LUND UNIVERSITY
Faculty of Science

Center for Mathematical Sciences
Division of Mathematics and Numerical Analysis

Course Analysis for Course NUMA01 – Computational Programming with Python, term HT2022

Course Information

Lecturer: Robert Klöfkorn, Viktor Linders
Teaching assistants: Johannes Kasimir, Anna-Mariya Otsetova, Guglielmo Gigante, Zoi Efstathiou, Niklas Kotarsky, Niamh Mc Mullin
Number of students:
101 newly registered and 17 re-registered.
15 students answered the course evaluation, 7 of them enrolled in the Mathematics program, 6 in the Physics program and 2 in others.

Examination

Project + oral presentation: 83 students passed.

Final grades:
In all, 83 students, including 6 re-registered students, have got their final grade.

Course Evaluation

Summary of student's answers:

Overall the course was well received. The students in particular liked the training exercises and the way the examination was done with homework and a final project. The switch from slides to jupyter notebooks also seems to have been positively received.

Teachers' comments:

The course was given as "on campus" only with a presentation of the material during the lecture and a follow-up training exercise to work with the topic of the day. The lecture material is provided as pdf, jupyter notebook and Python file.
The students have two homework assignments and a final project in order to pass the course. The participation in the lectures was about 60% and for the training exercises 40%, for those who answered in both cases.

Changes from the previous course realization:
Compared to the previous realizations one change has been to use jupyter notebooks instead of slides. This is only a minor change but seems to be well received by the students.
The use of the course book is still below expectation.

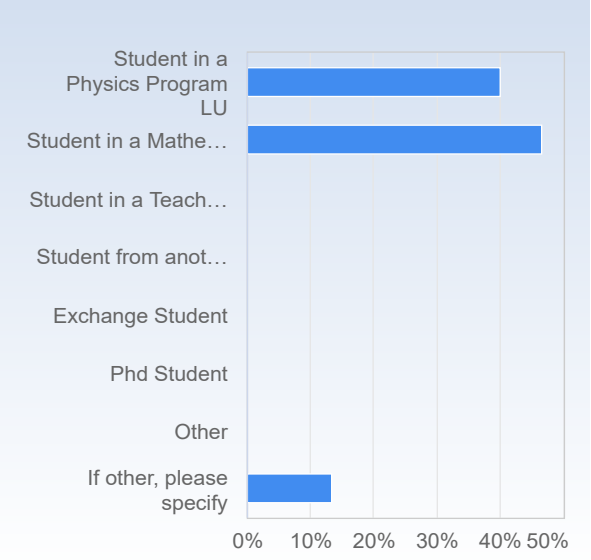
Suggestions for the next course realization: The course will remain largely unchanged with a few minor improvements here and there based on comments from students collected over the duration of the course and in this survey. Also, the students did not seem to use the course book to the extend the teachers would like to see.

Computational Programming with Python, Autumn 2022

Respondents: 142
Answer Count: 15
Answer Frequency: 10.56%

Your role in the course?

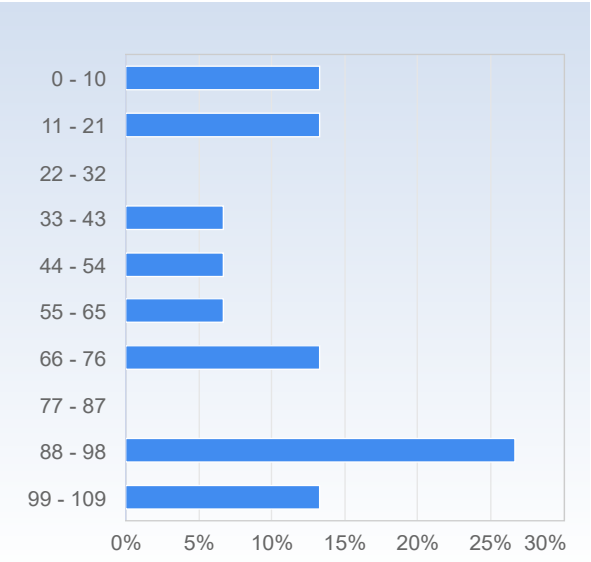
Your role in the course?	Number of responses
Student in a Physics Program LU	6 (40.0%)
Student in a Mathematics Program LU	7 (46.7%)
Student in a Teacher's Program LU	0 (0.0%)
Student from another Swedish university	0 (0.0%)
Exchange Student	0 (0.0%)
Phd Student	0 (0.0%)
Other	0 (0.0%)
If other, please specify	2 (13.3%)
Total	15 (100.0%)



	Mean	Standard Deviation
Your role in the course?	2.4	2.3

Your participation in the lectures.

