



LUND UNIVERSITY
Faculty of Science

Centre for Mathematical Sciences
Division of Mathematics and Numerical Analysis

Course Analysis for MATB21 Analysis in Several Variables 1, Spring 2022

Course Information

Lecturer: Anders Olofsson

Teaching assistants: Giang To

Number of students: 67

40 newly registered and 27 re-registered.

19 students answered the course evaluation.

Examination

Final grades:

In all, 40 students, including 14 re-registered students, have got their final grade.

Course Evaluation

Summary of student's answers:

Positive response about the course.

Teachers' comments:

Under the given circumstances, lectures and (written) examination have worked reasonable well. The response has been positive. It should be pointed that this first "Analysis of several variables" course relies on a lot of science fiction. The non-reporting of completed "programming project" have caused disturbances in the assignment of final grades.

Changes from the previous course realisation:

None/slight.

Suggestions for the next course realisation:

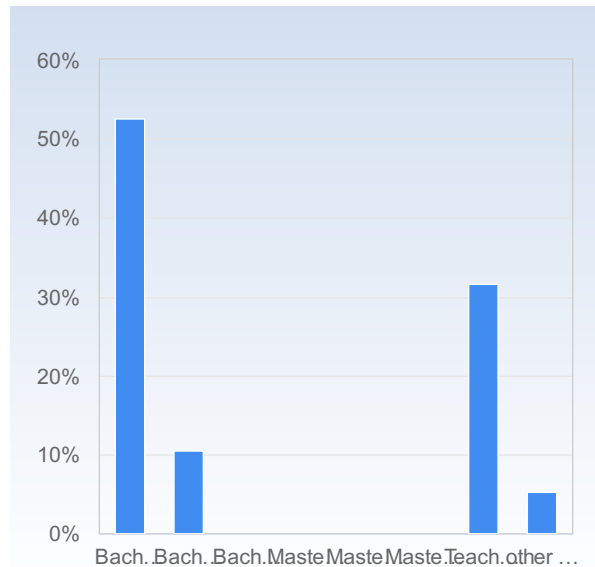
Remove "programming project".

Analysis in Several Variables 1 (MATB21 /ÄMAD02), Spring 2022

Answer Count: 19

I have studied this course as part of

I have studied this course as part of	Number of responses
Bachelor's Programme in Mathematics	10 (52,6%)
Bachelor's Programme in Physics, Theoretical Physics, Astronomy	2 (10,5%)
Bachelor's Programme, other specialization	0 (0,0%)
Master's Programme in Mathematics	0 (0,0%)
Master's Programme in Mathematical Statistics	0 (0,0%)
Master's Programme, other specialization	0 (0,0%)
Teacher Education	6 (31,6%)
other programme or as stand alone course	1 (5,3%)
Total	19 (100,0%)

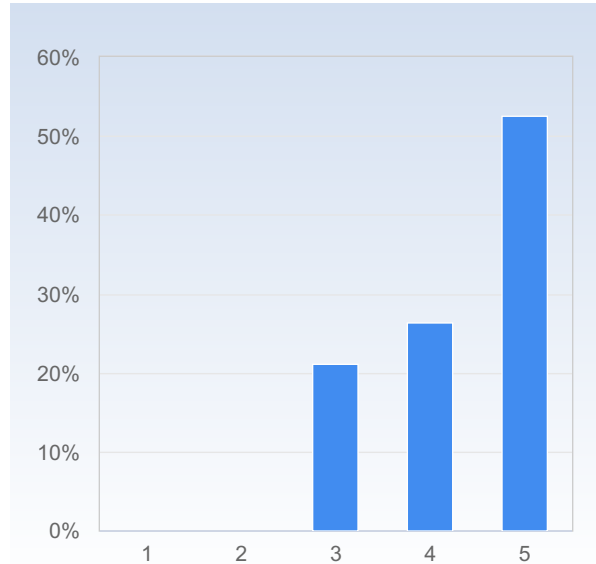


	Mean	Standard Deviation
I have studied this course as part of	3,4	3,0

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.

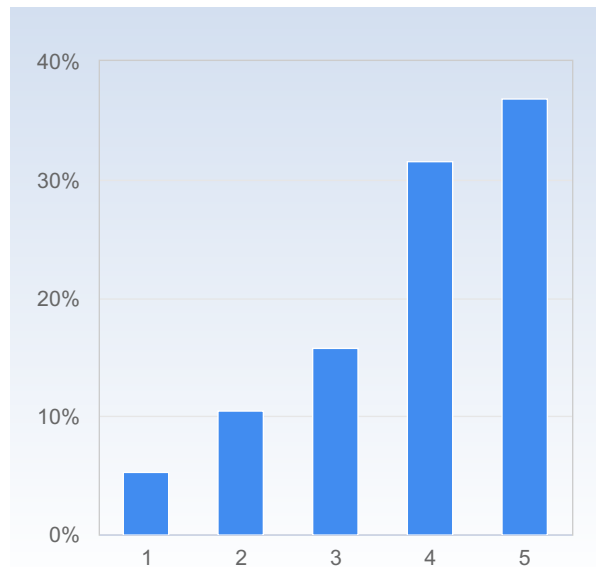
2. My prior knowledge has been sufficient to assimilate the contents of this course.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (21,1%)
4	5 (26,3%)
5	10 (52,6%)
Total	19 (100,0%)



