**Kurssammanställning NUMA41 ”Numerisk Analys: Basic Course” vt 2021**

**Course responsible: Philipp Birken**
**Other teachers: Robert Klöfkorn**

**Number of students: 42** registered students

**Grades:** 4 UK, 8 G, 18 VG.

**Evaluation**

## I. Summary of Course Evaluation

Total number of answers: 8

*Short summary of the result:* Overall, the students were satisfied with the course (3.9 average) and as usual, the assignments and the project were considered to be very useful for the learning process. As in the previous year, one notable thing is that students spent less time on the course than in previous years.
This course was full online this year, due to the COVID-19 epidemic. Lectures and orals were online. At the beginning, students were asked to provide a superbrief presentation of themselves to the other students, to improve the overall atmosphere. The students appreciated the ability to watch the recorded lectures with requests to provide such even when the course is not given online. Some students critized that the communication with the staff did not work well and that they missed some important information.

## II. Evaluation of changes since last time the course was given

The major change was that this time, Robert Klöfkorn gave two thirds of the lectures. Given that this was his first time teaching the course, I a very happy with the outcome.

## III. Proposed changes to the next time the course is given

Next time, Robert Klöfkorn will be course responsible and the sole teacher. Furthermore, it will no longer be online, but at the university. Furthermore, the date will be shifted to the HT2, and we expect the students to have half a year less knowledge. One question is inhowfar we can provide videos for these students.

2021-06-17, compiled by Philipp Birken

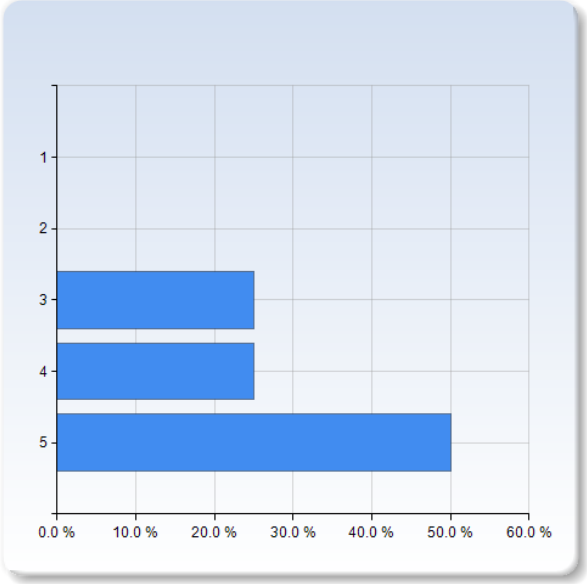
# NA Basic Course 2021

Answer Count: 8

## 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.

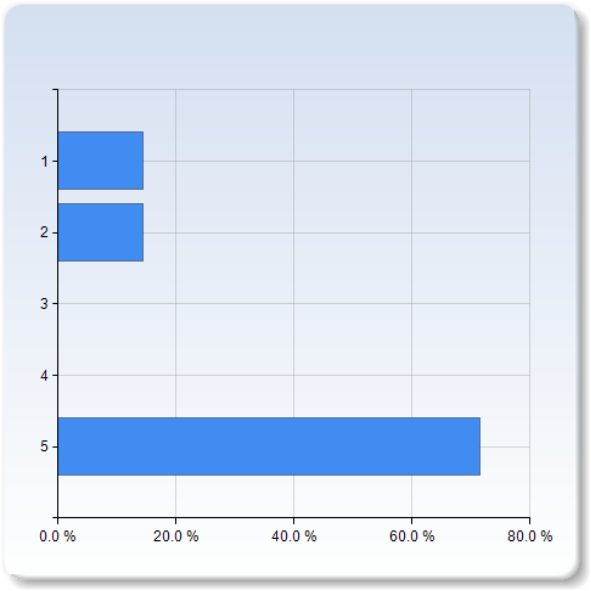
| 2. My prior knowledge has been sufficient to assimilate the contents of this course. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 2 (25.0%) |
| 4 | 2 (25.0%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| 2. My prior knowledge has been sufficient to assimilate the contents of this course. | 4.3 | 0.9 |

## 3. I have participated actively in the course.

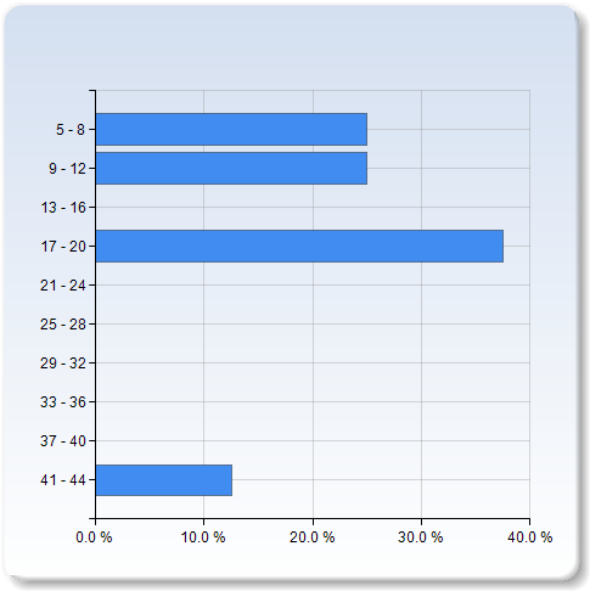
| 3. I have participated actively in the course. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 1 (14.3%) |
| 3 | 0 (0.0%) |
| 4 | 0 (0.0%) |
| 5 | 5 (71.4%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| 3. I have participated actively in the course. | 4.0 | 1.7 |