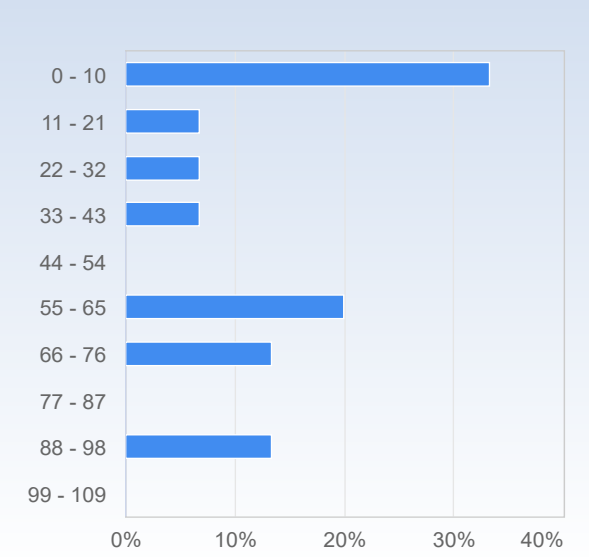
Your participation in the lectures.	Number of responses
0 - 10	2 (13.3%)
11 - 21	2 (13.3%)
22 - 32	0 (0.0%)
33 - 43	1 (6.7%)
44 - 54	1 (6.7%)
55 - 65	1 (6.7%)
66 - 76	2 (13.3%)
77 - 87	0 (0.0%)
88 - 98	4 (26.7%)
99 - 109	2 (13.3%)
Total	15 (100.0%)



	Mean	Standard Deviation
Your participation in the lectures.	60.0	34.6

Your participation in the training exercises.

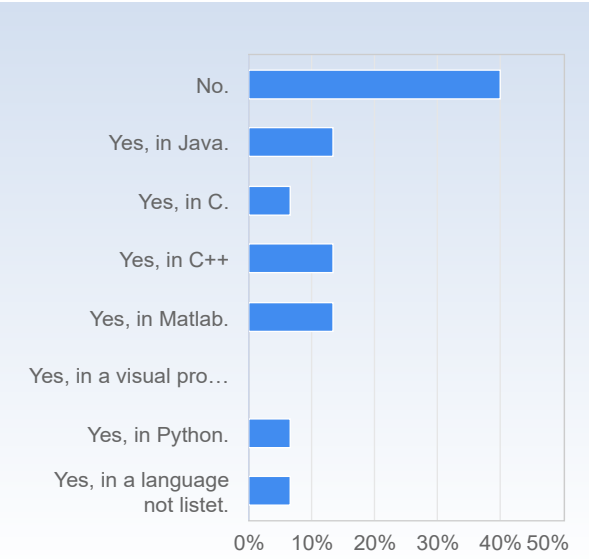
Your participation in the training exercises.	Number of responses
0 - 10	5 (33.3%)
11 - 21	1 (6.7%)
22 - 32	1 (6.7%)
33 - 43	1 (6.7%)
44 - 54	0 (0.0%)
55 - 65	3 (20.0%)
66 - 76	2 (13.3%)
77 - 87	0 (0.0%)
88 - 98	2 (13.3%)
99 - 109	0 (0.0%)
Total	15 (100.0%)



	Mean	Standard Deviation
Your participation in the training exercises.	41.0	31.4

Have you ever have written a computer program before the course start? (Please give the most relevant answer)