2. My prior knowledge has been sufficient to assimilate the contents of this course.	Mean	Standard Deviation
	4,3	0,8

3. I have participated actively in the course.

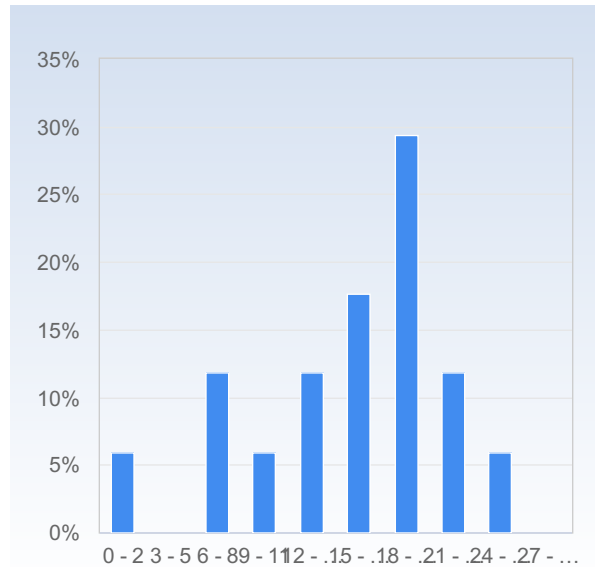
3. I have participated actively in the course.	Number of responses
1	1 (5,3%)
2	2 (10,5%)
3	3 (15,8%)
4	6 (31,6%)
5	7 (36,8%)
Total	19 (100,0%)



3. I have participated actively in the course.	Mean	Standard Deviation
	3,8	1,2

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 - 2	1 (5,9%)
3 - 5	0 (0,0%)
6 - 8	2 (11,8%)
9 - 11	1 (5,9%)
12 - 14	2 (11,8%)
15 - 17	3 (17,6%)
18 - 20	5 (29,4%)
21 - 23	2 (11,8%)
24 - 26	1 (5,9%)
27 - 29	0 (0,0%)
Total	17 (100,0%)



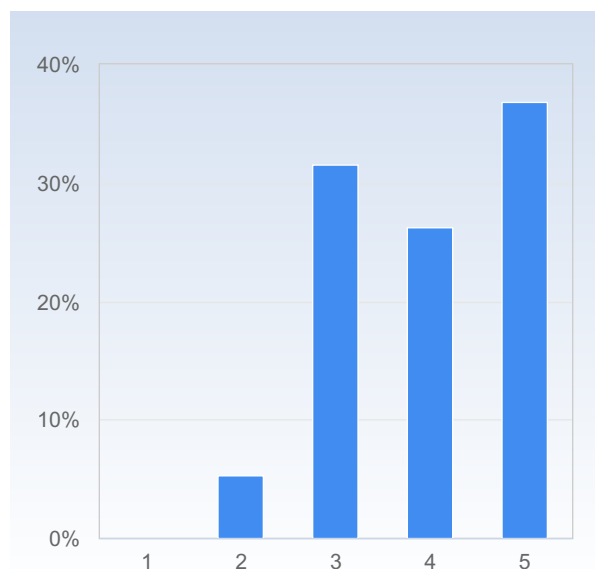
	Mean	Standard Deviation
Average number of hours spent in total on the course per week (including scheduled activities):	15,5	6,7

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.

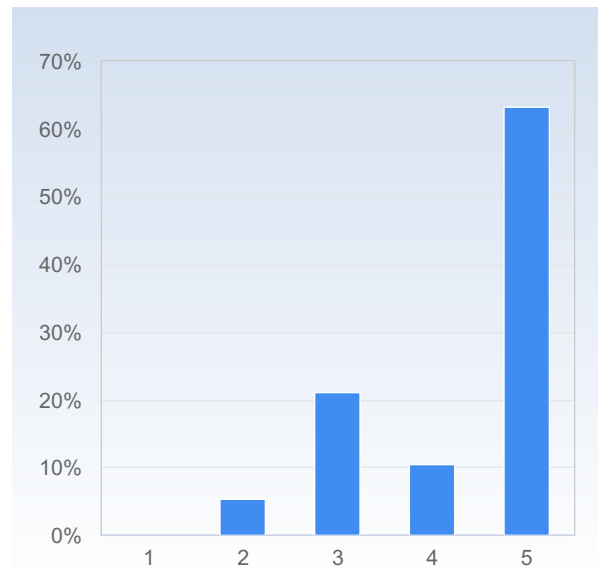
The way the course was taught and organised suited me.	Number of responses
1	0 (0,0%)
2	1 (5,3%)
3	6 (31,6%)
4	5 (26,3%)
5	7 (36,8%)
Total	19 (100,0%)



	Mean	Standard Deviation
The way the course was taught and organised suited me.	3,9	1,0

