LUND UNIVERSITY
Faculty of Science

Course Analysis for Course

MATB21 Analysis in Several Variables 1

Autumn 2022

Course Information

Lecturer: Evgeniy Lokharu
Teaching assistants: Jonathan Holmquist, Joakim Cronvall
Number of students: 83

Examination

Project: 55 students passed.
Written examination: 42 students passed.

- Ordinary examination 29/10 2022: 26 students passed.
- Resit examination 19/11 2022: 16 of them passed.

Final grades:
In all, 55 students have got their final grade.
10 passed with distinction.
32 passed.

Course Evaluation

Summary of student's answers:
Around 20 students participated in the course evaluation. Overall students were satisfied with the course. However many pointed out certain organization issues to be improved. The suggested literature, according to the answers, was not valuable for the learning.

Teachers' comments:
The text provides a summary of the implementation of the course and the teaching.

- The course was based on the new book with more theoretical material.
- During the seminars students were offered to try to solve problems designed individually for each seminar. Problems were normally uploaded to the course page a few days before each seminar.
- Lecture notes were based on hand-written notes that were normally uploaded to the course page after each lecture.

Around 50% of students participated to lectures and seminars.

Changes from the previous course realisation:

The course was completely re-formed. It was based on a new book and offered new problems, specially selected to each lecture.

**Suggestions for the next course realisation**:

It is desirable to find another book to base lectures on, different to Adams. It seems to be important for students to have a very detailed plan for each lecture and all materials to be uploaded in advance, before the course start. All problems, suggested to students, shall be complemented by the answers. A good organization shall help to focus better on the course tasks.

Course evaluation for MATB21 ht22

Answer Count: 24

I have studied this course as part of

| I have studied this course as part of	Number of responses
Bachelor´s Programme in Mathematics	0 (0.0%)
Bachelor´s Programme in Physics, Theoretical Physics, Astronomy	21 (87.5%)
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	1 (4.2%)
Teacher Education	1 (4.2%)
other programme or as stand alone course	1 (4.2%)
Total	24 (100.0%)
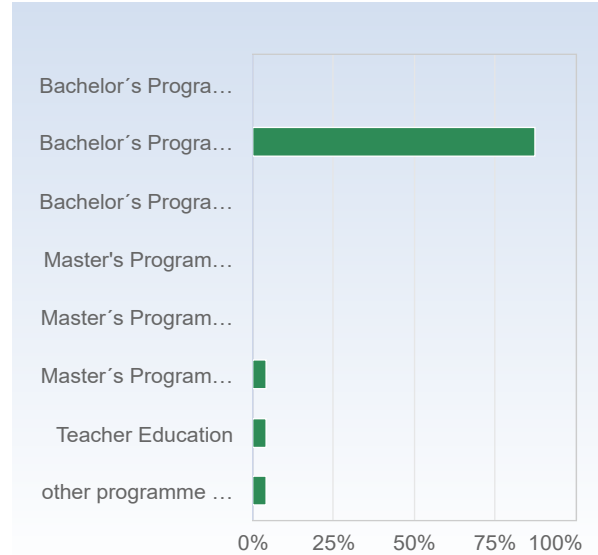
	Mean	Standard Deviation
I have studied this course as part of	2.6	1.7

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	2 (8.3%)
3	10 (41.7%)
4	6 (25.0%)
5	6 (25.0%)
Total	24 (100.0%)
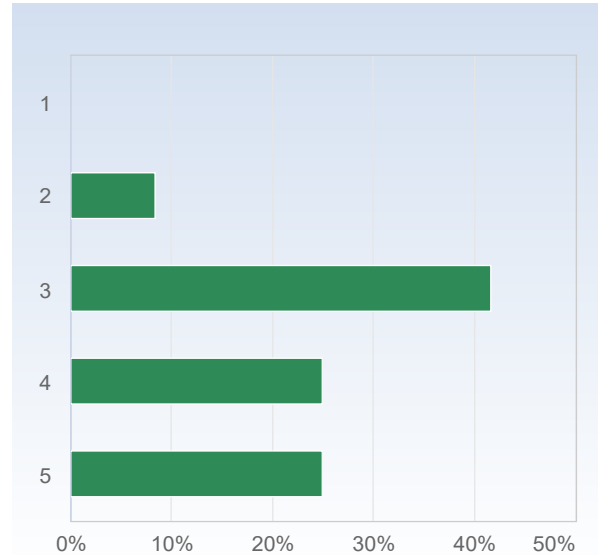
	Mean	Standard Deviation
2. My prior knowledge has been sufficient to assimilate the contents of this course.	3.7	1.0

