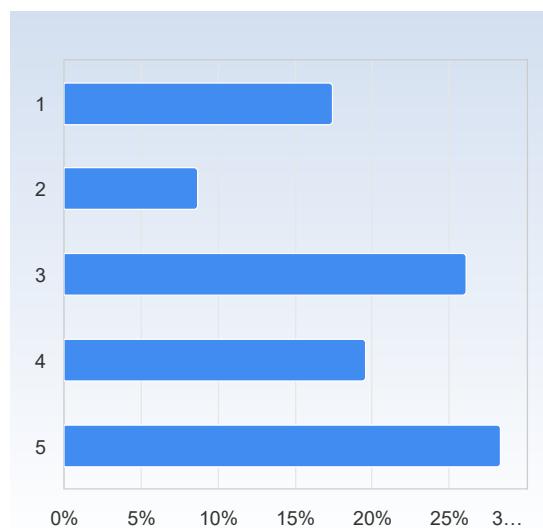


Did you take the refresher course MNXA21 before starting this course?	Mean	Standard Deviation
Did you take the refresher course MNXA21 before starting this course?	2.4	1.3

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

I had studied Linear Algebra and Geometry prior to this course.

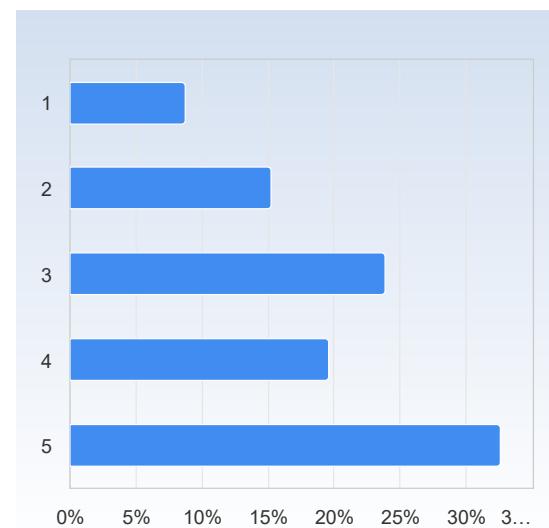
I had studied Linear Algebra and Geometry prior to this course.	Number of responses
1	8 (17.4%)
2	4 (8.7%)
3	12 (26.1%)
4	9 (19.6%)
5	13 (28.3%)
Total	46 (100.0%)



I had studied Linear Algebra and Geometry prior to this course.	Mean	Standard Deviation
I had studied Linear Algebra and Geometry prior to this course.	3.3	1.4

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

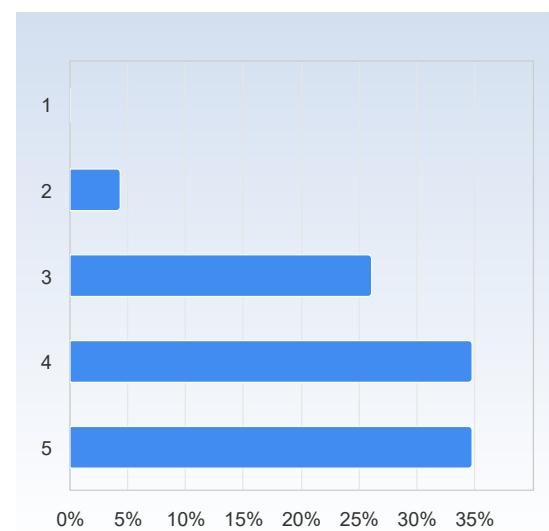
My prior knowledge has been sufficient to assimilate the contents of this course.	Number of responses
1	4 (8.7%)
2	7 (15.2%)
3	11 (23.9%)
4	9 (19.6%)
5	15 (32.6%)
Total	46 (100.0%)



My prior knowledge has been sufficient to assimilate the contents of this course.	Mean	Standard Deviation
	3.5	1.3