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

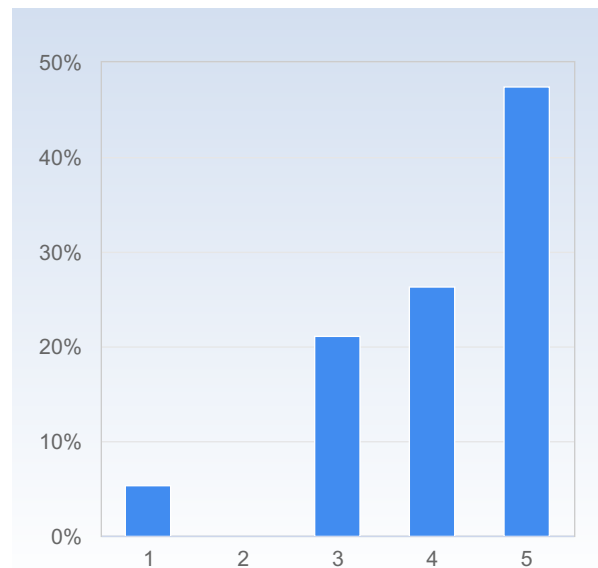
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	Number of responses
1	0 (0,0%)
2	1 (5,3%)
3	4 (21,1%)
4	2 (10,5%)
5	12 (63,2%)
Total	19 (100,0%)



	Mean	Standard Deviation
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	4,3	1,0

The lectures were valuable for my learning.

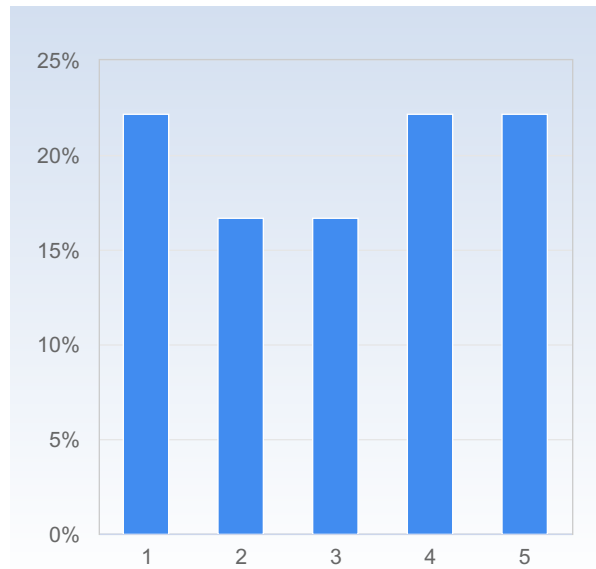
The lectures were valuable for my learning.	Number of responses
1	1 (5,3%)
2	0 (0,0%)
3	4 (21,1%)
4	5 (26,3%)
5	9 (47,4%)
Total	19 (100,0%)



	Mean	Standard Deviation
The lectures were valuable for my learning.	4,1	1,1

The seminars were valuable for my learning.

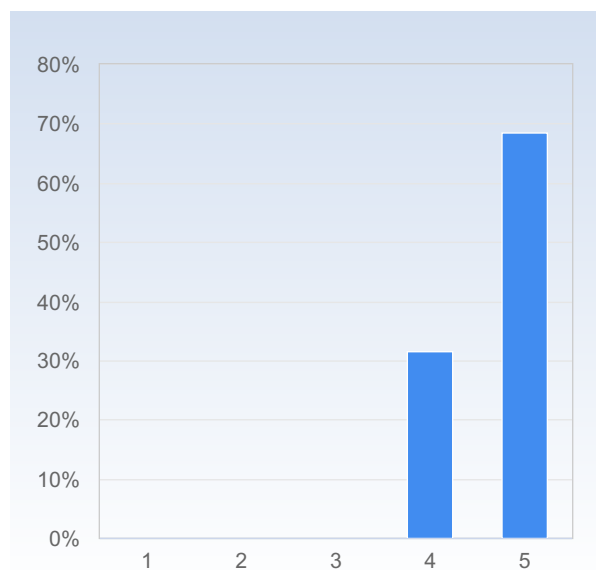
The seminars were valuable for my learning.	Number of responses
1	4 (22,2%)
2	3 (16,7%)
3	3 (16,7%)
4	4 (22,2%)
5	4 (22,2%)
Total	18 (100,0%)



	Mean	Standard Deviation
The seminars were valuable for my learning.	3,1	1,5

Studying on my own was valuable for my learning.

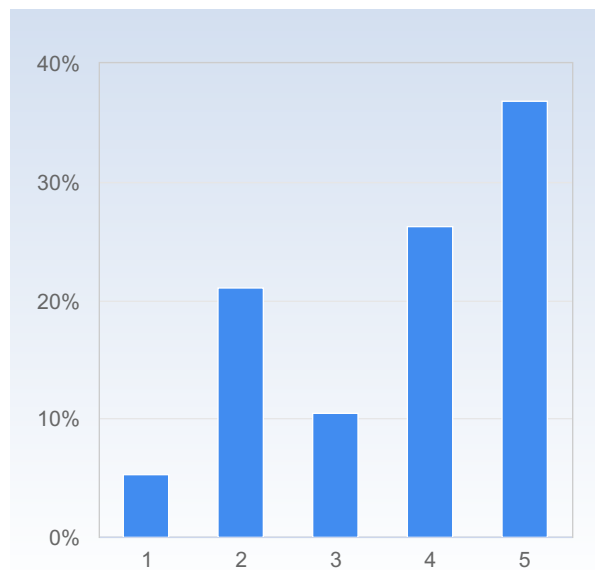
Studying on my own was valuable for my learning.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	0 (0,0%)
4	6 (31,6%)
5	13 (68,4%)
Total	19 (100,0%)



	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.