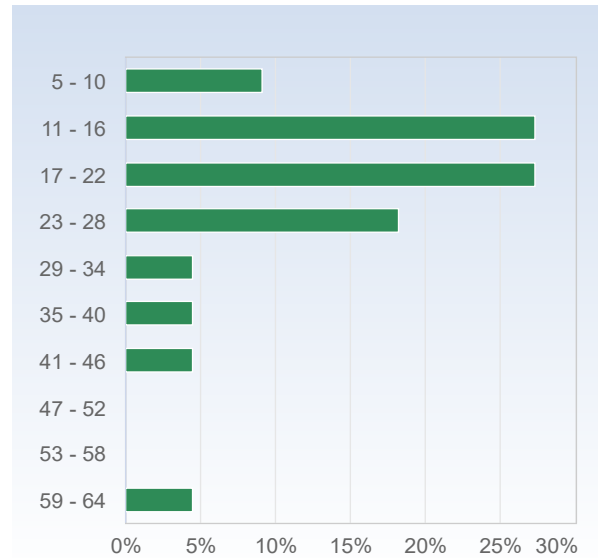## 3. I have participated actively in the course.

3. I have participated actively in the course.	Number of responses
1	0 (0.0%)
2	1 (4.3%)
3	5 (21.7%)
4	11 (47.8%)
5	6 (26.1%)
Total	23 (100.0%)
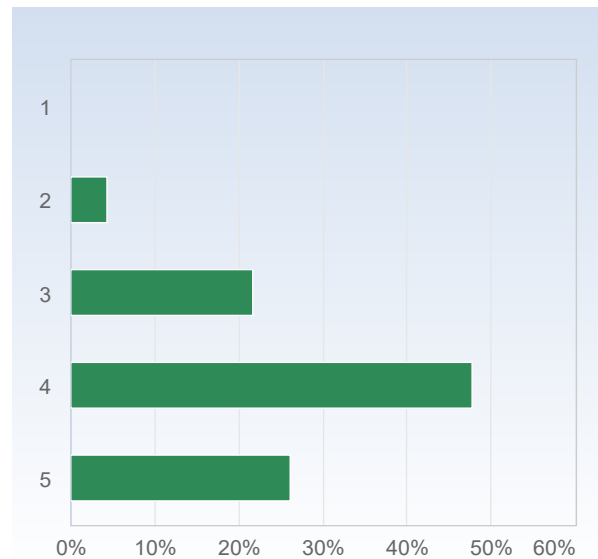
	Mean	Standard Deviation
3. I have participated actively in the course.	4.0	0.8

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 - 10	2 (9.1%)
11 - 16	6 (27.3%)
17 - 22	6 (27.3%)
23 - 28	4 (18.2%)
29 - 34	1 (4.5%)
35 - 40	1 (4.5%)
41 - 46	1 (4.5%)
47 - 52	0 (0.0%)
53 - 58	0 (0.0%)
59 - 64	1 (4.5%)
Total	22 (100.0%)

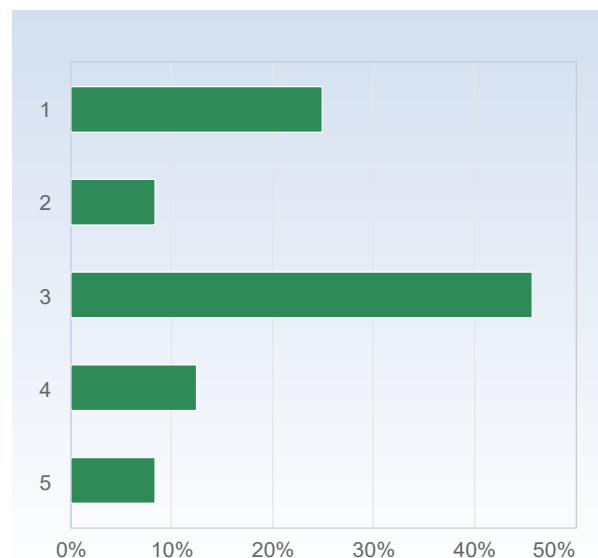|	Mean	Standard Deviation
Average number of hours spent in total on the course per week (including scheduled activities):	22.4	11.6