## 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 |
|---|---|
| 5 - 8 | 2 (25.0%) |
| 9 - 12 | 2 (25.0%) |
| 13 - 16 | 0 (0.0%) |
| 17 - 20 | 3 (37.5%) |
| 21 - 24 | 0 (0.0%) |
| 25 - 28 | 0 (0.0%) |
| 29 - 32 | 0 (0.0%) |
| 33 - 36 | 0 (0.0%) |
| 37 - 40 | 0 (0.0%) |
| 41 - 44 | 1 (12.5%) |
| Total | 8 (100.0%) |



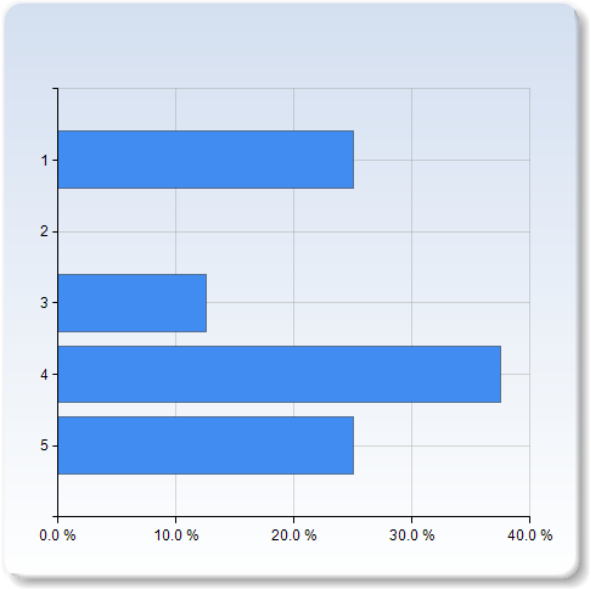

| | Mean | Standard Deviation |
|---|---|---|
| Average number of hours spent in total on the course per week (including scheduled activities): | 16.4 | 12.0 |

## 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.

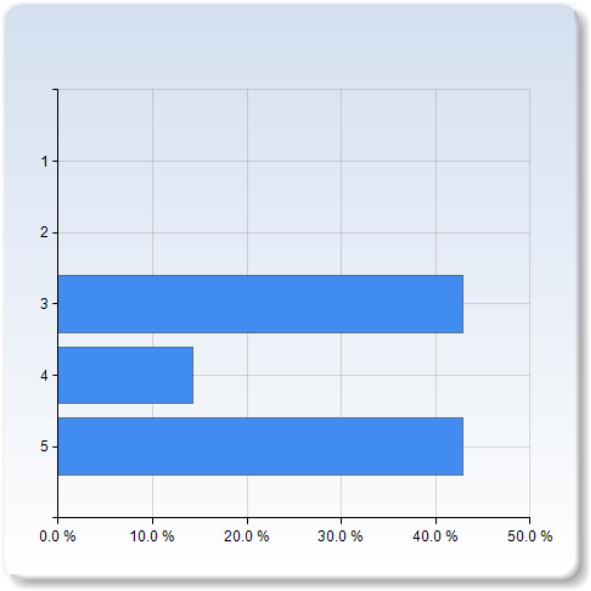
| The way the course was taught and organised suited me. | Number of Responses |
|---|---|
| 1 | 2 (25.0%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 3 (37.5%) |
| 5 | 2 (25.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The way the course was taught and organised suited me. | 3.4 | 1.6 |

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

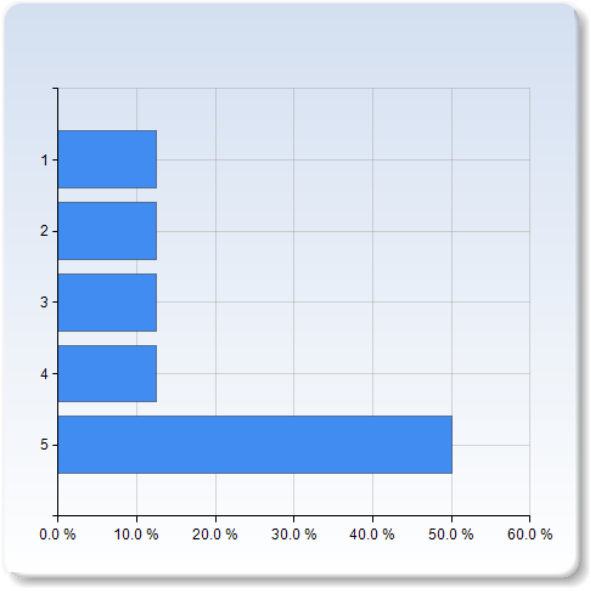
| The number of teacher lead activities (lectures, seminars etc.) has been satisfactory. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 3 (42.9%) |
| 4 | 1 (14.3%) |
| 5 | 3 (42.9%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The number of teacher lead activities (lectures, seminars etc.) has been satisfactory. | 4.0 | 1.0 |

## The lectures were valuable for my learning.

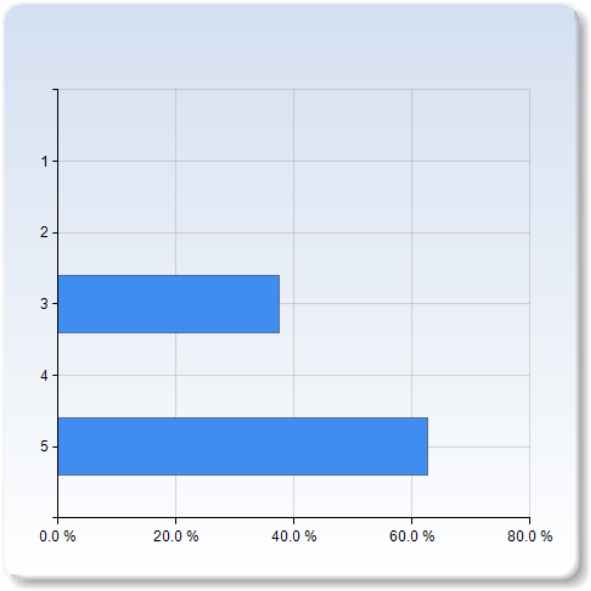
| The lectures were valuable for my learning. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 1 (12.5%) |
| 3 | 1 (12.5%) |
| 4 | 1 (12.5%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The lectures were valuable for my learning. | 3.8 | 1.6 |

