Course Analysis for Linear Analysis (MATB24) Autumn 2021

Lecturer: Jörg Weber

Teaching assistants: Jonathan Holmquist

Number of students: There were 42 registered students.

Examination

29 students participated in the ordinary written examination (7.5 credits) and 15 of them passed.

10 students participated in the resit examination and 3 passed.

28 students completed the compulsory assignment.

18 students have passed all examination parts, 6 of them (they had to pass the oral examination as well) with the grade *pass with distinction*.

Course evaluation

Summary of students answers: 15 students answered the course evaluation questionnaire that was open during three weeks, from the ordinary written examination until two days after the resit examination. The students answers are summarised in the following pages. The majority of the students seems to be satisfied with the course in general (contents, teaching, organisation and assessment).

Teacher's comments: Fortunately, the rules in light of the pandemic had changed before the start of the course so that teaching on campus was possible again. Our original plan was to only offer teaching on campus and not online in order to come back to the usual, certainly preferable teaching model. However, since few students would have had problems or unease to come to the lecture hall (difficulties with coming to Sweden from outside the EU/EEA, worries about pandemic situation), we decided to also stream (but not record) the lectures and seminars via Zoom. Most of the students came to the lecture hall while only few (approximately 5) used to follow the course online.

Changes from the previous course realisation: The biggest change was that the teaching was mainly on campus and not mainly online as before. We used the same literature as the previous course realisations, and differed only slightly in the taught content and the structure of the course. However, we changed the requirements for doing the compulsory assignment: The students had to present a solution of an exercise in the seminars. The idea here was that the students learn how to present own work in mathematics and also to increase the interactivity level of the course in the lecture hall compared to the previous online course realisations.

Suggestions for the next course realisation: A main point of criticism was that there is not enough time for the students to prepare for the exams. Maybe something can be improved here. Also, it might be good to decrease the amount of course contents a bit.

Course leader, date

Jörg Weber, 10 december 2021.

MATB24 - Linear Analysis Autumn 2021
Respondents: 42
Answer Count: 15
Answer Frequency: 35.71%

I have studied this course as part of

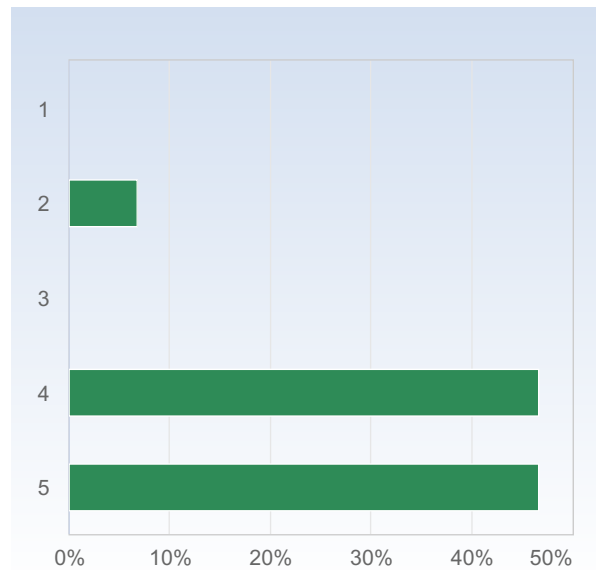| I have studied this course as part of	Number of responses
Bachelor´s Programme in Mathematics	5 (33.3%)
Bachelor´s Programme in Physics, Theoretical Physics, Astronomy	7 (46.7%)
Bachelor´s Programme, other specialization	0 (0.0%)
Master's Programme in Mathematics	0 (0.0%)
other programme or as stand alone course	3 (20.0%)
Total	15 (100.0%)
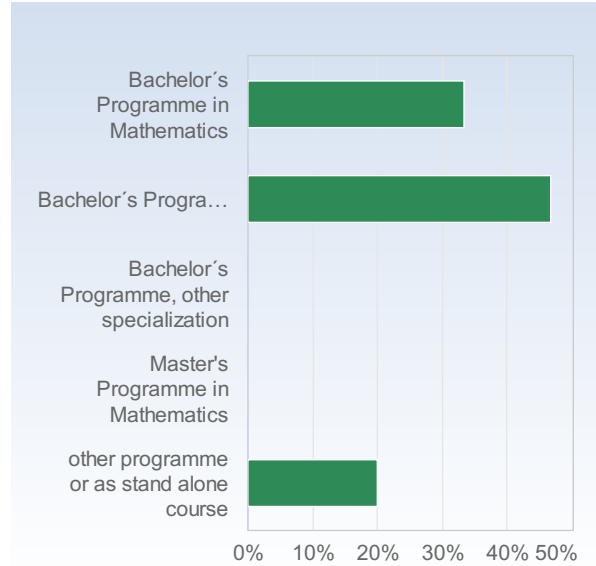
	Mean	Standard Deviation
I have studied this course as part of	2.9	2.7

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	1 (6.7%)
3	0 (0.0%)
4	7 (46.7%)
5	7 (46.7%)
Total	15 (100.0%)