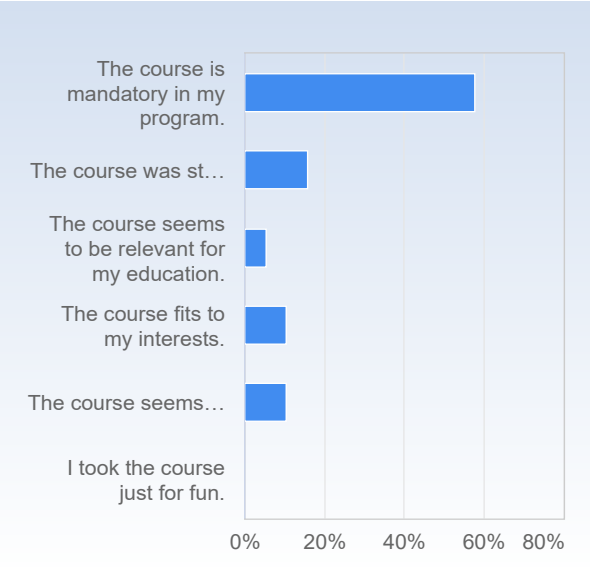
Have you ever have written a computer program before the course start? (Please give the most relevant answer)	Number of responses
No.	6 (40.0%)
Yes, in Java.	2 (13.3%)
Yes, in C.	1 (6.7%)
Yes, in C++	2 (13.3%)
Yes, in Matlab.	2 (13.3%)
Yes, in a visual programming language, like Snap! .	0 (0.0%)
Yes, in Python.	1 (6.7%)
Yes, in a language not listet.	1 (6.7%)
Total	15 (100.0%)



	Mean	Standard Deviation
Have you ever have written a computer program before the course start? (Please give the most relevant answer)	3.1	2.3

Why did you sign up for the course? (several answers possible)

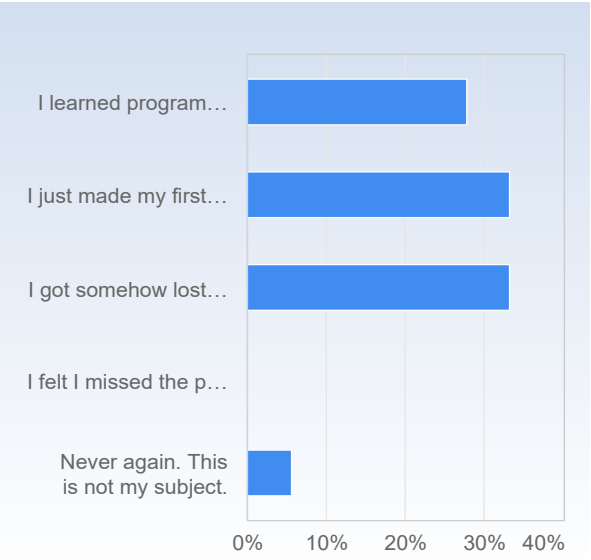
Why did you sign up for the course? (several answers possible)	Number of responses
The course is mandatory in my program.	11 (73.3%)
The course was strongly recommended in my program.	3 (20.0%)
The course seems to be relevant for my education.	1 (6.7%)
The course fits to my interests.	2 (13.3%)
The course seems to improve my chances on the work market.	2 (13.3%)
I took the course just for fun.	0 (0.0%)
Total	19 (126.7%)



	Mean	Standard Deviation
Why did you sign up for the course? (several answers possible)	2.0	1.5

Now that the lectures are done, my impression is.....

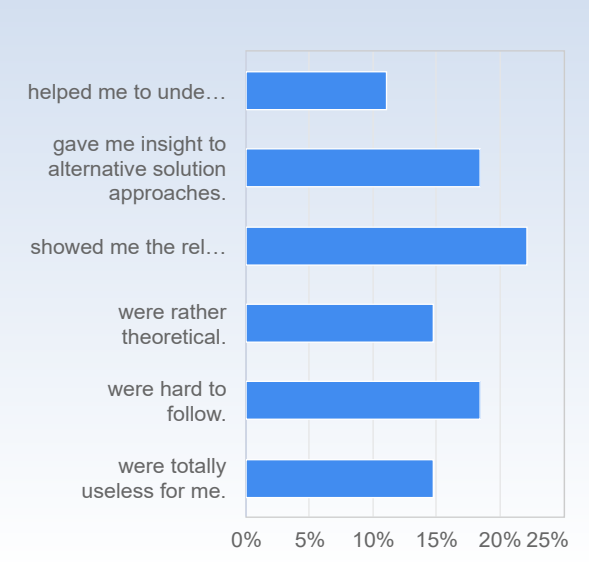
Now that the lectures are done, my impression is.....	Number of responses
I learned programming and I feel that can manage to write programs in mathematics and physics.	5 (33.3%)
I just made my first steps and got motivated to dive deeper into the subject.	6 (40.0%)
I got somehow lost during the course, but I think I will catch up.	6 (40.0%)
I felt I missed the point with this course and will retake it.	0 (0.0%)
Never again. This is not my subject.	1 (6.7%)
Total	18 (120.0%)



	Mean	Standard Deviation
Now that the lectures are done, my impression is.....	2.2	1.1

The lectures ....