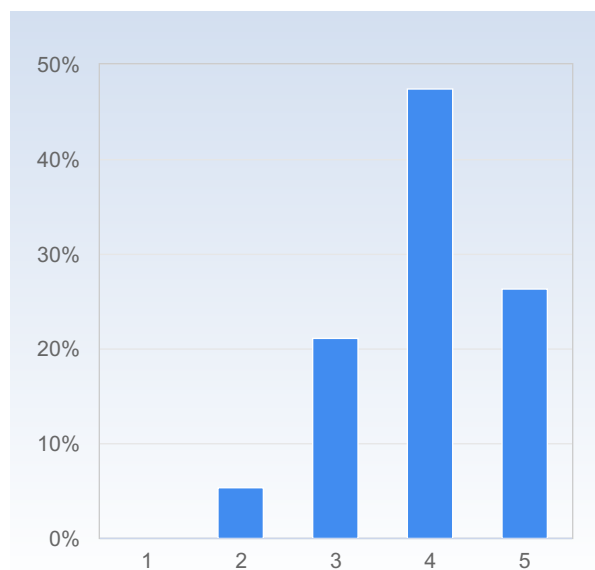
The course literature/material was a valuable learning resource.	Number of responses
1	1 (5,3%)
2	4 (21,1%)
3	2 (10,5%)
4	5 (26,3%)
5	7 (36,8%)
Total	19 (100,0%)



	Mean	Standard Deviation
The course literature/material was a valuable learning resource.	3,7	1,3

The information I received before the course start was satisfactory.

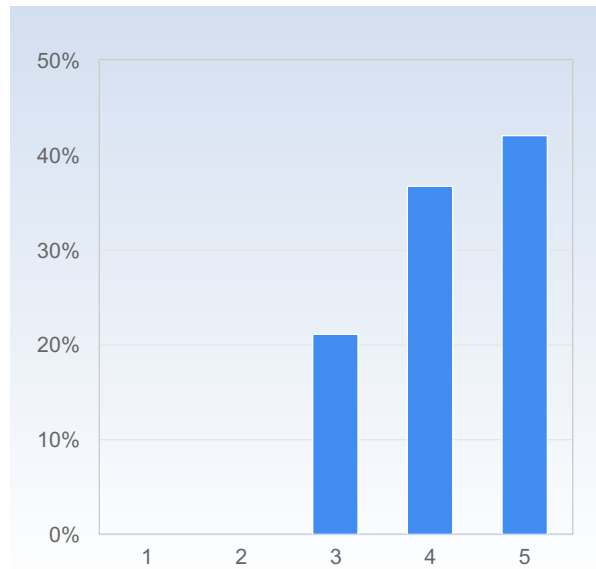
The information I received before the course start was satisfactory.	Number of responses
1	0 (0,0%)
2	1 (5,3%)
3	4 (21,1%)
4	9 (47,4%)
5	5 (26,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
The information I received before the course start was satisfactory.	3,9	0,8

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

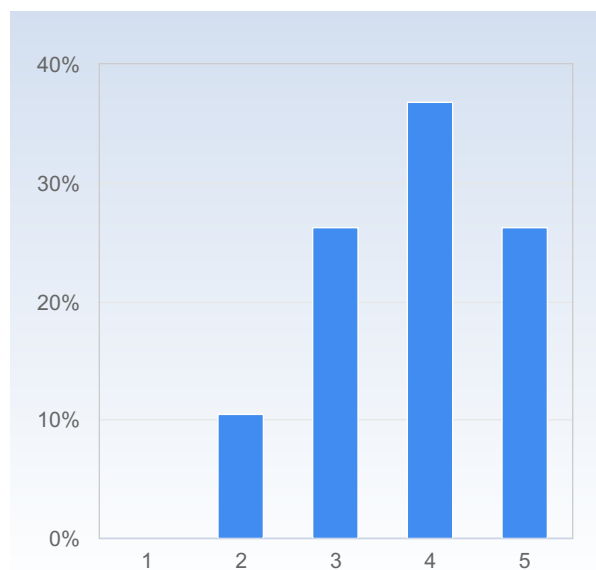
The communication with the teaching staff during the course was good.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (21,1%)
4	7 (36,8%)
5	8 (42,1%)
Total	19 (100,0%)



	Mean	Standard Deviation
The communication with the teaching staff during the course was good.	4,2	0,8

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

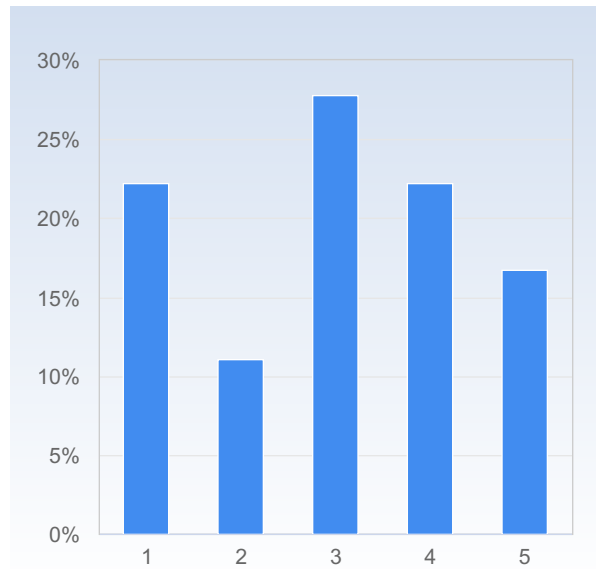
It was clear throughout the course what was expected of me.	Number of responses
1	0 (0,0%)
2	2 (10,5%)
3	5 (26,3%)
4	7 (36,8%)
5	5 (26,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
It was clear throughout the course what was expected of me.	3,8	1,0