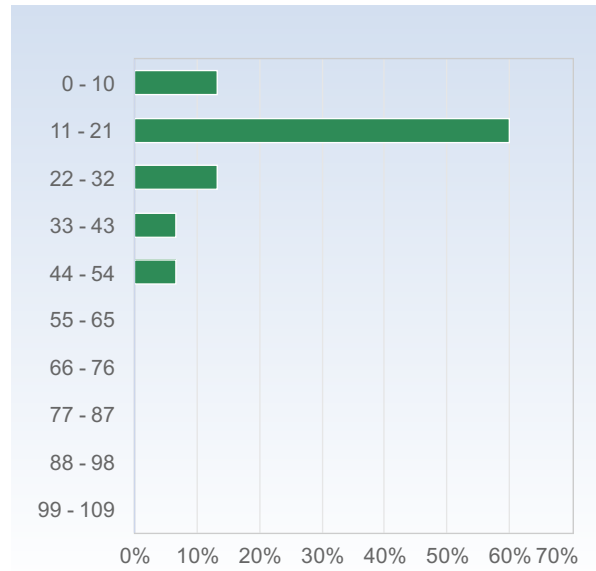|	Mean	Standard Deviation
2. My prior knowledge has been sufficient to assimilate the contents of this course.	4.3	0.8

3. I have participated actively in the course.

3. I have participated actively in the course.	Number of responses
1	0 (0.0%)
2	2 (13.3%)
3	2 (13.3%)
4	3 (20.0%)
5	8 (53.3%)
Total	15 (100.0%)
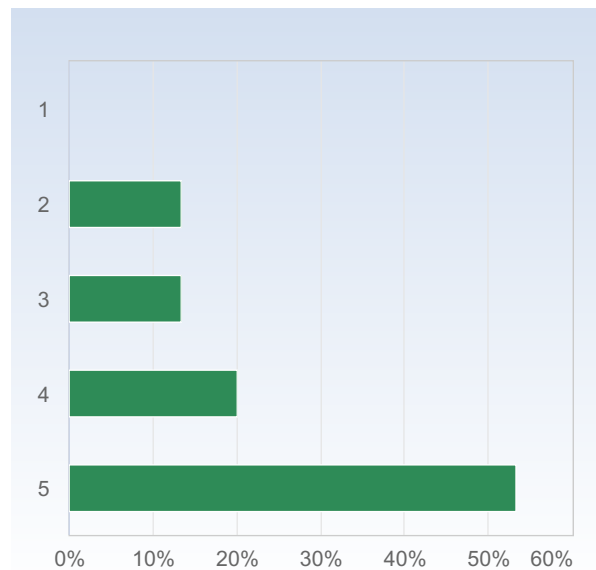
	Mean	Standard Deviation
3. I have participated actively in the course.	4.1	1.1

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
0 - 10	2 (13.3%)
11 - 21	9 (60.0%)
22 - 32	2 (13.3%)
33 - 43	1 (6.7%)
44 - 54	1 (6.7%)
55 - 65	0 (0.0%)
66 - 76	0 (0.0%)
77 - 87	0 (0.0%)
88 - 98	0 (0.0%)
99 - 109	0 (0.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
Average number of hours spent in total on the course per week (including scheduled activities):	19.3	10.5

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

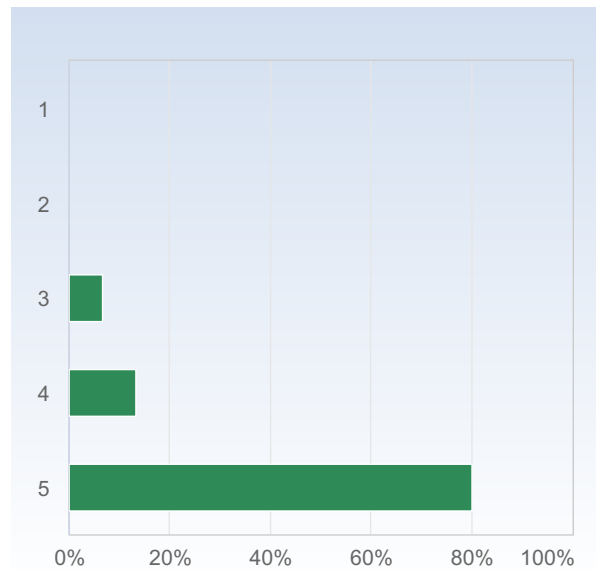### The way the course was taught and organised suited me.

The way the course was taught and organised suited me.	Number of responses
1	0 (0.0%)
2	2 (13.3%)
3	3 (20.0%)
4	3 (20.0%)
5	7 (46.7%)
Total	15 (100.0%)
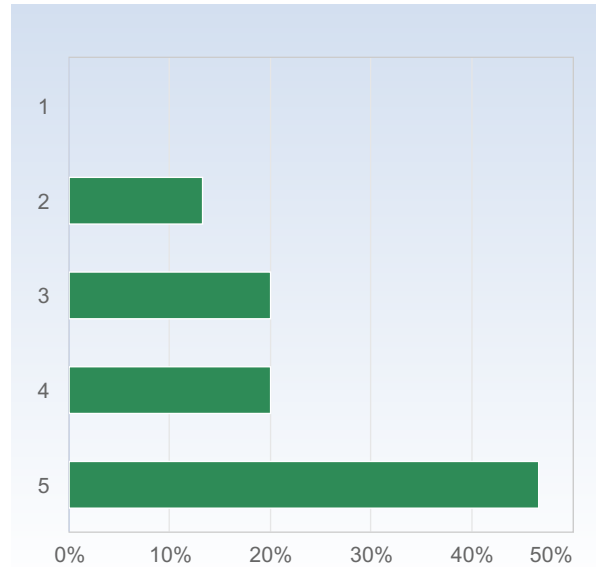
	Mean	Standard Deviation
The way the course was taught and organised suited me.	4.0	1.1