## The assignments were valuable for my learning.

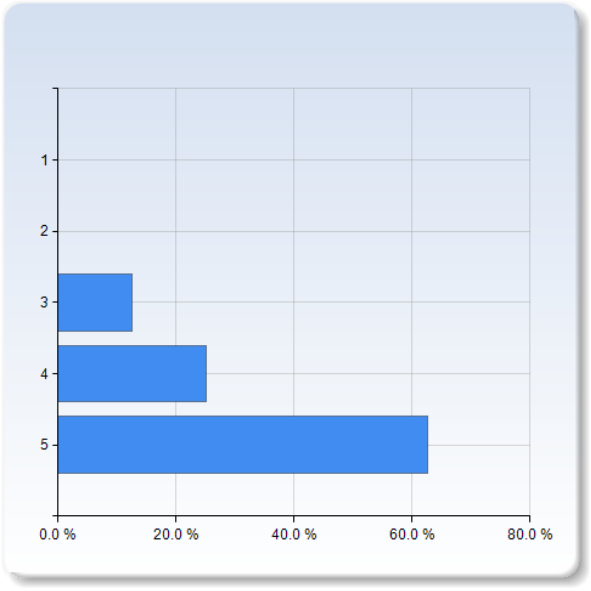
| The assignments were valuable for my learning. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 3 (37.5%) |
| 4 | 0 (0.0%) |
| 5 | 5 (62.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The assignments were valuable for my learning. | 4.3 | 1.0 |

## The project was valuable for my learning

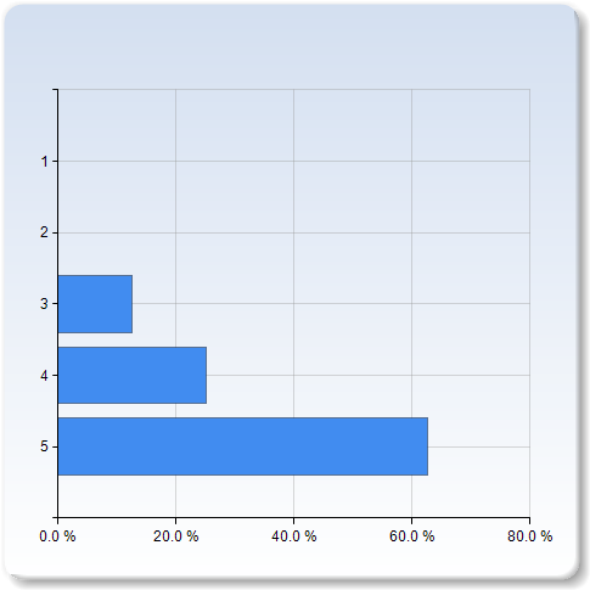
| The project was valuable for my learning | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 2 (25.0%) |
| 5 | 5 (62.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The project was valuable for my learning | 4.5 | 0.8 |

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

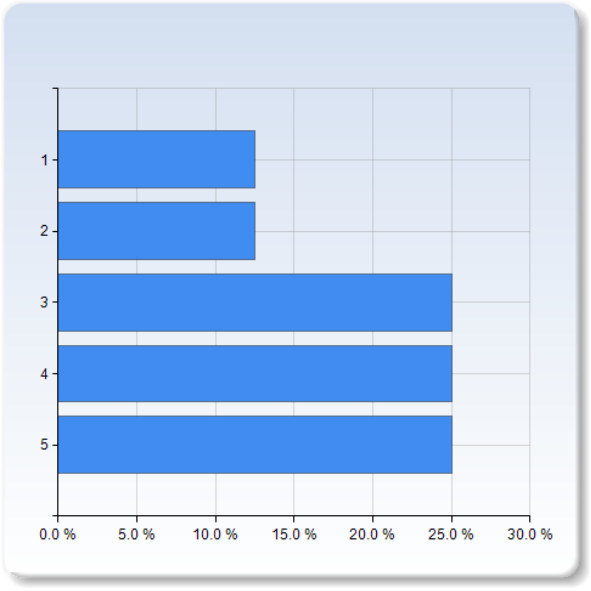
| Studying on my own was valuable for my learning. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 2 (25.0%) |
| 5 | 5 (62.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| Studying on my own was valuable for my learning. | 4.5 | 0.8 |

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

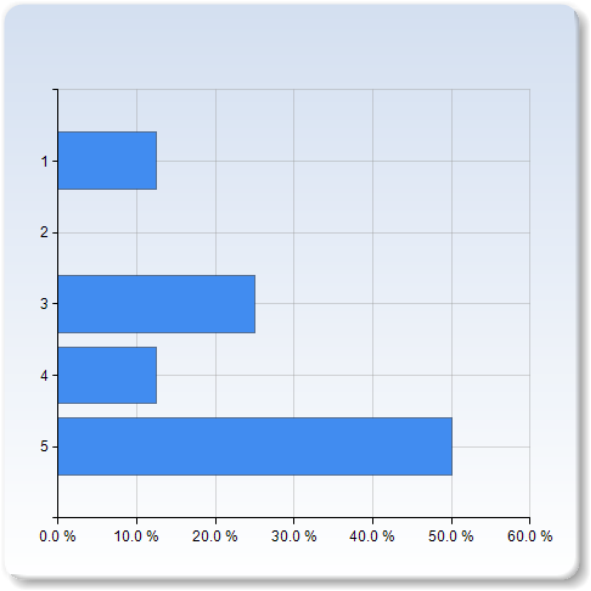
| The course literature/material was a valuable learning resource. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 1 (12.5%) |
| 3 | 2 (25.0%) |
| 4 | 2 (25.0%) |
| 5 | 2 (25.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course literature/material was a valuable learning resource. | 3.4 | 1.4 |