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

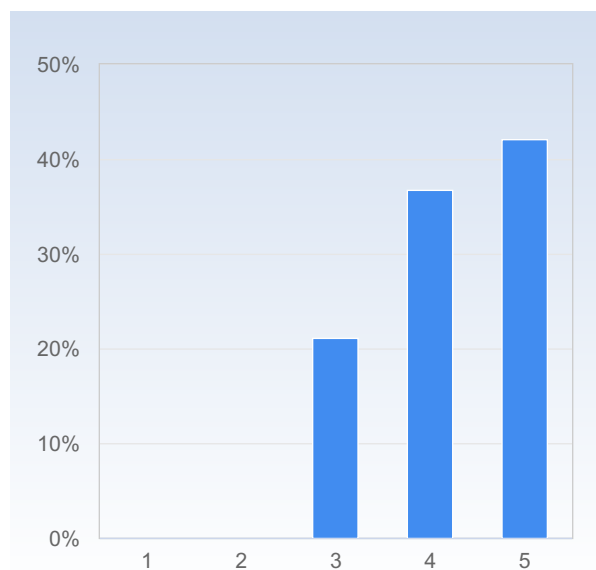
I have received valuable feedback from my teacher/teachers during the course.	Number of responses
1	4 (22,2%)
2	2 (11,1%)
3	5 (27,8%)
4	4 (22,2%)
5	3 (16,7%)
Total	18 (100,0%)



I have received valuable feedback from my teacher/teachers during the course.	Mean	Standard Deviation
	3,0	1,4

The course had a reasonable workload.

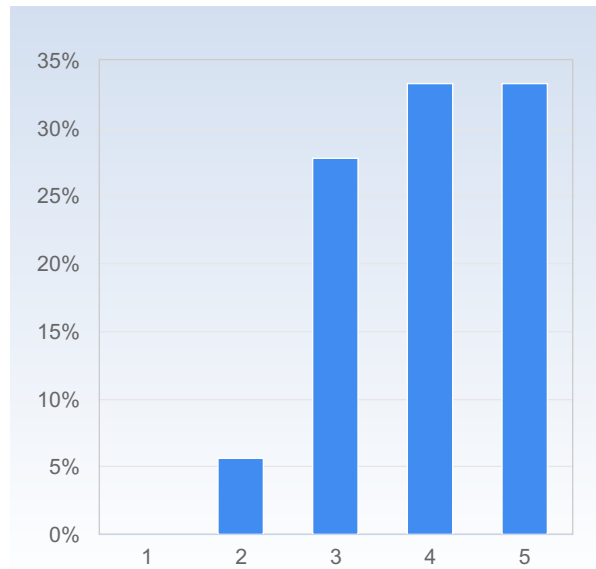
The course had a reasonable workload.	Number of responses
1	0 (0,0%)
2	0 (0,0%)
3	4 (21,1%)
4	7 (36,8%)
5	8 (42,1%)
Total	19 (100,0%)



The course had a reasonable workload.	Mean	Standard Deviation
	4,2	0,8

The workload was evenly distributed throughout the course.

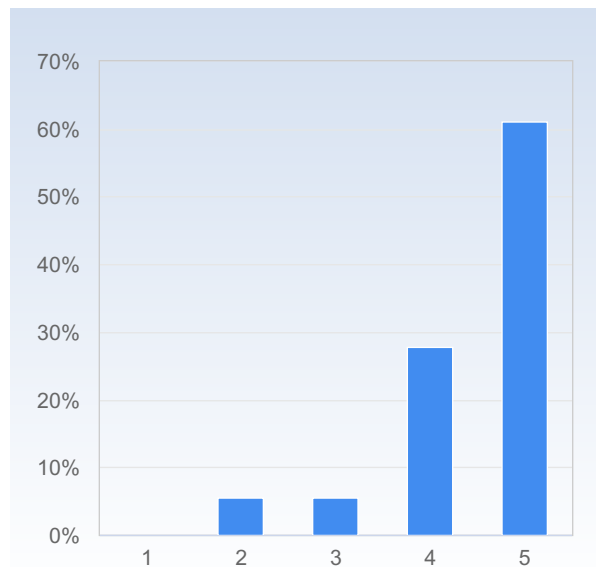
The workload was evenly distributed throughout the course.	Number of responses
1	0 (0,0%)
2	1 (5,6%)
3	5 (27,8%)
4	6 (33,3%)
5	6 (33,3%)
Total	18 (100,0%)



	Mean	Standard Deviation
The workload was evenly distributed throughout the course.	3,9	0,9

The examination matched the contents and level of the course.