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 (6.7%)
4	2 (13.3%)
5	12 (80.0%)
Total	15 (100.0%)

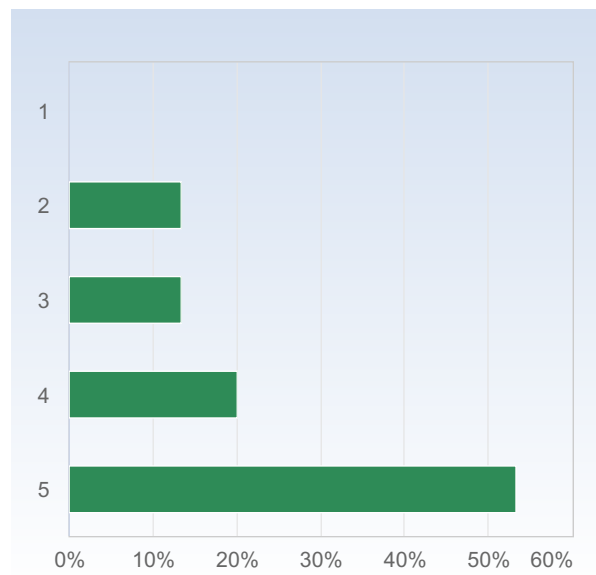|	Mean	Standard Deviation
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	4.7	0.6

The lectures were valuable for my learning.

The lectures were valuable for my learning.	Number of responses
1	2 (13.3%)
2	2 (13.3%)
3	2 (13.3%)
4	2 (13.3%)
5	7 (46.7%)
Total	15 (100.0%)
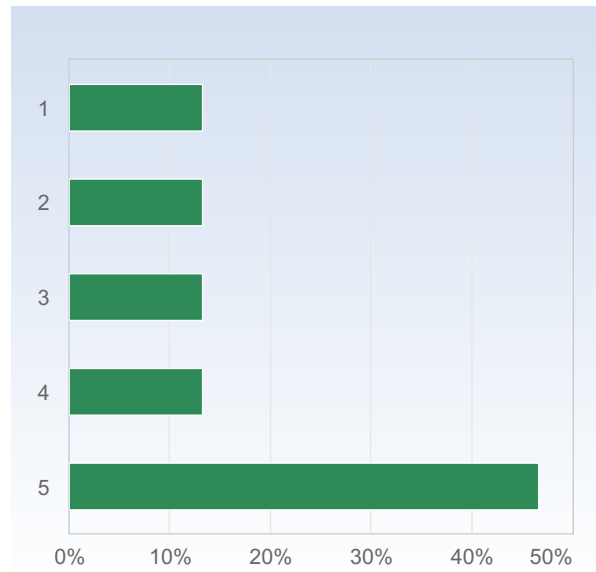
	Mean	Standard Deviation
The lectures were valuable for my learning.	3.7	1.5

The seminars were valuable for my learning.

The seminars were valuable for my learning.	Number of responses
1	0 (0.0%)
2	2 (13.3%)
3	2 (13.3%)
4	3 (20.0%)
5	8 (53.3%)
Total	15 (100.0%)

	Mean	Standard Deviation
The seminars were valuable for my learning.	4.1	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 (20.0%)
5	12 (80.0%)
Total	15 (100.0%)
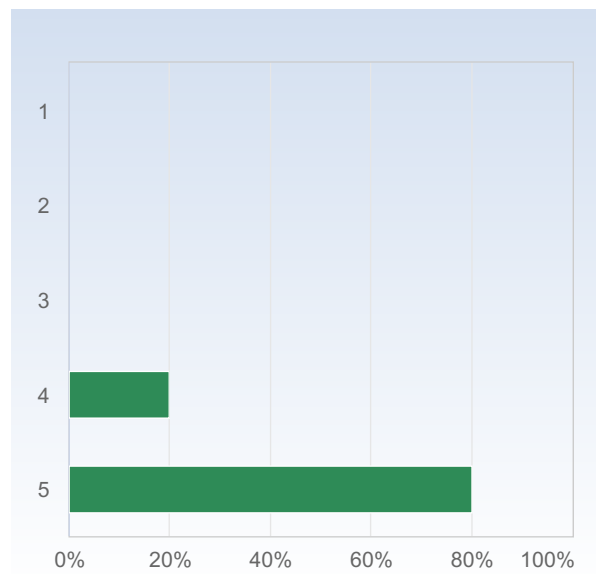
	Mean	Standard Deviation
Studying on my own was valuable for my learning.	4.8	0.4

The course literature/material was a valuable learning resource.