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

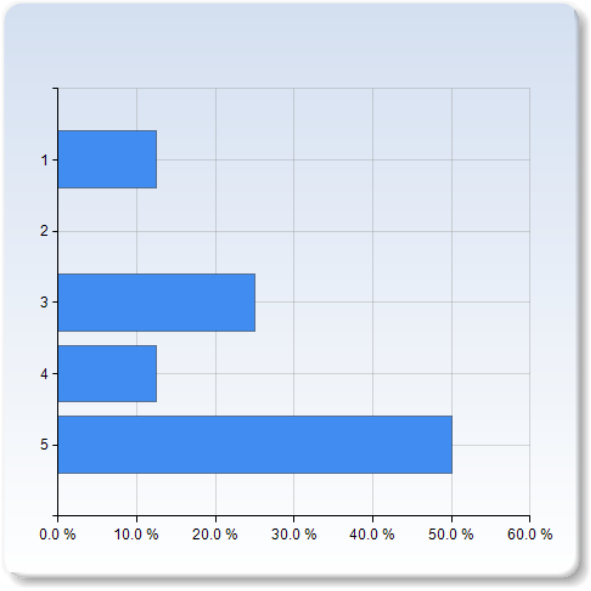
| The information I received before the course start was satisfactory. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 2 (25.0%) |
| 4 | 1 (12.5%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The information I received before the course start was satisfactory. | 3.9 | 1.5 |

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

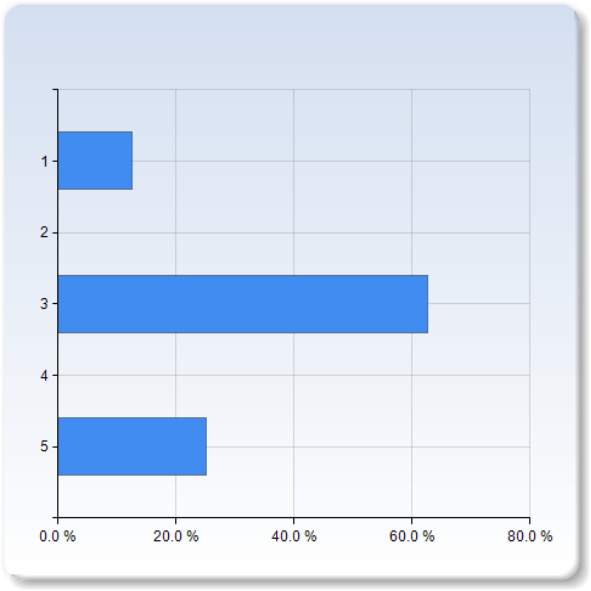
| The communication with the teaching staff during the course was good. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 2 (25.0%) |
| 4 | 1 (12.5%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The communication with the teaching staff during the course was good. | 3.9 | 1.5 |

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

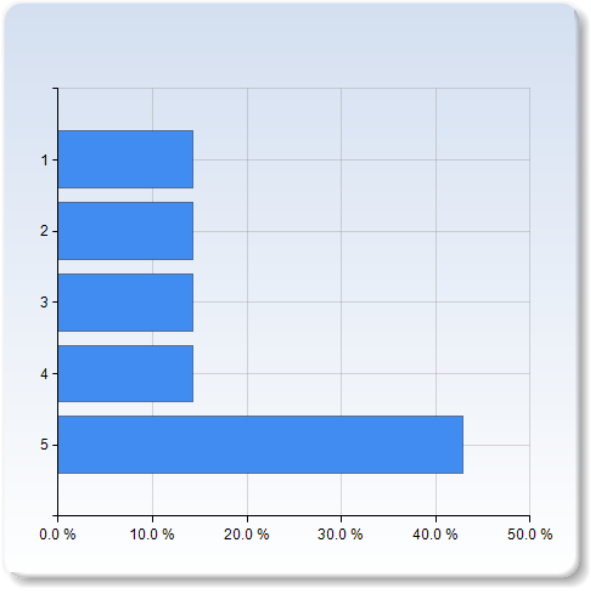
| It was clear throughout the course what was expected of me. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 5 (62.5%) |
| 4 | 0 (0.0%) |
| 5 | 2 (25.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| It was clear throughout the course what was expected of me. | 3.3 | 1.3 |

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

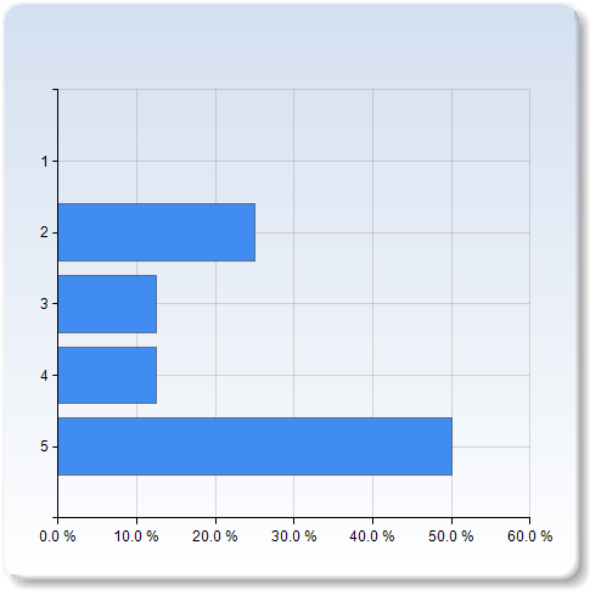
| I have received valuable feedback from my teacher /teachers during the course. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 1 (14.3%) |
| 3 | 1 (14.3%) |
| 4 | 1 (14.3%) |
| 5 | 3 (42.9%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| I have received valuable feedback from my teacher/teachers during the course. | 3.6 | 1.6 |