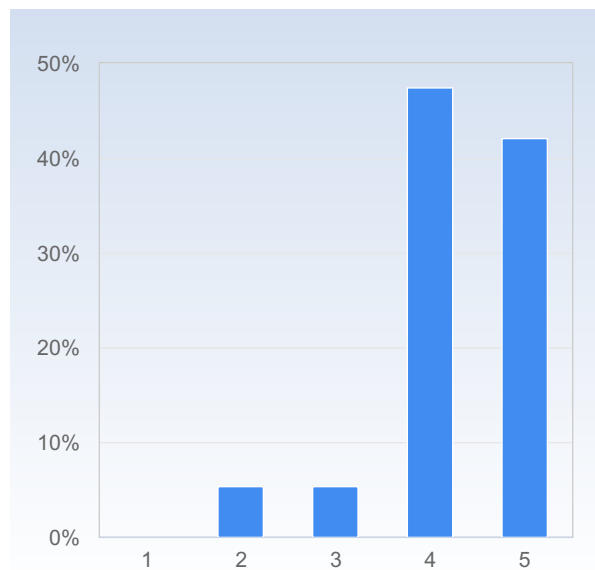
The examination matched the contents and level of the course.	Number of responses
1	0 (0,0%)
2	1 (5,6%)
3	1 (5,6%)
4	5 (27,8%)
5	11 (61,1%)
Total	18 (100,0%)



	Mean	Standard Deviation
The examination matched the contents and level of the course.	4,4	0,9

Overall, I am satisfied with the course.

Overall, I am satisfied with the course.	Number of responses
1	0 (0,0%)
2	1 (5,3%)
3	1 (5,3%)
4	9 (47,4%)
5	8 (42,1%)
Total	19 (100,0%)



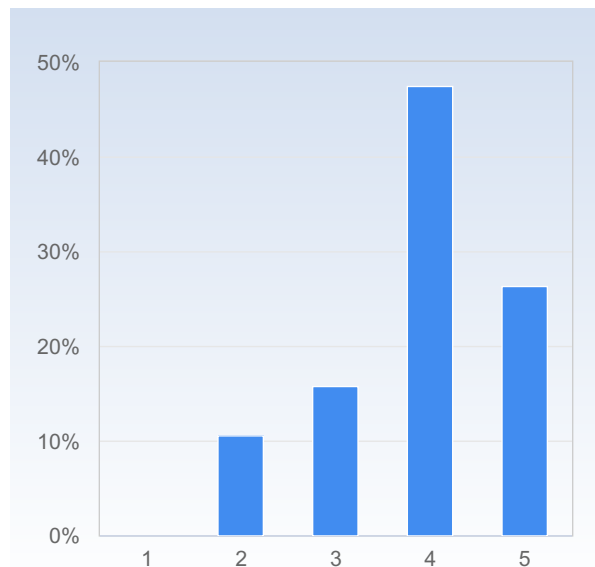
	Mean	Standard Deviation
Overall, I am satisfied with the course.	4,3	0,8

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.

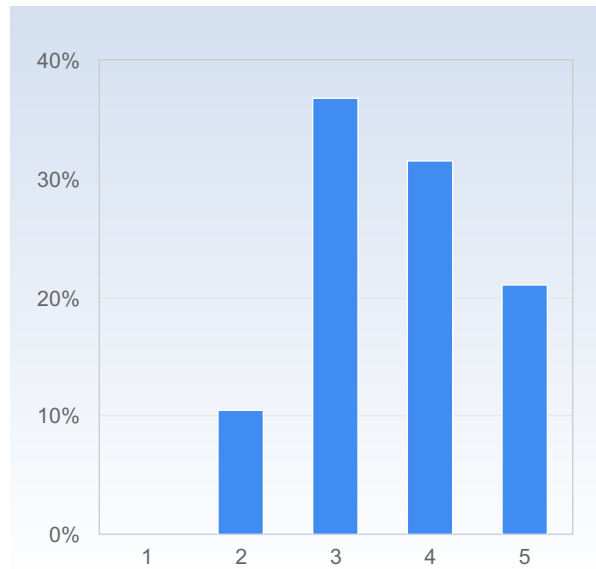
The course has increased my ability to read a mathematical text.	Number of responses
1	0 (0,0%)
2	2 (10,5%)
3	3 (15,8%)
4	9 (47,4%)
5	5 (26,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to read a mathematical text.	3,9	0,9

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

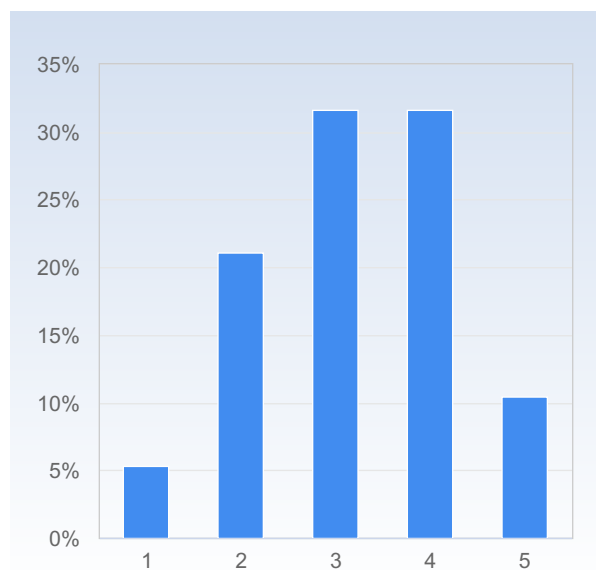
The course has increased my ability to communicate the subject in writing.	Number of responses
1	0 (0,0%)
2	2 (10,5%)
3	7 (36,8%)
4	6 (31,6%)
5	4 (21,1%)
Total	19 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to communicate the subject in writing.	3,6	1,0