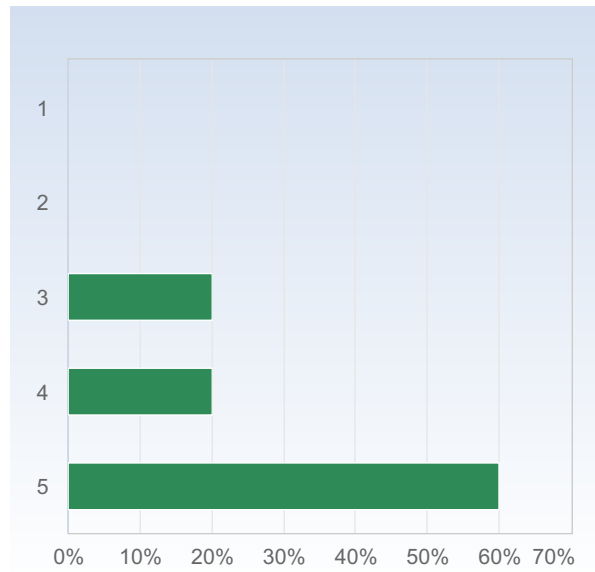| The course literature/material was a valuable learning resource.	Number of responses
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Total	15 (100.0%)
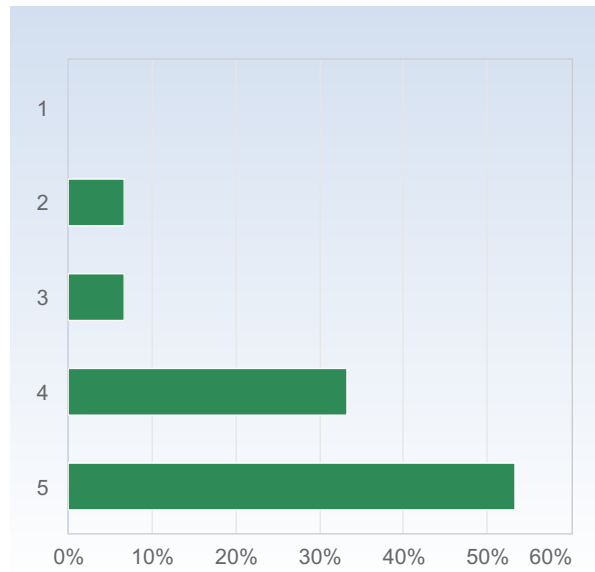
	Mean	Standard Deviation
The course literature/material was a valuable learning resource.	4.3	0.9

The information I received before the course start was satisfactory.

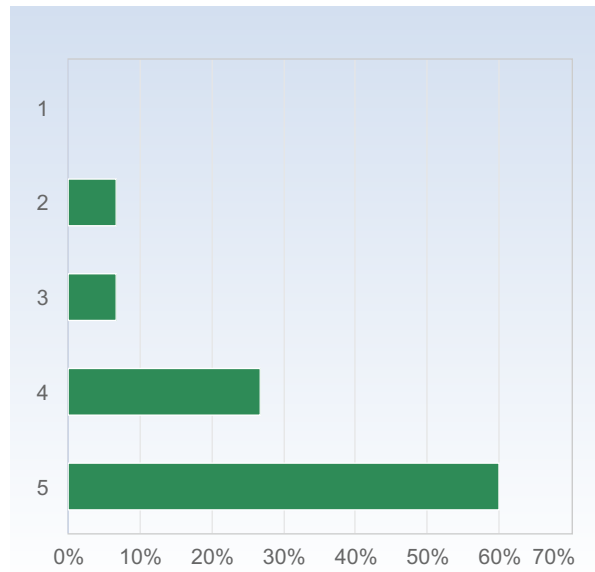| The information I received before the course start was satisfactory.	Number of responses
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2	0 (0.0%)
3	3 (20.0%)
4	3 (20.0%)
5	9 (60.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
The information I received before the course start was satisfactory.	4.4	0.8

## 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	1 (6.7%)
3	1 (6.7%)
4	4 (26.7%)
5	9 (60.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
The communication with the teaching staff during the course was good.	4.4	0.9