**I have participated actively in the course.**

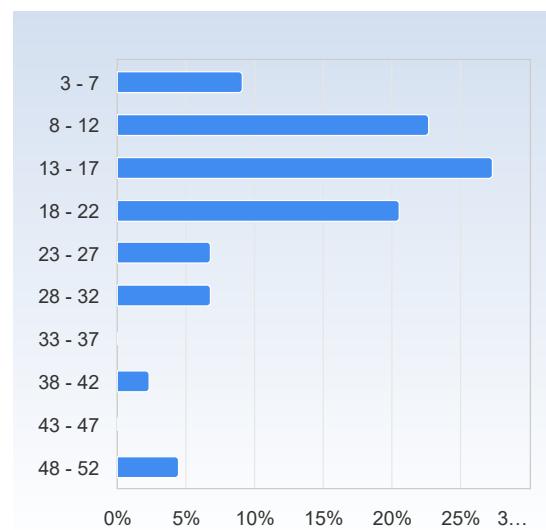
I have participated actively in the course.	Number of responses
1	0 (0.0%)
2	2 (4.3%)
3	12 (26.1%)
4	16 (34.8%)
5	16 (34.8%)
Total	46 (100.0%)



I have participated actively in the course.	Mean	Standard Deviation
	4.0	0.9

### 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
3 - 7	4 (9.1%)
8 - 12	10 (22.7%)
13 - 17	12 (27.3%)
18 - 22	9 (20.5%)
23 - 27	3 (6.8%)
28 - 32	3 (6.8%)
33 - 37	0 (0.0%)
38 - 42	1 (2.3%)
43 - 47	0 (0.0%)
48 - 52	2 (4.5%)
Total	44 (100.0%)



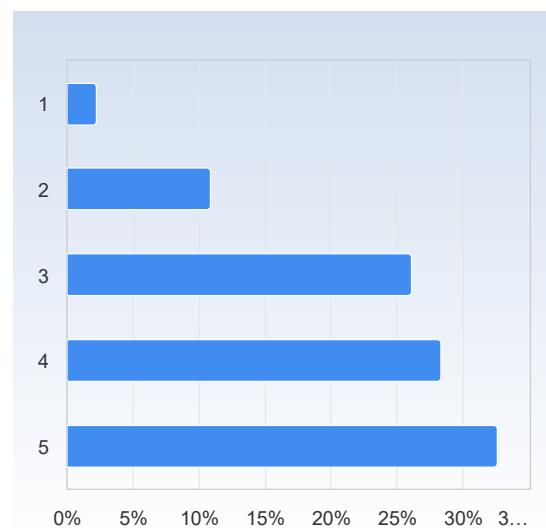
Average number of hours spent in total on the course per week (including scheduled activities):	Mean	Standard Deviation
	17.9	9.9

### On the development of generic skills

On a 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.

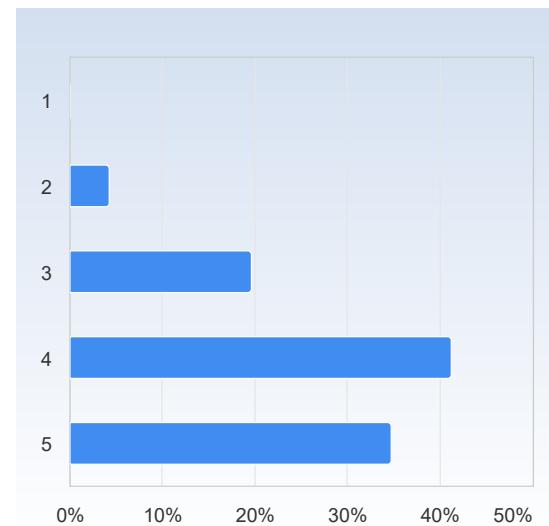
The course has increased my ability to read a mathematical text.	Number of responses
1	1 (2.2%)
2	5 (10.9%)
3	12 (26.1%)
4	13 (28.3%)
5	15 (32.6%)
Total	46 (100.0%)



The course has increased my ability to read a mathematical text.	Mean	Standard Deviation
	3.8	1.1