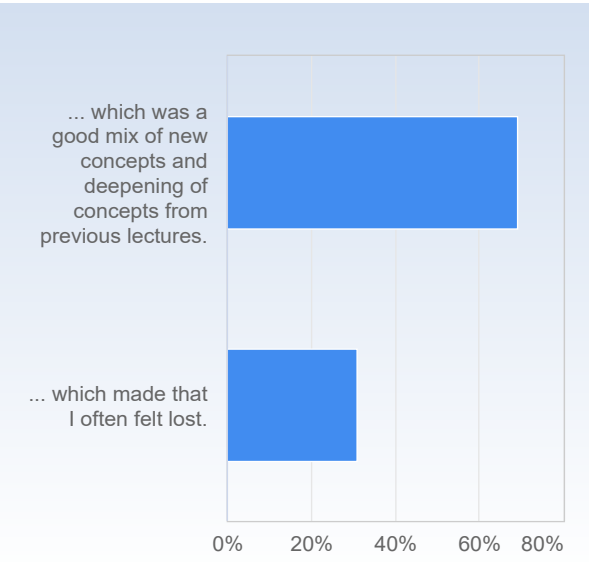
The lectures	Number of responses
helped me to understand concepts and details.	3 (20.0%)
gave me insight to alternative solution approaches.	5 (33.3%)
showed me the relevance of programming in mathematics /physics.	6 (40.0%)
were rather theoretical.	4 (26.7%)
were hard to follow.	5 (33.3%)
were totally useless for me.	4 (26.7%)
Total	27 (180.0%)



	Mean	Standard Deviation
The lectures	3.6	1.6

The material used during lectures was ordered in a way ...

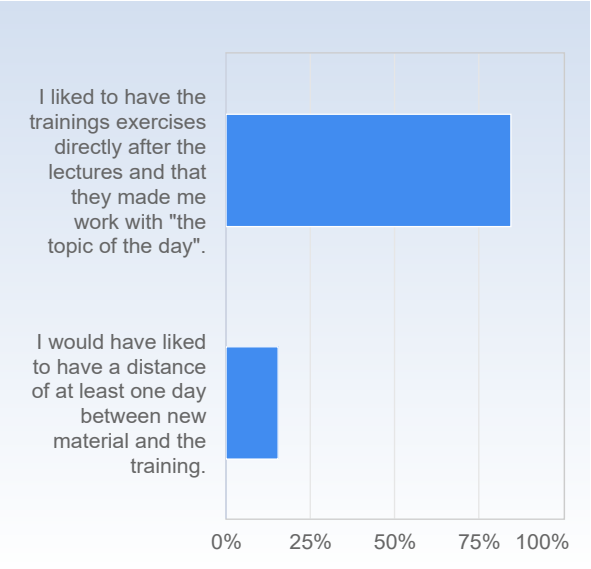
The material used during lectures was ordered in a way ...	Number of responses
... which was a good mix of new concepts and deepening of concepts from previous lectures.	9 (69.2%)
... which made that I often felt lost.	4 (30.8%)
Total	13 (100.0%)



	Mean	Standard Deviation
The material used during lectures was ordered in a way ...	1.3	0.5

Trainings Exercises

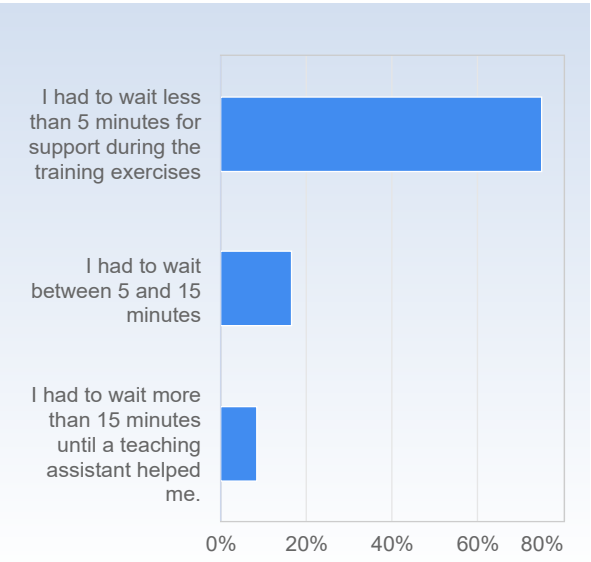
Trainings Exercises	Number of responses
I liked to have the trainings exercises directly after the lectures and that they made me work with "the topic of the day".	11 (84.6%)
I would have liked to have a distance of at least one day between new material and the training.	2 (15.4%)
Total	13 (100.0%)