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

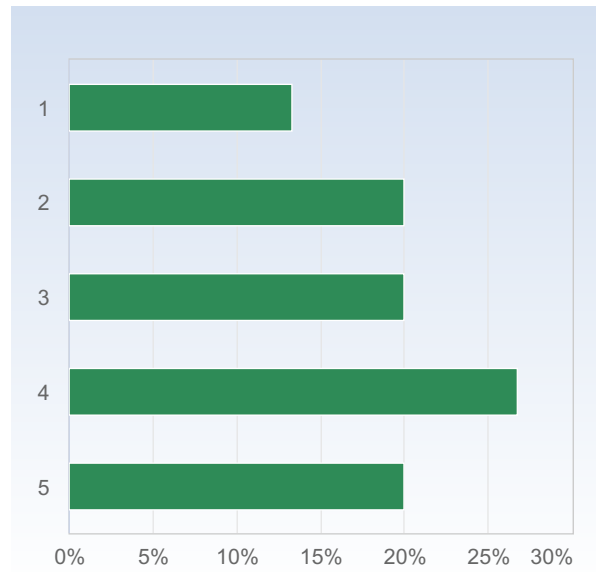| It was clear throughout the course what was expected of me.	Number of responses
1	1 (6.7%)
2	0 (0.0%)
3	5 (33.3%)
4	5 (33.3%)
5	4 (26.7%)
Total	15 (100.0%)
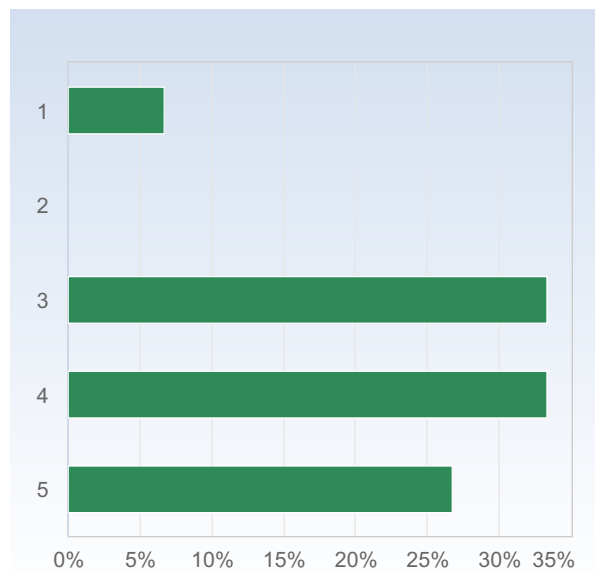
	Mean	Standard Deviation
It was clear throughout the course what was expected of me.	3.7	1.1

## 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	2 (13.3%)
2	3 (20.0%)
3	3 (20.0%)
4	4 (26.7%)
5	3 (20.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
I have received valuable feedback from my teacher/teachers during the course.	3.2	1.4

The course had a reasonable workload.

The course had a reasonable workload.	Number of responses
1	0 (0.0%)
2	1 (6.7%)
3	1 (6.7%)
4	7 (46.7%)
5	6 (40.0%)
Total	15 (100.0%)
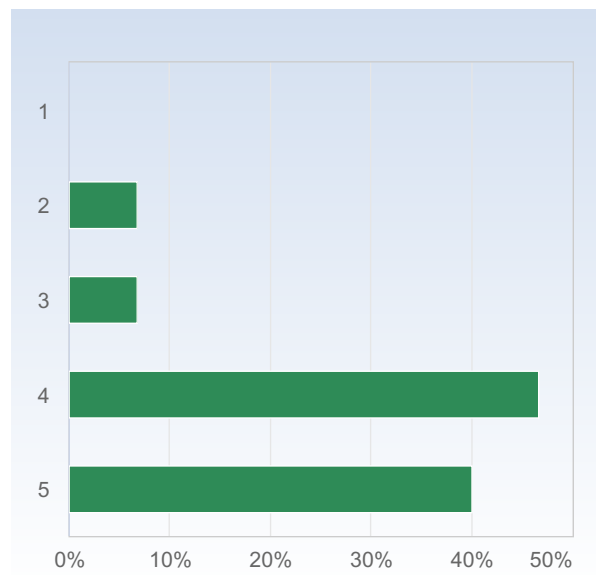
	Mean	Standard Deviation
The course had a reasonable workload.	4.2	0.9

The workload was evenly distributed throughout the course.

The workload was evenly distributed throughout the course.	Number of responses
1	0 (0.0%)
2	2 (13.3%)
3	2 (13.3%)
4	5 (33.3%)
5	6 (40.0%)
Total	15 (100.0%)
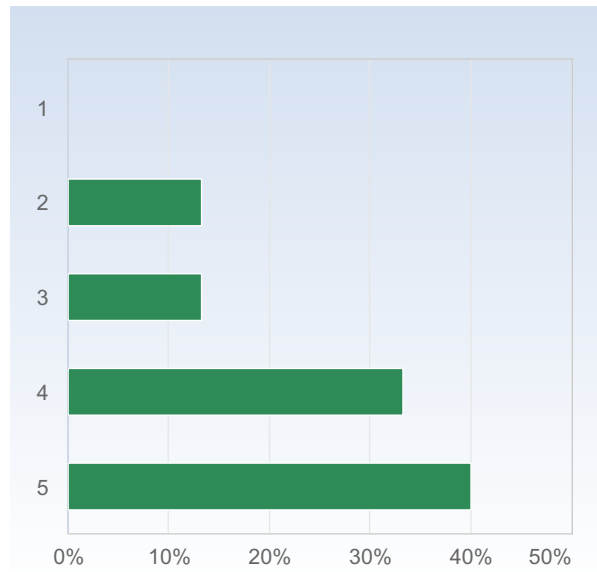
	Mean	Standard Deviation
The workload was evenly distributed throughout the course.	4.0	1.1