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

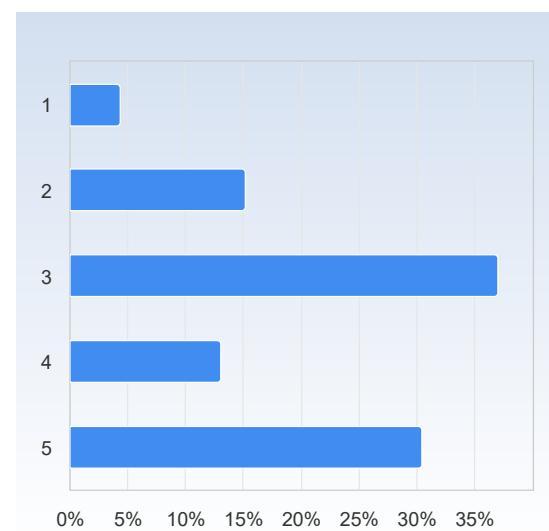
The course has increased my ability to communicate the subject in writing.	Number of responses
1	0 (0.0%)
2	2 (4.3%)
3	9 (19.6%)
4	19 (41.3%)
5	16 (34.8%)
Total	46 (100.0%)



The course has increased my ability to communicate the subject in writing.	Mean	Standard Deviation
	4.1	0.9

**The course has increased my ability to cooperate.**

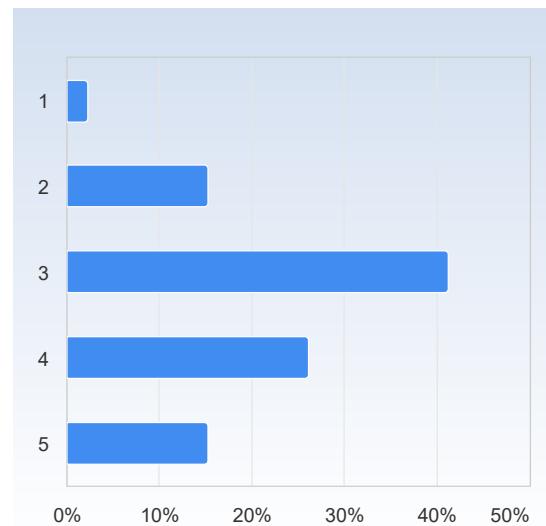
The course has increased my ability to cooperate.	Number of responses
1	2 (4.3%)
2	7 (15.2%)
3	17 (37.0%)
4	6 (13.0%)
5	14 (30.4%)
Total	46 (100.0%)



The course has increased my ability to cooperate.	Mean	Standard Deviation
	3.5	1.2

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

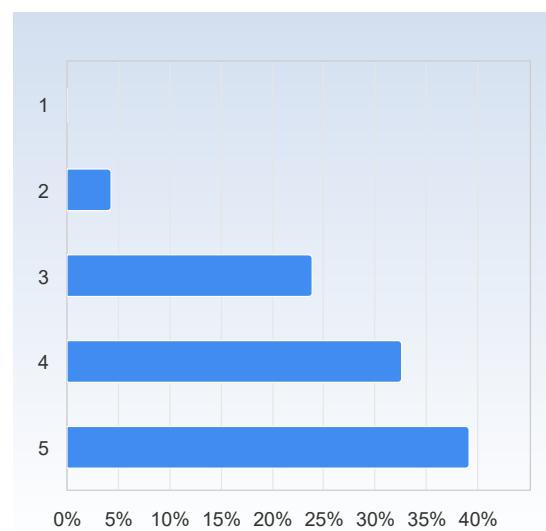
The course has increased my ability to search and process information.		Number of responses
1		1 (2.2%)
2		7 (15.2%)
3		19 (41.3%)
4		12 (26.1%)
5		7 (15.2%)
Total		46 (100.0%)



The course has increased my ability to search and process information.	Mean	Standard Deviation
	3.4	1.0

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

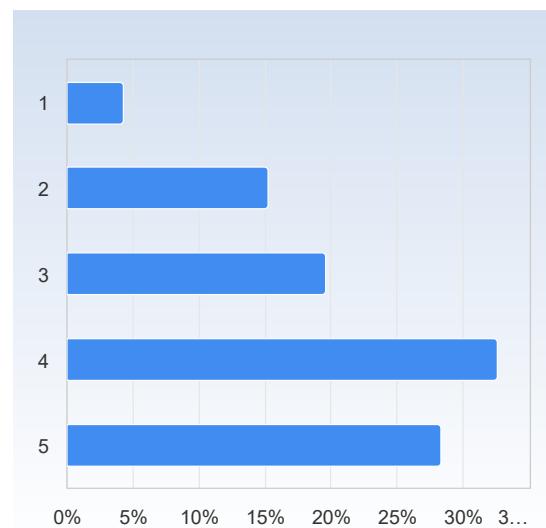
The course has increased my ability to analyze and solve problems.		Number of responses
1		0 (0.0%)
2		2 (4.3%)
3		11 (23.9%)
4		15 (32.6%)
5		18 (39.1%)
Total		46 (100.0%)