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

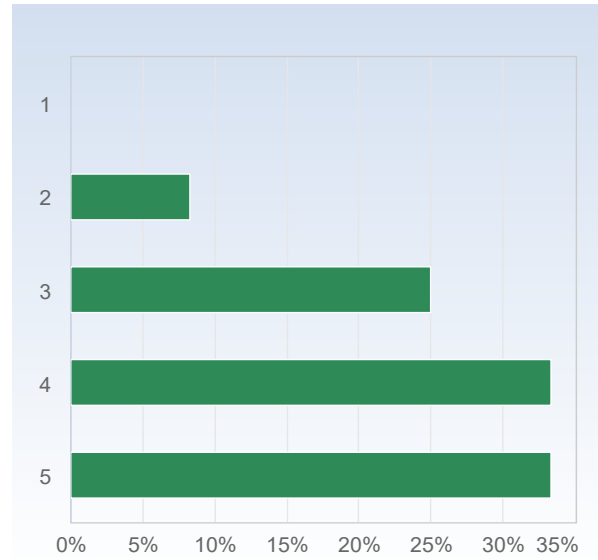**The way the course was taught and organised suited me.**

The way the course was taught and organised suited me.	Number of responses
1	6 (25.0%)
2	2 (8.3%)
3	11 (45.8%)
4	3 (12.5%)
5	2 (8.3%)
Total	24 (100.0%)

	Mean	Standard Deviation
The way the course was taught and organised suited me.	2.7	1.2

## 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	2 (8.3%)
3	6 (25.0%)
4	8 (33.3%)
5	8 (33.3%)
Total	24 (100.0%)

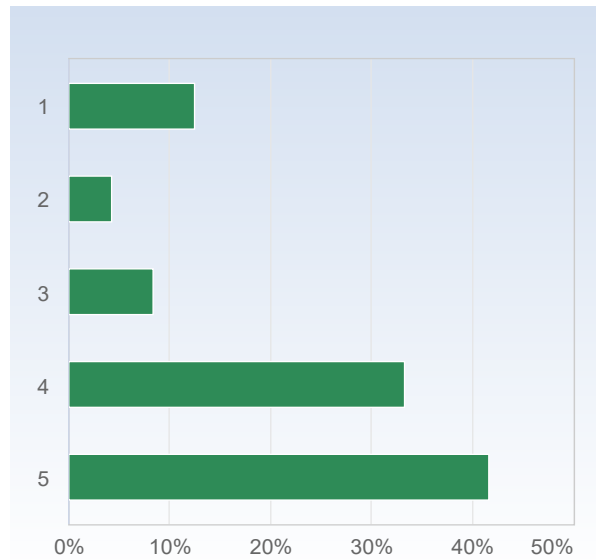|	Mean	Standard Deviation
The number of teacher lead activities (lectures, seminars etc.) has been satisfactory.	3.9	1.0

The lectures were valuable for my learning.

The lectures were valuable for my learning.	Number of responses
1	5 (20.8%)
2	4 (16.7%)
3	4 (16.7%)
4	6 (25.0%)
5	5 (20.8%)
Total	24 (100.0%)
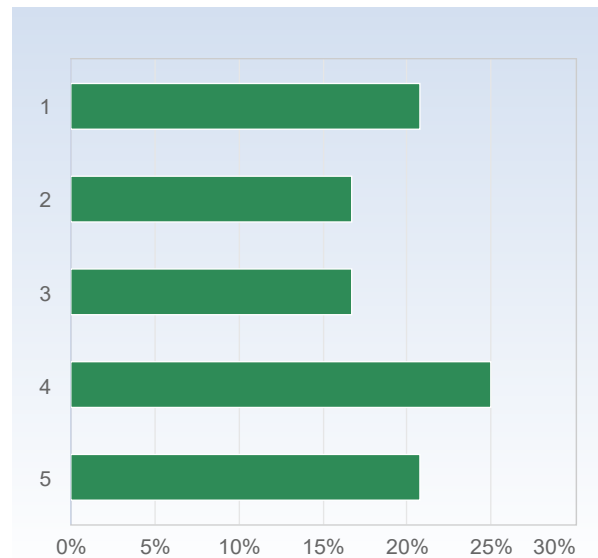
	Mean	Standard Deviation
The lectures were valuable for my learning.	3.1	1.5

The seminars were valuable for my learning.