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	1 (6.7%)
3	3 (20.0%)
4	5 (33.3%)
5	6 (40.0%)
Total	15 (100.0%)
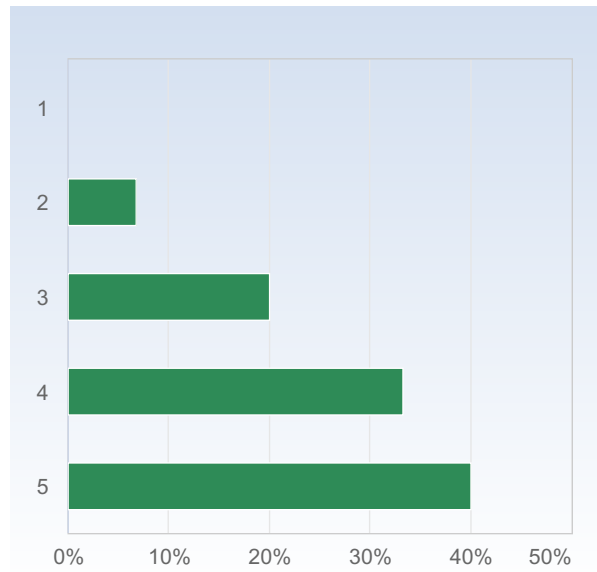
	Mean	Standard Deviation
The examination matched the contents and level of the course.	4.1	1.0

Overall, I am satisfied with the course.

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1	0 (0.0%)
2	1 (6.7%)
3	1 (6.7%)
4	3 (20.0%)
5	10 (66.7%)
Total	15 (100.0%)
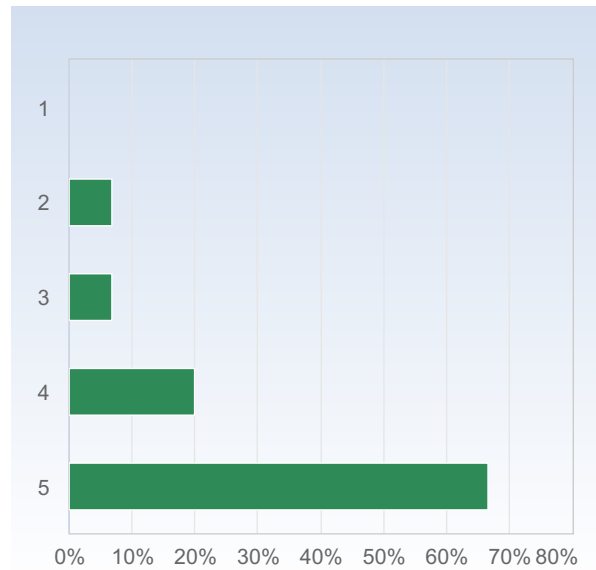
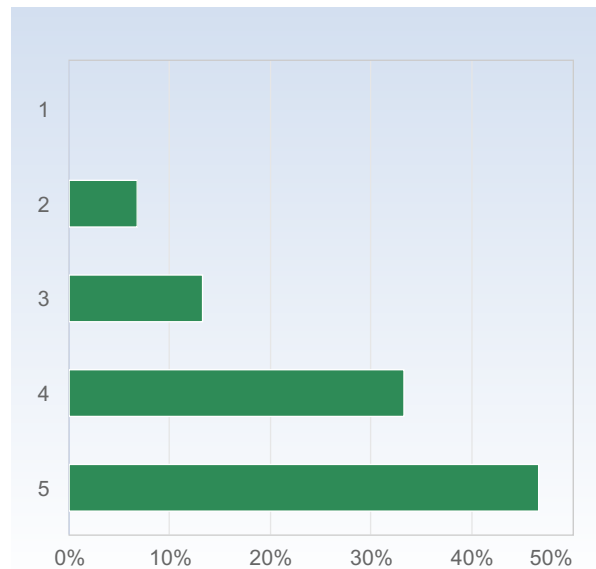|	Mean	Standard Deviation
Overall, I am satisfied with the course.	4.5	0.9

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	0 (0.0%)
2	1 (6.7%)
3	2 (13.3%)
4	5 (33.3%)
5	7 (46.7%)
Total	15 (100.0%)

	Mean	Standard Deviation
The course has increased my ability to read a mathematical text.	4.2	0.9

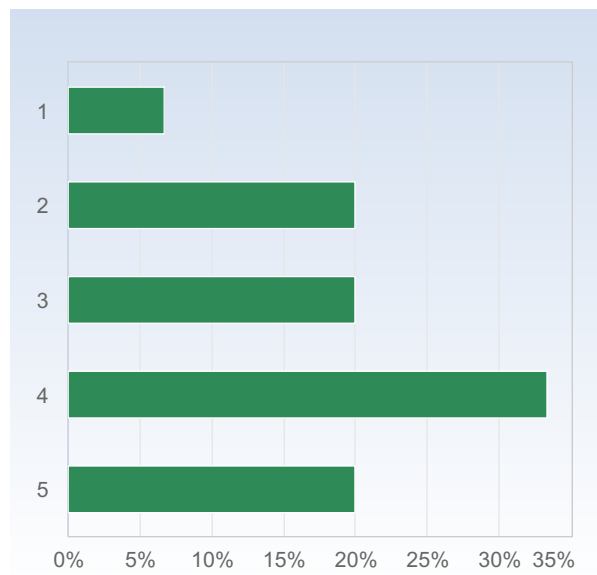## The course has increased my ability to communicate the subject in writing.