The course has increased my ability to analyze and solve problems.	Mean	Standard Deviation
	4.1	0.9

**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 (4.3%)
2	7 (15.2%)
3	9 (19.6%)
4	15 (32.6%)
5	13 (28.3%)
Total	46 (100.0%)



As a result of this course, I feel confident about tackling unfamiliar problems.	Mean	Standard Deviation
	3.7	1.2

## What did you appreciate most with the course?

What did you appreciate most with the course?

seminars

I appreciated the communication the lecturer had with the students and the openness to any and all questions as well.

The assignments were a very good representation of the final exam and useful in knowing what to focus on.

Group assignments

Interesting assignment questions

Seminars and lecture notes.

Well structured and all information was built upon structurally well

I really enjoyed the group work assignments. It was a lot of fun to work in a group. I feel like I learnt a lot from it and also made more friends in my class.

Also, the seminars were great! I was in room 309B with Henrik teaching. His teaching was excellent - clear, concise and very encouraging. He always took the time to explain all questions and was super patient when we needed things explained more than once.

I also really appreciate how much effort Anna Maria took to make sure we would be comfortable for the exam, sending us the location and answering all questions and then coming twice to check we were okay during the exam. This was so nice for our first university exam.

the last week lecture where Anna-maria explained how everything is linked together and how it connected to the next subject

Jorge, the seminar instructor was very helpful and knowledgeable, he answered a lot of things even outside the class (but still know how to make it related to the subject)

The seminats

The seminars were very helpful. Being shown the correct way to solve a problem was helpful since I felt like I was spiraling in uncertainty throughout the course.

Ana María

The people, including teachers and students alike.

The assignments and the seminars, especially Henrik's way of teaching.

workload and difficulty of problems made it satifying to progress throughout the course

The teaching staff.

Moving forward step by step, each step was a small piece of advancement and in general, the ultimate result was a great improvement. Without taking difficult steps we achieve a good level of understanding. Also, providing proof for some of the identities was interesting at least for me.

Most of the teachers, Anna-Maria in particular, were very energetic and excited about the course which in turn made the course more enjoyable

The focus of written assignments.

-

Seminariet med Henrik var toppen! Han var väldigt pedagogisk!

I particularly like the pointers to the next course introduced near the end of the course - which are very interesting to know, also I believe the latex group assignments were very helpful in getting the student familiar with both mathematical writing and collaborative projects.

While I didn't like the lecture style, the lecture notes, specifically the slides were well structured and helped me tremendously in my study

The seminars where really great. It was helpful to get solutions to questions

I really liked the assignments because they prepared very well for the exam. Also the exam preparation week at the end of the course.

The lectures.

The concept itself felt interesting.

well structured, a whole week of no new content before the exam - it really helped to be able to process all of the information

I appreciated interactions with my classmates, some who were genuinely interested in a way that inspired my own interest. Everything from group work to listening to questions during lectures and seminars, often in smaller contexts where it is easier to interact. I appreciated the seminars and scheduled activities since they gave some structure to everyday learning - and again the mentors were all very kind and approachable.

The detailed feedback from the TAs on the group assignments was definitely much appreciated help (they sometimes offered alternative approaches to the problems, to help students find easier/less tedious solutions in the future). Another aspect of the course that I appreciated was the Professor's eagerness to help with individual specific questions, from any student who asked, in the breaks and after lectures.

## What do you think should be improved?

What do you think should be improved?

length of lectures, sometimes they exceeded 2h

I think it is best to get compulsory feedback from students when feedback is needed. For example, the times for the seminar sessions could have been arranged after a compulsory feedback session from the students.

I would like the lectures to be more example focused over proofs.

More difficult examples during lectures and more examples in general

Unique questions during seminars not the same ones from the book

The problems were to easy and much easier then the final exam.