The seminars were valuable for my learning.	Number of responses
1	3 (12.5%)
2	1 (4.2%)
3	2 (8.3%)
4	8 (33.3%)
5	10 (41.7%)
Total	24 (100.0%)

	Mean	Standard Deviation
The seminars were valuable for my learning.	3.9	1.4

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	5 (20.8%)
4	6 (25.0%)
5	13 (54.2%)
Total	24 (100.0%)
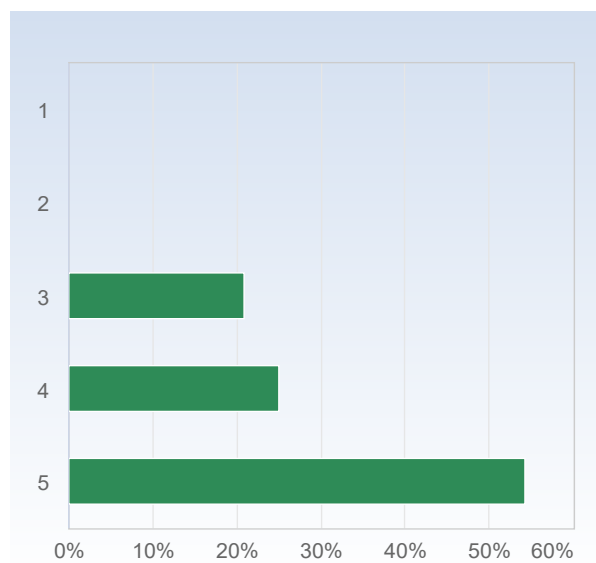
	Mean	Standard Deviation
Studying on my own was valuable for my learning.	4.3	0.8

The course literature/material was a valuable learning resource.

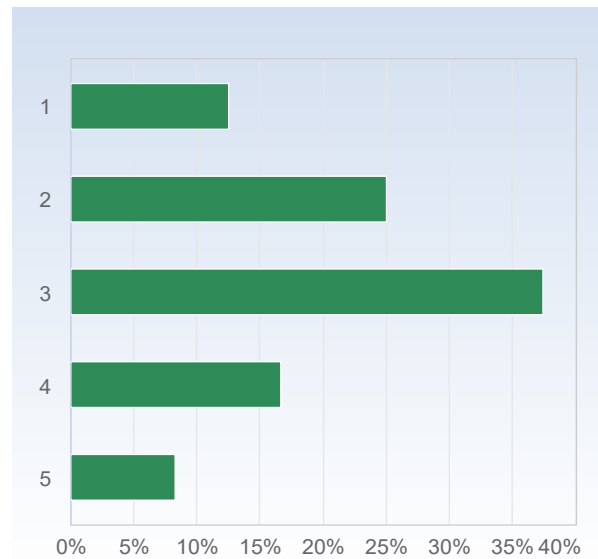| The course literature/material was a valuable learning resource.	Number of responses
1	8 (33.3%)
2	11 (45.8%)
3	3 (12.5%)
4	1 (4.2%)
5	1 (4.2%)
Total	24 (100.0%)
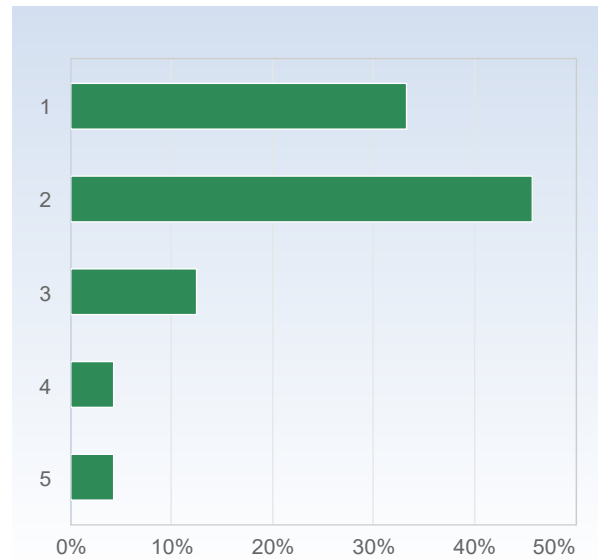
	Mean	Standard Deviation
The course literature/material was a valuable learning resource.	2.0	1.0