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

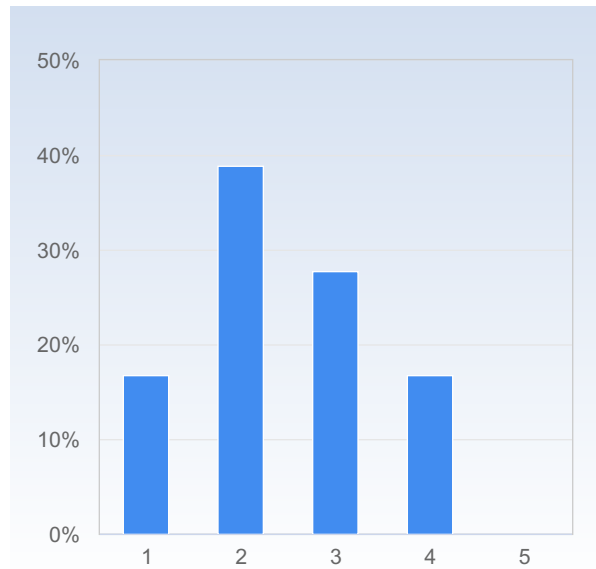
The course has increased my ability to communicate the subject orally.	Number of responses
1	1 (5,3%)
2	4 (21,1%)
3	6 (31,6%)
4	6 (31,6%)
5	2 (10,5%)
Total	19 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to communicate the subject orally.	3,2	1,1

The course has increased my ability to cooperate.

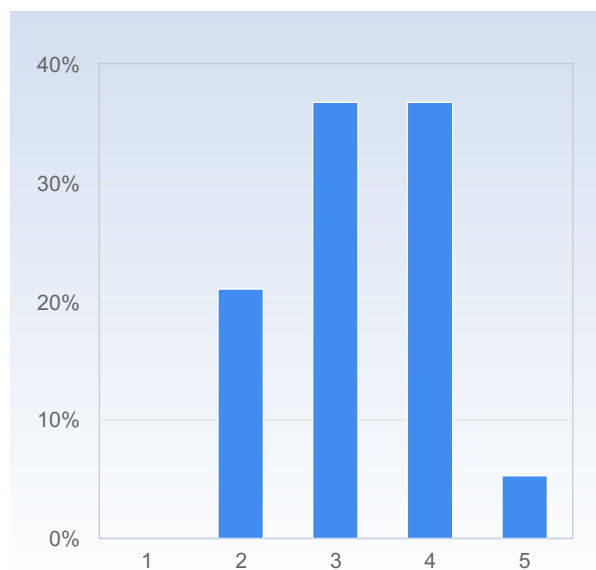
The course has increased my ability to cooperate.	Number of responses
1	3 (16,7%)
2	7 (38,9%)
3	5 (27,8%)
4	3 (16,7%)
5	0 (0,0%)
Total	18 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to cooperate.	2,4	1,0

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

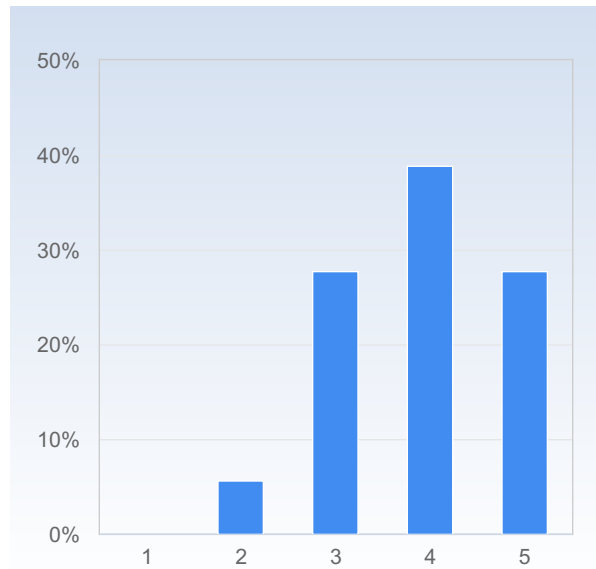
The course has increased my ability to search and process information.	Number of responses
1	0 (0,0%)
2	4 (21,1%)
3	7 (36,8%)
4	7 (36,8%)
5	1 (5,3%)
Total	19 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to search and process information.	3,3	0,9

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

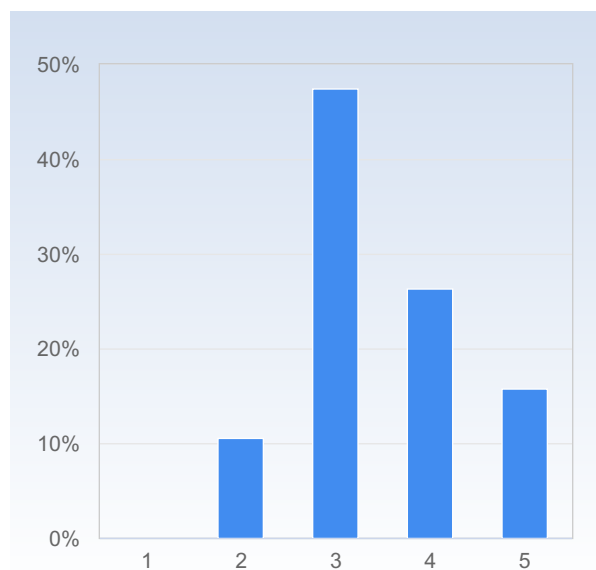
The course has increased my ability to analyze and solve problems.	Number of responses
1	0 (0,0%)
2	1 (5,6%)
3	5 (27,8%)
4	7 (38,9%)
5	5 (27,8%)
Total	18 (100,0%)



	Mean	Standard Deviation
The course has increased my ability to analyze and solve problems.	3,9	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	0 (0,0%)
2	2 (10,5%)
3	9 (47,4%)
4	5 (26,3%)
5	3 (15,8%)
Total	19 (100,0%)



	Mean	Standard Deviation
As a result of this course, I feel confident about tackling unfamiliar problems.	3,5	0,9

What did you appreciate most with the course?