## The course had a reasonable workload.

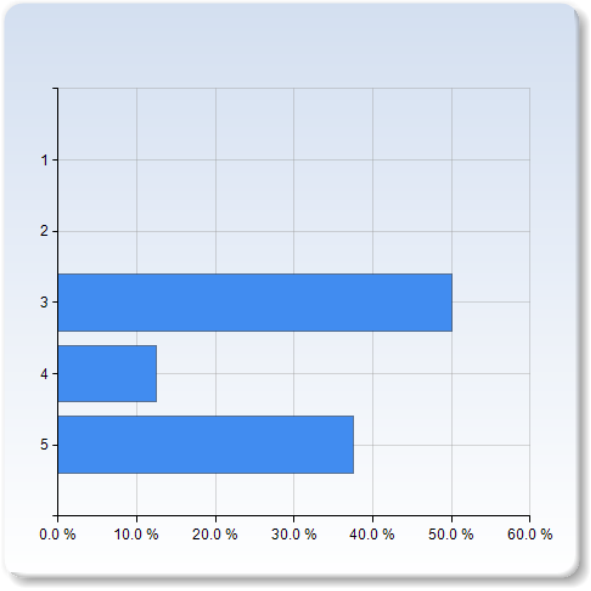
| The course had a reasonable workload. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 2 (25.0%) |
| 3 | 1 (12.5%) |
| 4 | 1 (12.5%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course had a reasonable workload. | 3.9 | 1.4 |

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

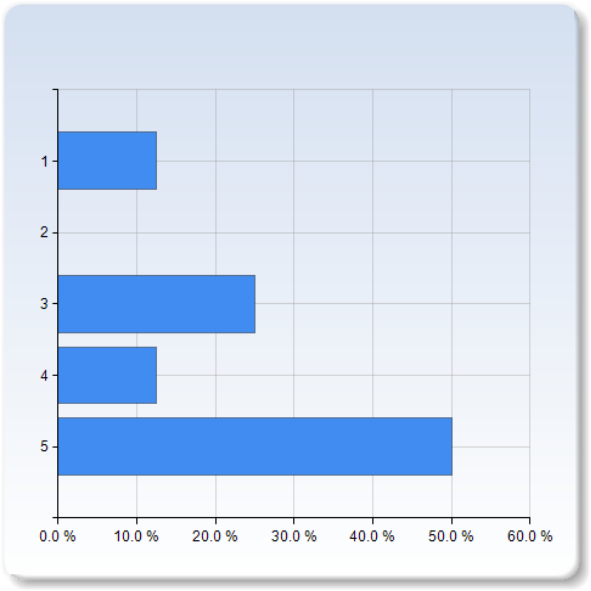
| The examination matched the contents and level of the course. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 4 (50.0%) |
| 4 | 1 (12.5%) |
| 5 | 3 (37.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The examination matched the contents and level of the course. | 3.9 | 1.0 |

## Overall, I am satisfied with the course.

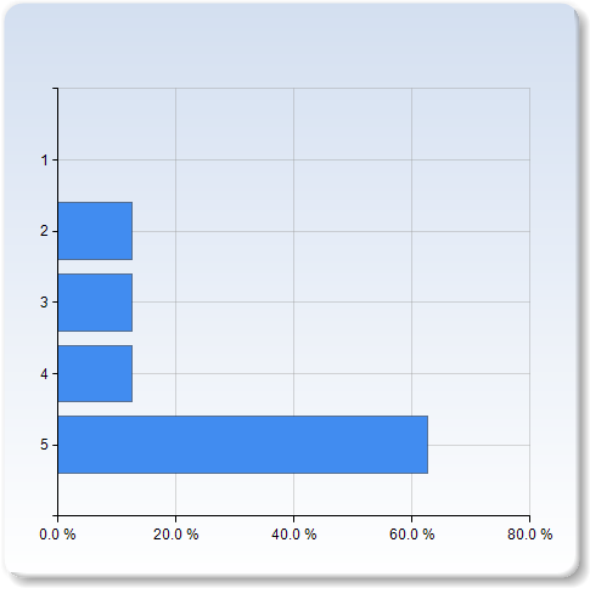
| Overall, I am satisfied with the course. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 2 (25.0%) |
| 4 | 1 (12.5%) |
| 5 | 4 (50.0%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| Overall, I am satisfied with the course. | 3.9 | 1.5 |

## The workload was evenly distributed throughout the course.

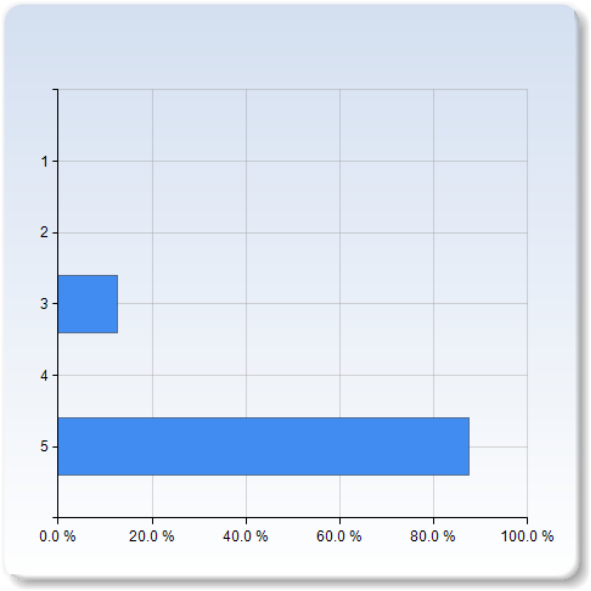
| The workload was evenly distributed throughout the course. | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 1 (12.5%) |
| 3 | 1 (12.5%) |
| 4 | 1 (12.5%) |
| 5 | 5 (62.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The workload was evenly distributed throughout the course. | 4.3 | 1.2 |