	Mean	Standard Deviation
Trainings Exercises	1.2	0.4

Support

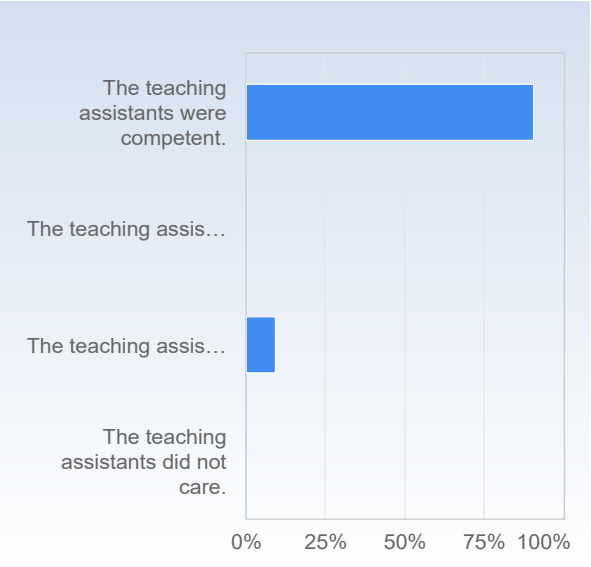
Support	Number of responses
I had to wait less than 5 minutes for support during the training exercises	9 (75.0%)
I had to wait between 5 and 15 minutes	2 (16.7%)
I had to wait more than 15 minutes until a teaching assistant helped me.	1 (8.3%)
Total	12 (100.0%)



	Mean	Standard Deviation
Support	1.3	0.7

Competence

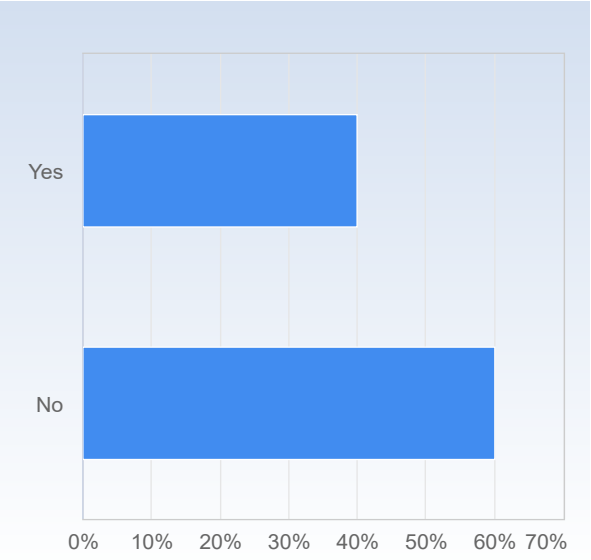
Competence	Number of responses
The teaching assistants were competent.	10 (90.9%)
The teaching assistant sometimes could not answer but found another one to help.	0 (0.0%)
The teaching assistents tried there best but gave me often wrong answers.	1 (9.1%)
The teaching assistants did not care.	0 (0.0%)
Total	11 (100.0%)



	Mean	Standard Deviation
Competence	1.2	0.6

Taining exercises. I worked in a group.

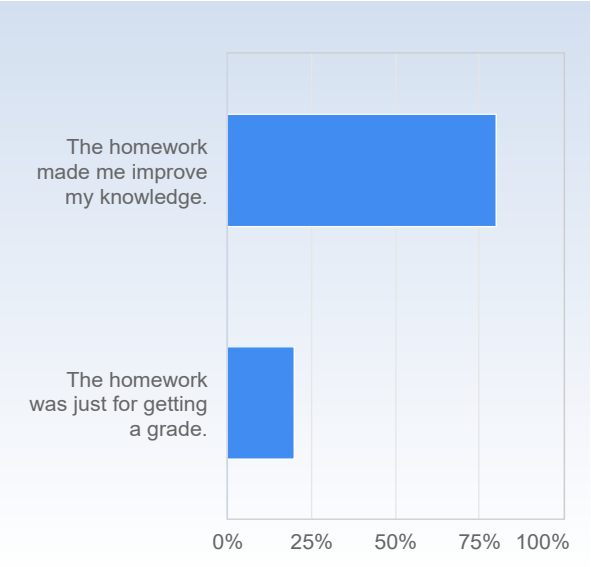
Taining exercises. I worked in a group.	Number of responses
Yes	6 (40.0%)
No	9 (60.0%)
Total	15 (100.0%)