The information I received before the course start was satisfactory.

The information I received before the course start was satisfactory.	Number of responses
1	3 (12.5%)
2	6 (25.0%)
3	9 (37.5%)
4	4 (16.7%)
5	2 (8.3%)
Total	24 (100.0%)

	Mean	Standard Deviation
The information I received before the course start was satisfactory.	2.8	1.1

## 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	3 (12.5%)
2	5 (20.8%)
3	5 (20.8%)
4	10 (41.7%)
5	1 (4.2%)
Total	24 (100.0%)
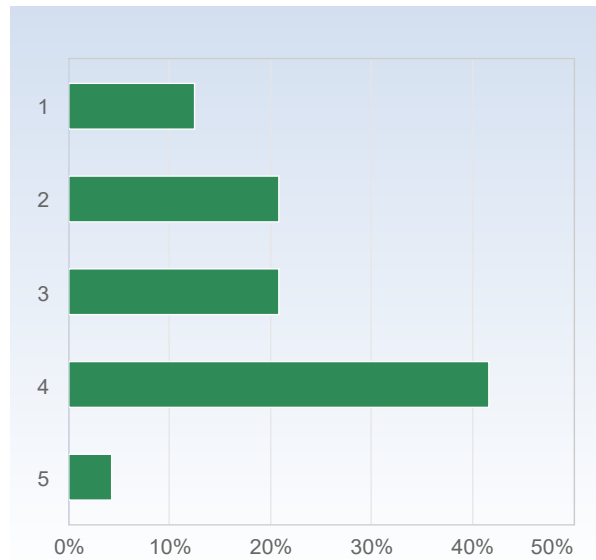
	Mean	Standard Deviation
The communication with the teaching staff during the course was good.	3.0	1.2

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	5 (20.8%)
2	7 (29.2%)
3	6 (25.0%)
4	3 (12.5%)
5	3 (12.5%)
Total	24 (100.0%)
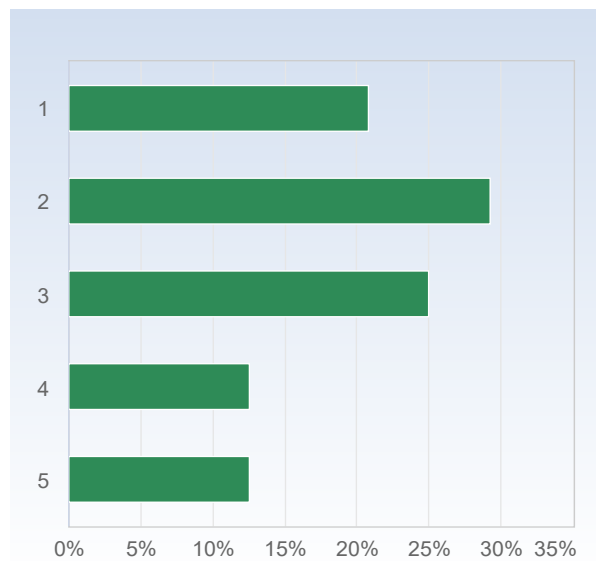
	Mean	Standard Deviation
It was clear throughout the course what was expected of me.	2.7	1.3