## I watched the uploaded lectures

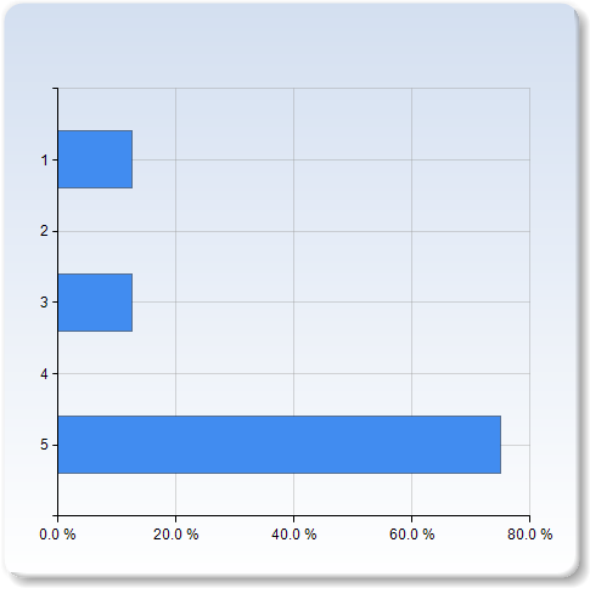
| I watched the uploaded lectures | Number of Responses |
|---|---|
| 1 | 0 (0.0%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 0 (0.0%) |
| 5 | 7 (87.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| I watched the uploaded lectures | 4.8 | 0.7 |

## The uploaded lectures were valuable for my learning

| The uploaded lectures were valuable for my learning | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 0 (0.0%) |
| 5 | 6 (75.0%) |
| Total | 8 (100.0%) |



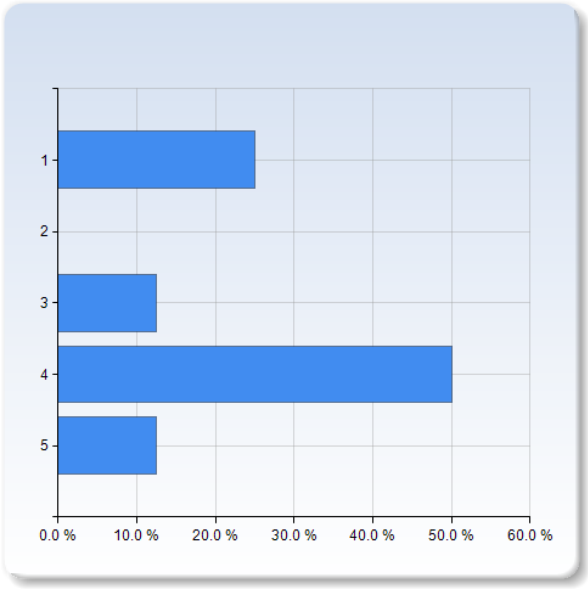

| | Mean | Standard Deviation |
|---|---|---|
| The uploaded lectures were valuable for my learning | 4.3 | 1.5 |

## 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.

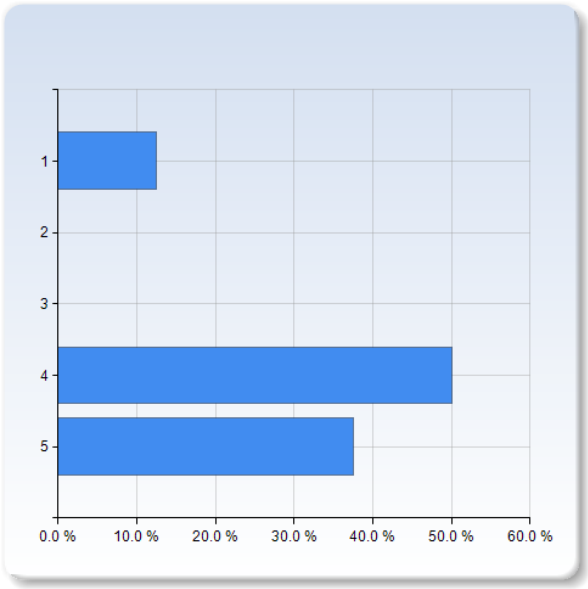
| The course has increased my ability to read a mathematical text. | Number of Responses |
|---|---|
| 1 | 2 (25.0%) |
| 2 | 0 (0.0%) |
| 3 | 1 (12.5%) |
| 4 | 4 (50.0%) |
| 5 | 1 (12.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to read a mathematical text. | 3.3 | 1.5 |

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

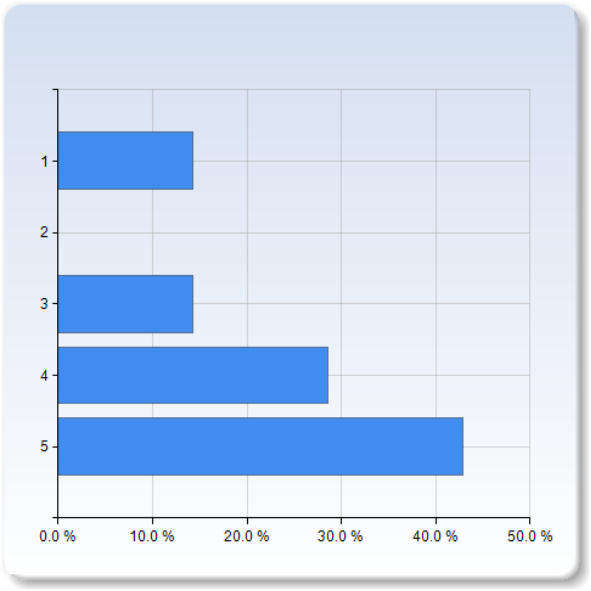
| The course has increased my ability to communicate the subject in writing. | Number of Responses |
|---|---|
| 1 | 1 (12.5%) |
| 2 | 0 (0.0%) |
| 3 | 0 (0.0%) |
| 4 | 4 (50.0%) |
| 5 | 3 (37.5%) |
| Total | 8 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to communicate the subject in writing. | 4.0 | 1.3 |