	Mean	Standard Deviation
Taining exercises. I worked in a group.	1.6	0.5

Homework

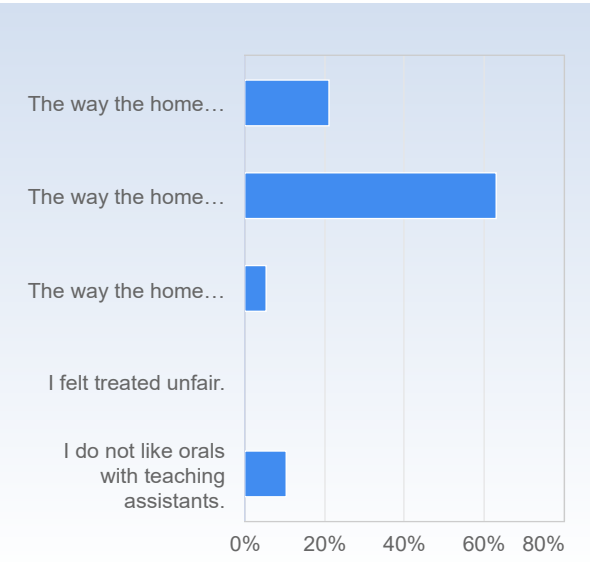
Homework	Number of responses
The homework made me improve my knowledge.	12 (80.0%)
The homework was just for getting a grade.	3 (20.0%)
Total	15 (100.0%)



	Mean	Standard Deviation
Homework	1.2	0.4

The homework presentations.

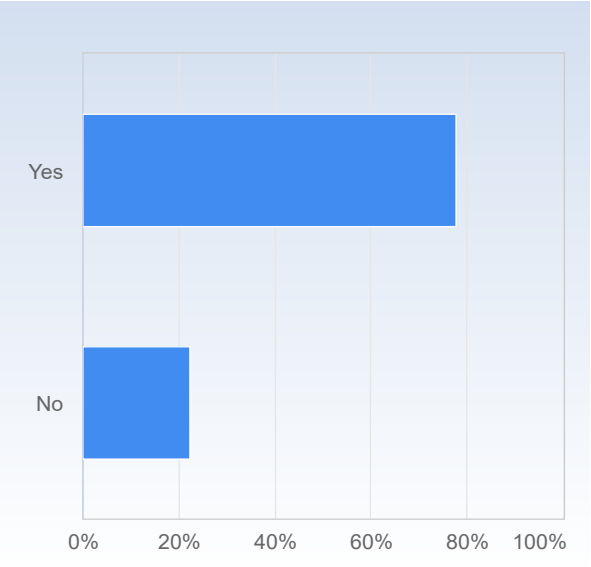
The homework presentations.	Number of responses
The way the homeworks were presented gave me a chance to get extra feedback.	4 (28.6%)
The way the homeworks were presented gave me a chance to show and test my knowledge.	12 (85.7%)
The way the homework was presented did not match to my effort I put into this work.	1 (7.1%)
I felt treated unfair.	0 (0.0%)
I do not like orals with teaching assistants.	2 (14.3%)
Total	19 (135.7%)