Questions should be elaborated better as some times they seem vague

I think the workload could be spread a bit more evenly. Maybe more past papers before the last week and then not two a day in the last week. I also think the structuring of the lectures could be improved. Anna Maria is a good teacher but she spends a lot of time reviewing the previous lecture and then has time pressure when it comes to teaching the new material. I think if we spent less time reviewing we could then tackle the new material in a slower and calmer manner. Sometimes she talks a bit too fast for me to follow especially when it's the last ten minutes of the lecture. The last week where there was no time pressure because we were just doing old exams I found her teaching so much easier to follow.

rigour of the lecture note content

less highschool level computation (especially 5.c from the exam)

Lectures ending on time

The lecturer spoke extremely fast and would often interrupt themselves and start a new sentence which was very confusing since the majority of the class is trying to understand the math, not the lecturer's inadequate presentation abilities.

Morning seminars. Studies show people our age should be allowed to sleep in for brain development sake. Do you not want our brains to develop?

This course is clearly designed for physics students first and foremost. There is little focus on mathematical abstractions and rigorous definitions. I think that it makes sense to restructure the course, perhaps splitting it into two courses for physics and mathematics students respectively. In that way the script does not need to make an attempt at balancing theory with praxis.

teaching sometimes felt too detailed and went over some easy concepts too repetitively

Maybe you could list a bunch of online resources covering the same material (if there is some part you don't get from the course literature) in different ways to make it easier to find.

I think we need more communication with students during lectures, it's needed to give us some minutes to discuss our classmates on concepts.

Having the seminars at 8 am wasn't ideal.

The solutions to exercises in the lecture notes.

-

Mer grunder. Det förväntades att man läst linjär algebra innan för att förstå föreläsningarna, trots att hälften av deltagarna inte hade någon förkunskap i ämnet. Jag hade också önskat lite bättre planering för att undvika att dra över 5-15 min varje föreläsning

Introducing more geometric explanations, and making more progressive connections between each chapter are possible ways to help students develop a better understanding over the course. Personally, I believe although the chapters are very comprehensible, the connections between them especially in terms of ideas in each chapter - for instance, I realized understanding the connection between co-planar, linearly independent and determinant might be somewhat challenging for students.

In the beginning I found it a bit difficult to follow the professor. I felt that she was talking really fast. Also, I sometimes found the book confusing. Sometimes the teaching seemed to focus on/repeat more the "easy" things in detail instead of the harder things. On the other hand, I think the revision each lecture was very helpful. Maybe this revision should not be so detailed, so there would be more time for the new topics during the classes.

The teaching was a bit too fast and there could have been an optional mid term exam.

The seminars were not that useful for me. Because we already did all of the exercises at home or in the exercise classes, I sometimes just came because I didn't understand one of the questions. But because there are usually lots of different ways of solving an exercise, the seminar usually didn't help me with my individual question.

For me it would have worked better if we would have gotten a bit more challenging exercises (or sometimes also rather easy exercises to practice the basics) in the seminar. Then we would get some time to try to solve it by ourselves and then discuss it afterwards.

Practicing to present an exercise on the board was very helpful though.

I think I captured some of this in my first comment. Mostly, to make some concepts more "accessible" to the inexperienced learner at the start - it doesn't have to make the explanation trivial or boring. Maybe something similar to the computer tests we have in the Analysis course, that you could do individually if you like to test very basic skills and gain some comfort with the topic. The popular science expo was great for this purpose though. (In my opinion.) But I lacked some overall pedagogy in the teaching.

I think a midterm exam for this course would have been nice to have (despite the course spanning over only one study period) and a midterm exam would have probably helped students gauge their level and conceptual understanding of the subject matter earlier on, allowing them to better and more effectively prepare for the final exam.

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

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no

Not one bit.

No:) No

No

No

No

No

No absolutely not

The exercise classes did not feel like a comfortable place for me to ask questions and it did not feel like a safe environment for me to be confused. When reaching out to the professor to ask for help I left the meeting embarrassed for not understanding and was given quick fixes like, "talk to your classmates" instead of actually receiving the help I was asking for.

Not at all but I might not be the best authority on this

Not at all, in fact quite the opposite.

Not at all

no

No.

Not at all.

n/a

-

no

No

No, I have not encountered any experience as such.

No

No

No

No

no

No.

No, I have not.