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

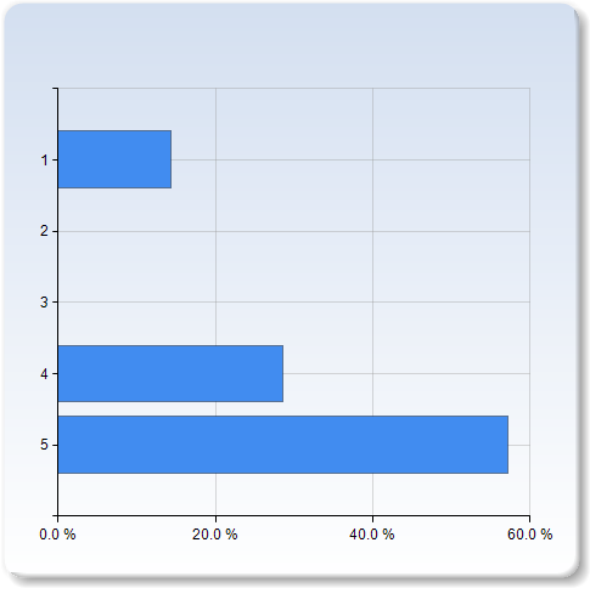
| The course has increased my ability to communicate the subject orally. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 0 (0.0%) |
| 3 | 1 (14.3%) |
| 4 | 2 (28.6%) |
| 5 | 3 (42.9%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to communicate the subject orally. | 3.9 | 1.5 |

## The course has increased my ability to collaborate.

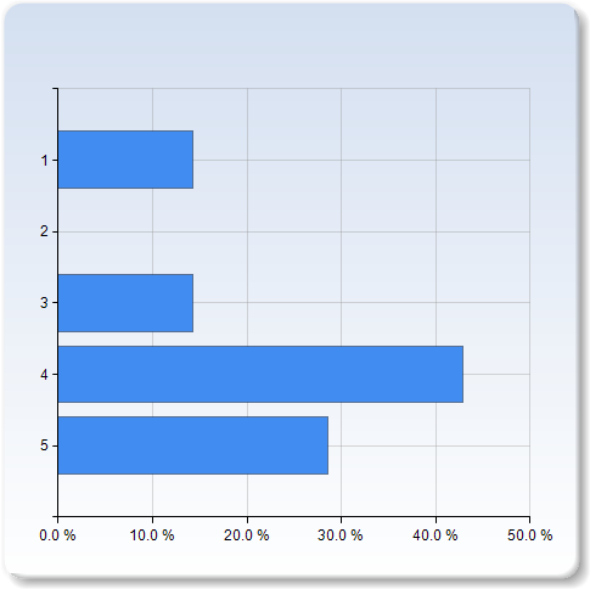
| The course has increased my ability to collaborate. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 0 (0.0%) |
| 3 | 0 (0.0%) |
| 4 | 2 (28.6%) |
| 5 | 4 (57.1%) |
| Total | 7 (100.0%) |



| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to collaborate. | 4.1 | 1.5 |

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

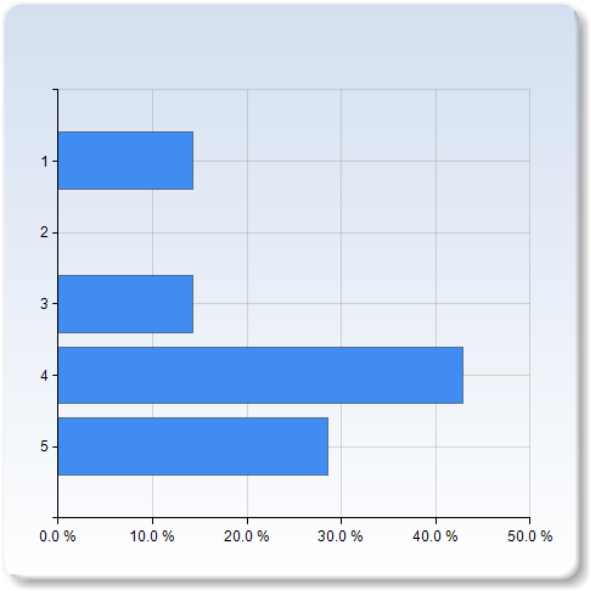
| The course has increased my ability to search and process information. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 0 (0.0%) |
| 3 | 1 (14.3%) |
| 4 | 3 (42.9%) |
| 5 | 2 (28.6%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to search and process information. | 3.7 | 1.4 |

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

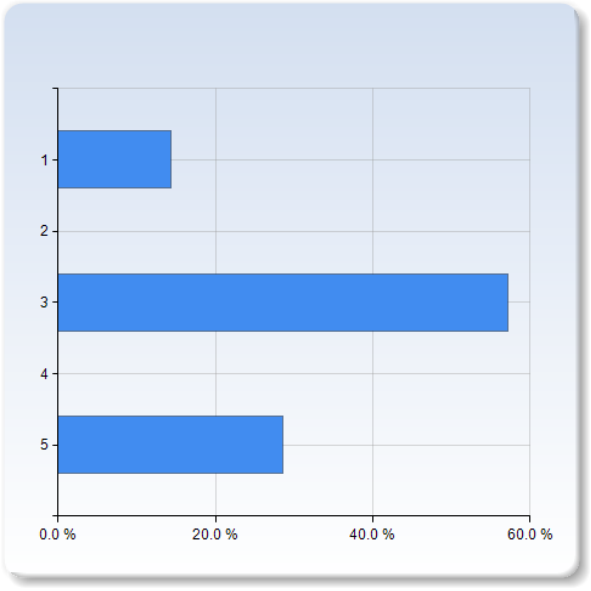
| The course has increased my ability to analyze and solve problems. | Number of Responses |
|---|---|
| 1 | 1 (14.3%) |
| 2 | 0 (0.0%) |
| 3 | 1 (14.3%) |
| 4 | 3 (42.9%) |
| 5 | 2 (28.6%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| The course has increased my ability to analyze and solve problems. | 3.7 | 1.4 |