The course has increased my ability to communicate the subject in writing.	Number of responses
1	1 (6.7%)
2	1 (6.7%)
3	4 (26.7%)
4	4 (26.7%)
5	5 (33.3%)
Total	15 (100.0%)
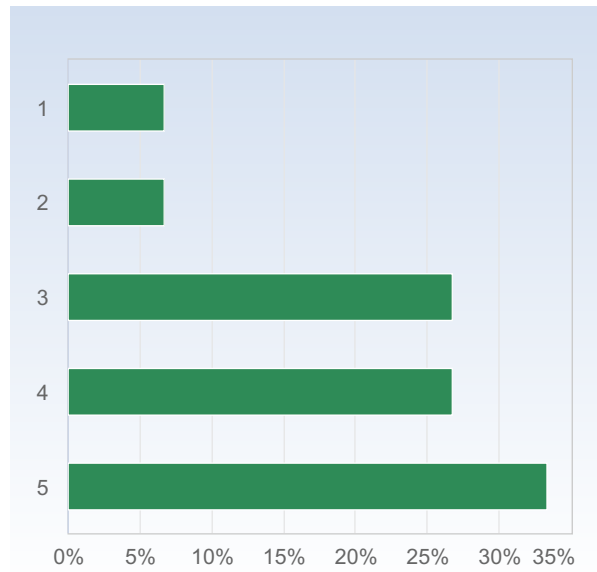
	Mean	Standard Deviation
The course has increased my ability to communicate the subject in writing.	3.7	1.2

The course has increased my ability to communicate the subject orally.
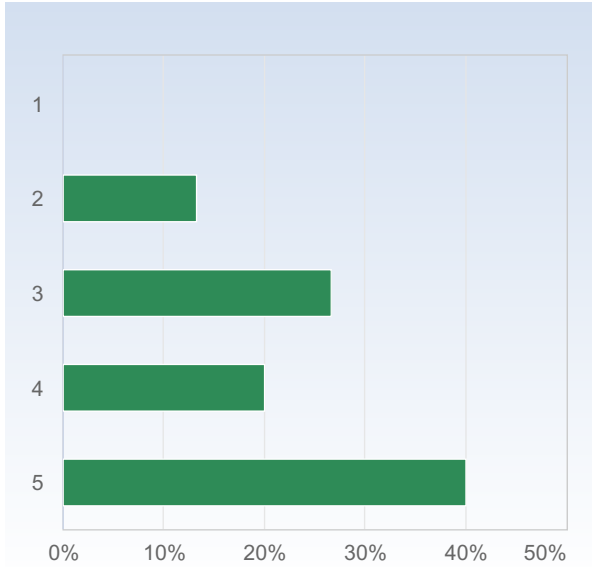
The course has increased my ability to communicate the subject orally.	Number of responses
1	1 (6.7%)
2	3 (20.0%)
3	3 (20.0%)
4	5 (33.3%)
5	3 (20.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
The course has increased my ability to communicate the subject orally.	3.4	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	0 (0.0%)
2	2 (13.3%)
3	4 (26.7%)
4	3 (20.0%)
5	6 (40.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
The course has increased my ability to search and process information.	3.9	1.1

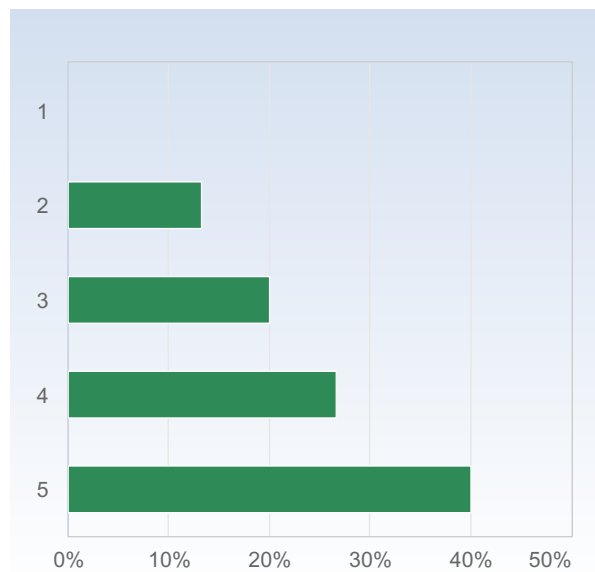## The course has increased my ability to analyze and solve problems.