	Mean	Standard Deviation
The homework presentations.	2.2	1.1

I found it helpfull to work in groups for the homework

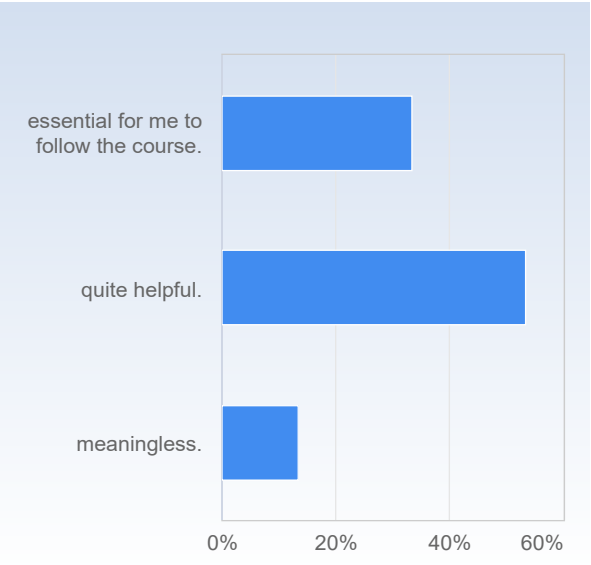
I found it helpfull to work in groups for the homework	Number of responses
Yes	7 (77.8%)
No	2 (22.2%)
Total	9 (100.0%)



	Mean	Standard Deviation
I found it helpfull to work in groups for the homework	1.2	0.4

Course material. The slides and Jupyter Notebook files were ...

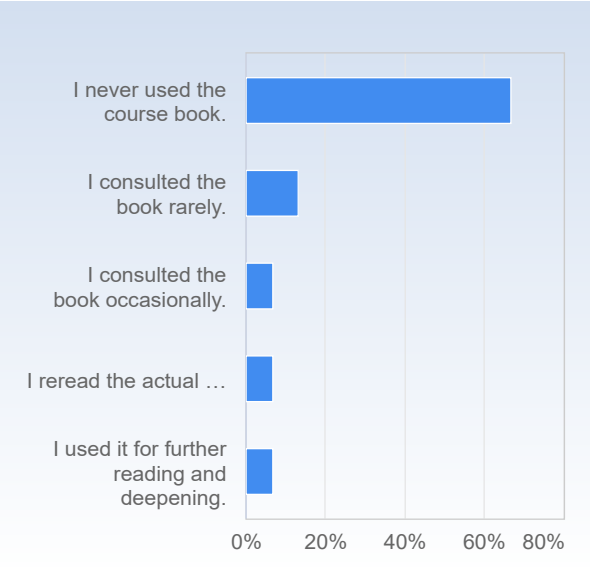
Course material. The slides and Jupyter Notebook files were ...	Number of responses
essential for me to follow the course.	5 (33.3%)
quite helpful.	8 (53.3%)
meaningless.	2 (13.3%)
Total	15 (100.0%)



	Mean	Standard Deviation
Course material. The slides and Jupyter Notebook files were ...	1.8	0.7

The course book.

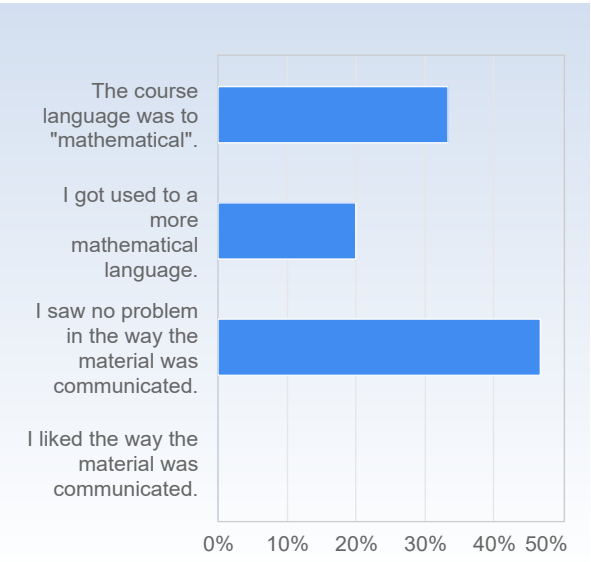
The course book.	Number of responses
I never used the course book.	10 (66.7%)
I consulted the book rarely.	2 (13.3%)
I consulted the book occasionally.	1 (6.7%)
I reread the actual sections of the lecture in the course book.	1 (6.7%)
I used it for further reading and deepening.	1 (6.7%)
Total	15 (100.0%)



	Mean	Standard Deviation
The course book.	1.7	1.3

Course style. Language

Course style. Language	Number of responses
The course language was to "mathematical".	5 (33.3%)
I got used to a more mathematical language.	3 (20.0%)
I saw no problem in the way the material was communicated.	7 (46.7%)
I liked the way the material was communicated.	0 (0.0%)
Total	15 (100.0%)



	Mean	Standard Deviation
Course style. Language	2.1	0.9