## 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 | 1 (14.3%) |
| 2 | 0 (0.0%) |
| 3 | 4 (57.1%) |
| 4 | 0 (0.0%) |
| 5 | 2 (28.6%) |
| Total | 7 (100.0%) |




| | Mean | Standard Deviation |
|---|---|---|
| As a result of this course, I feel confident about tackling unfamiliar problems. | 3.3 | 1.4 |

## How did the online learning work for you in this course?

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| --- |
| Maybe not much online learning work beyond lectures and assignments, although the assignments were quite useful as a more thorough form of homework! |
| The online learning work was good on my side. I had to travel less (since I live outside Lund) and spend that usual commuting time on my studies. The good part of this course was that we had to work on groups, hence it was not very hard to find a partner and discuss the material. |
| It worked fine. No problems. |
| Did not work well, we are asked to communicate clearly on our reports and hand in neat assignments, nevertheless the course material is very hard to read, very poor quality handwritten material, and the same goes with the lectures. One would expect that the teacher would have at least the same level of material as was required by the students. The teaching material was below acceptable. It was impossible for me to follow considering these very low educational standards, so i quit the course. |
| Recorded lectures were useful for when I missed the the lecture, so that is good. |
| Poorly, as vital information was only given via Zoom and for some not recorded. |
| It was good, I had 2 other courses so having the lectures uploaded helped me very much |

## What did you appreciate most with the course?

| What did you appreciate most with the course? |
| --- |
| Some interesting computational problems, and the error analysis still maintained mathematical rigour. |
| There are many things I appreciated in this course:<br><br>1. The lectures. Both of the teachers were very good, however I cherished Robert Klöfkorn's slow pace. It is not a very easy subject to comprehend at once, hence during the lectures I guess I needed that slow pace and somewhat a detailed explanation. This does not imply in any sense that Philipp Birken was bad at lecturing. For instance another friend cherished more the fast pace of Philip's than Robert's, so it is a matter of taste and comprehension I guess.<br><br>2. The assignments.<br>The assignments were done in groups, and I really cherish the fact that this course was designed somehow to work in groups. Especially during corona time (or being an introvert :)), it is hard to find people to work with, and it is always good to work with someone else. For my good luck, my group partner was kind, understanding and hard working too.<br><br>3. The feed back.<br>It was good to sense that we are being checked and that we could always ask for help on what we might have done wrong on our assignments.<br><br>4. The exam.<br>I cherish the fact that we somehow knew what shall come in the oral exam. The material in mathematical courses, as usually, is quite overloaded with theorems, formulas, and many details which for a mind like mine is a bit overwhelming. But to have a project like we did, and to apply the main things we learned in the course and in the end to be asked for that, I think it becomes easier and less anxious for the students too. In the end I least I ended up knowing the skeleton so to speak of what should be known in this course. |
| That it was both theoretical and practical. The assignments were great. |
| Assignments |
| The assignments felt relevant, helping my understanding. |
| The content was interesting and I liked it the project was also very fun |

## What do you think should be improved?

| What do you think should be improved? |
| --- |
| Maybe some more problems on the assignments, but making them modular in a way that anyone can decide for themselves what level of difficulty on the problems suits them. |
| I think during the lectures or in the material students should be guided more on python parts as well. Especially because there are many problems in the assignments and most of the project is done using it. I know that many students have studied IT courses, and many are very good in computer programmes and this gives an impression that things in python are known and should be known by students. But for me personally, I do not use many computer programmes. I had taken one course in Python, and that 2 years ago, so it was a bit hard to get started with it. I had the luck to work with a group partner who was good in that part, but I feel that I still lack a proper understanding of python (on the level we are supposed to know it).<br><br>So, yes. Definitely add more python explanations during the course if that is possible. Students like me would cherish it a lot! |
| The assignments should definitely be mandatory. Not necessarily counting towards the grade, but at least mandatory to pass. For example, when one failed at some problem in a assignment, it would have been much better to have to redo it and send it back in, as oppose to nothing happening. Otherwise nothing would have been learned from the mistake. Also, there wasn't that much other practical work, like exercises. So the assignments I would say were essential to the understanding of the subject, and without them being mandatory it doesn't really feel like there's much chance of practicing the theory. |
| See 5 |
| - Please do your best to make important (administrative) information accessible to everyone, not just those that can partake in the Zoom lectures. This means either recording the parts where you provide that information or making written announcements in Canvas.<br>- Please make your lecture notes beforehand, instead of writing by hand. It was often hard to see what was written and I had to watch the lectures on triple speed because most of the time was spent writing things out.<br>- It felt like the lectures sometimes skipped steps of the proofs, thus leaving me unsure about why the theorems actually held.<br>- I would appreciate if recommended reading was provided with every lecture, as I often found myself understanding the concepts better when reading about them in the book. |
| I have both attended the class numerical linear algebra and basic numerical analysis and I think both of them could add at least 2 seminar class every week, where the teacher is there to answer questions. From my experience in other in other classes this have help me to understand the content even better. It could be questions from coding till proofs. I personally think other people will also appreciate this |

## 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. |
| No! |
| No. |
| No |