The course has increased my ability to analyze and solve problems.	Number of responses
1	0 (0.0%)
2	0 (0.0%)
3	2 (13.3%)
4	5 (33.3%)
5	8 (53.3%)
Total	15 (100.0%)
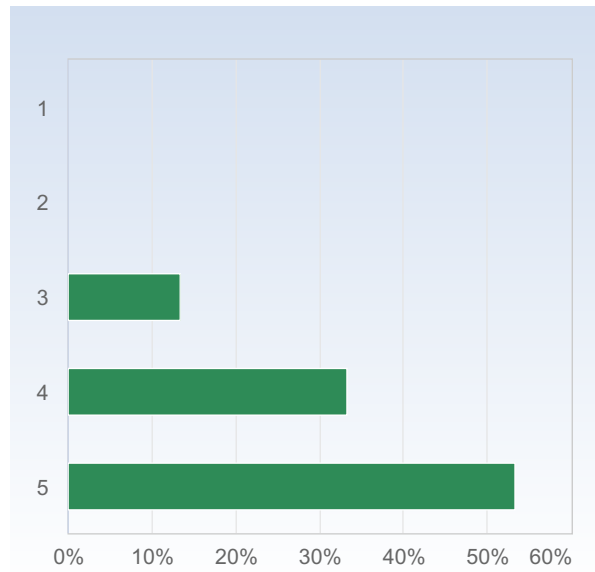
	Mean	Standard Deviation
The course has increased my ability to analyze and solve problems.	4.4	0.7

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

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1	0 (0.0%)
2	2 (13.3%)
3	3 (20.0%)
4	4 (26.7%)
5	6 (40.0%)
Total	15 (100.0%)

	Mean	Standard Deviation
As a result of this course, I feel confident about tackling unfamiliar problems.	3.9	1.1

What did you appreciate most with the course?

The pure mathematical content and course literature was great

I liked the seminars and that people presented solutions to each other.

To be back on campus

The course litteratur was really good both; the book and the teacher's notes

The course has been very well organized. I really appreciate to have the plan for the whole week in advance. I also appreciate the student's participation during seminars.

It was very well structured with clear plans for every week.

The seminars

The seminars were alot of fun. The seminar teacher was very good and had a good way of teaching. Seminar teacher was open for questions and further more the dynamics with students were fun so that one looked forward to attend the seminars.

I really liked that the proofs presented during the lectures were very detailed and didn't skim through the details, it made it a lot easier to follow and understand the underlying ideas. It was also a good idea to have the assignment be a presentation during the seminar. Not only was it nice because it didn't introduce a bunch of artificial deadlines for hand-in assignments in addition to the seminar exercises each week but it also made the seminars (at least in the beginning and end of the course) a bit more interesting as it wasn't always the same people presenting. The selection of exercises for each seminar was also very good. There was almost always just enough time to go through all of them thoroughly, they tested the most important things from each section and provided some insightful "aha moments" while, for the most part, not being overly tedious or technical. I also appreciated that Jörg would usually write down his explanations on the blackboard and not just the equations, because it makes it a lot easier to take notes. In general, he was also very good at responding to various requests from students (i.e. printing copies of the course literature, posting lecture notes on Canvas, answering questions on mail thoroughly). Finally, the overall vibe of the course was very friendly and relaxing which I appreciated, it was also nice to be able to attend lecturers at the university again.

It was a great balance between the time spent on lectures/ learning the new subject, and doing exercises.

Good, clear planning.

The structure of the lectures were fantastic. You always knew why we went over a specific theorem etc. and you could very easily backtrack through the material if you didn't understand something or you needed a specific theorem to solve a new one. Jörg, the lecturer was also very accomodating with providing extra resources during the course. For example, I was not able to be present during some of the lectures (neither over Zoom or in person) and therefore asked for the lecture notes which was provided. Jörg then proceeded to upload all his lectures notes successively after each lecture which was an amazing addition as it helped me go through material an extra time.

What do you think should be improved?

I took this course as a stand alone course and was unable to attend many lectures due to my current situation (for example working a full time job). I thought it was unfortunate that there was a resistance against streaming lectures. I could only attend twice in the whole course now.

For students of my kind, solutions to excerises would have been helpful since I also had to miss some seminars.

There has to be a week for studying before the exam!!!!!!!!

A bit more direct interaction with the students during the lectures would have been great. More precisely, in order to increase the engagment with the topic during a lecture, the lecturer could have asked us students a few more times about the topic we went through during a lecture. It was satisfactory overall though.

To be honest, some parts of the lectures were hard to follow but that pushed me to study harder. I always found the same problem in most of the courses I had so far, too much material to cover in a short period of time. The last part of the course was a bit crazy even with lectures and seminars the day before the exam.

I think that the speed during the lectures was a bit too high. For me, it was difficult to be able to both take notes and follow the content at the same time.

I think the lecturer did a great job when he asked questions to the students but I think it would be even better if he had done so little more often to engage the students even more.

Pretty minor complaint, but it would have been nice to not have to track down an entire text book (Spivak) for only one specific chapter. If it would have been possible to deal with this the same way as the part on Power Series (where we got a small paper hand-out) that would have been preferable.

I think the oral exam should be closer to the actual exam to prevent overlap with other courses.

I would have liked a week or so to just focus on the exam, rather than covering new material so close to the exam

It could be better with some more extra required assignments than just presenting an exercise during the seminar. I felt like it was possible to just present an easy exercise in the beginning of the course and then not worry anymore. Maybe a project with a more difficult set of exercises (or a single one) which you have to solve in groups.

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
Nah, staff is really sweet
No.
No.
No
No, nothing.
NO!
No.
no
no
No.
Nope