What did you appreciate most with the course?

Superb lectures. Interesting examples.

I have studied this course three times and this time around has been the first time where the course material has felt reasonably difficult. Earlier it has felt like the material was made more difficult than it needed to be, because that is how it is "supposed to be". While general definitions with functions of n variables are more general and correct, for the purposes of the course, definitions with functions of just two variables are sufficient. These definitions are easier to understand. When they have been understood in the case of two variables, it is then easier to expand this to the general n case. It was very refreshing to be able to understand these concepts the first time they were explained because they were easy to relate to the single variable case. While it may be hard to think in three dimensions, Anders made it easy.

Giang was also very good at presenting the material in a way that was easy to digest and in a way that was relevant to the way Anders had structured the course. Sometimes the seminar leaders just go through how the equations are to be solved without really discussing what is going on. This was not the case with Giang and I learned a lot from being in his seminars. It should be noted that the seminars were much more helpful if one had done the assigned work in advance instead of relying on Giang to "get the answers". This is probably very obvious, however.

Additionally, the way Anders focused on old exams in the lectures was very helpful in order to know what was expected of me when the time came to take my own exam.

Anders lectures

Anders, klot.

Anders

It was reasonable. Not a lot of proofs or stuff to remember. Mostly analyzing functions

Anders, great lecturer.

Lots of interesting implicit-function problems in old exams.

Anders is cool

During the first part of the course the guy that managed the camera answered questions in chat very well, that was super helpful. It was great being able to vent ideas and questions without disturbing the actual lecture.

And yea the exam was fun.

Honestly the seminars, which was a bit of a surprise for me. Giang did an excellent job of explaining and presenting the problems.

Anders did a great job! As a teacher student, have I had some difficulties with the courses are in English. But it feels like Anders took consideration for us and made sure that us Swedish speakers fully understood what he meant! He also seemed interested in the subject and made the course very interesting!

Anders made it very clear what was important, extra interesting or worth focusing on, which made the course easy to navigate, especially before the examination.

The clarity of the lectures and the teacher not assuming too much and ever willing to take a few steps back in the explanation so that everyone is included and following along.

The solutions that seminar teacher would post after our seminar sessions

What do you think should be improved?

What do you think should be improved?

Remove programming project.

Certain chapters were assigned in the book as both reading and homework. For certain chapters it was essentially a repetition of what was presented during that day's lectures, but for certain chapters none of it was brought up. I would have liked a comment from Anders regarding the relevance of what is discussed in the Adams book and how it relates to that day's lecture. This was more obvious in the beginning of the course for some reason, and then it felt like Anders did not have enough time to present all the material relevant to the course, which can become stressful.

Another thing is the use of Swedish as a language in the course. Anders use of Swedish was fine, as everything said in Swedish had already been said or would later be repeated in English. However, certain students asked questions in Swedish and then a reply would also be given in Swedish. It would have been good to comment that all questions should be stated in English, so that all students can understand. Personally this was not an issue, however, as I understand both English and Swedish.

More Anders

More Anders, more klot.

It was 8 am. How am i supposed to learn that early?? I wish there was recorded lectures or it was at another time. The lectures are very important for me to learn on.

It's unfair to name this course "analysis in several variables", since it's definitely not an analysis course. If one expects to learn mathematics and not only how to compute things it is necessary to use complementary resources, which is fine, but something that students should be informed about.

The book is not always relevant

The seminars. Don't get me wrong the guy responsible for them where great in many way and they compared very well with other math seminars. But I feel that the seminars could be used for actually solving problems in group not just presenting problems. To come prepared and present problems you already solved is not that much of a learning experience neither is watching other people doing it. I would have loved if we went there and together tried to solve problems instead (in groups on the board), that's what's fun with math. I was to one SI meeting but there was no one making us work together there either.

Sometimes there were some discrepancies in the exact methods between the lectures, course literature, and seminars, which might've confused some of the students - though, that said, being given different approaches isn't really a bad thing, and in the end I think that I personally quite liked that aspect.

The seminar leader some time talked very fast, had some difficulties with fully understand

The course literature (Adams) felt a bit deattached from the rest of the course content, and served more as a source of examples and problems to work on than a complement to the theoretical ground covered in the lectures. The frequent moving of proofs to the second part of the course also felt a bit disappointing (we want to see it now!), but it is hard to say much about the partition of material without having taken the second part yet.

Not much perhaps just mention early in the course that there is a little difference in what the student is reading on their own and the lecture contents, that is there are things exclusively covered in the lectures that will be important on the exam so a tip might be to keep separate notes (book/lectures). So far a lot of lectures in other courses have been pretty much straight from the books so I haven't always bothered with notes.

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. One would have to really try to be discriminatory when discussing numbers. This has not been the case.

No

No

Not really

no

Nope

no

No

No!

No at all, it felt like a very inclusive course

no