## 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	4 (16.7%)
2	5 (20.8%)
3	9 (37.5%)
4	3 (12.5%)
5	3 (12.5%)
Total	24 (100.0%)
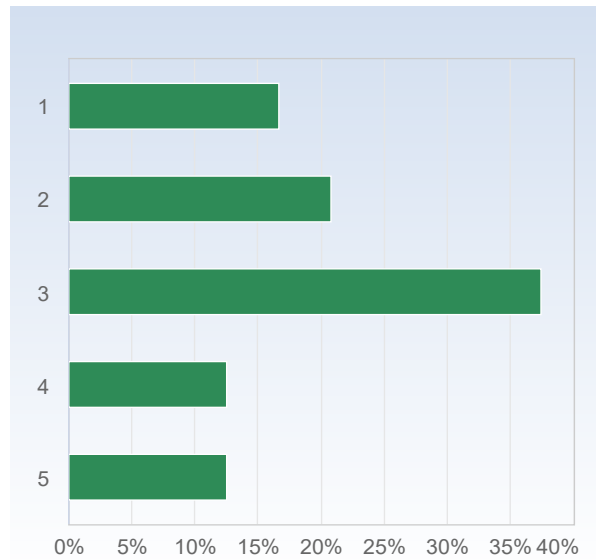
	Mean	Standard Deviation
I have received valuable feedback from my teacher/teachers during the course.	2.8	1.2

The course had a reasonable workload.

The course had a reasonable workload.	Number of responses
1	0 (0.0%)
2	4 (16.7%)
3	7 (29.2%)
4	8 (33.3%)
5	5 (20.8%)
Total	24 (100.0%)
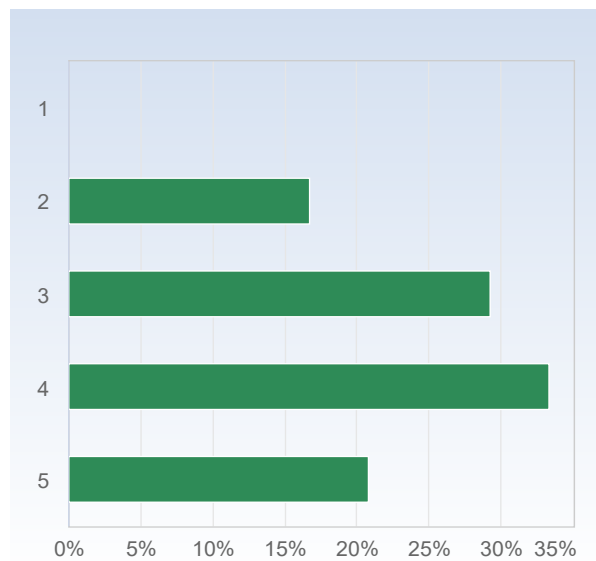
	Mean	Standard Deviation
The course had a reasonable workload.	3.6	1.0

The workload was evenly distributed throughout the course.

The workload was evenly distributed throughout the course.	Number of responses
1	0 (0.0%)
2	3 (12.5%)
3	3 (12.5%)
4	12 (50.0%)
5	6 (25.0%)
Total	24 (100.0%)
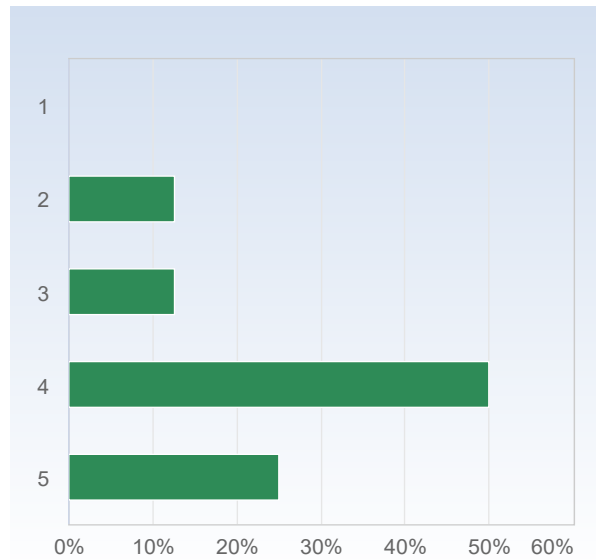
	Mean	Standard Deviation
The workload was evenly distributed throughout the course.	3.9	0.9

The examination matched the contents and level of the course.

The examination matched the contents and level of the course.	Number of responses
1	2 (8.3%)
2	5 (20.8%)
3	7 (29.2%)
4	5 (20.8%)
5	5 (20.8%)
Total	24 (100.0%)
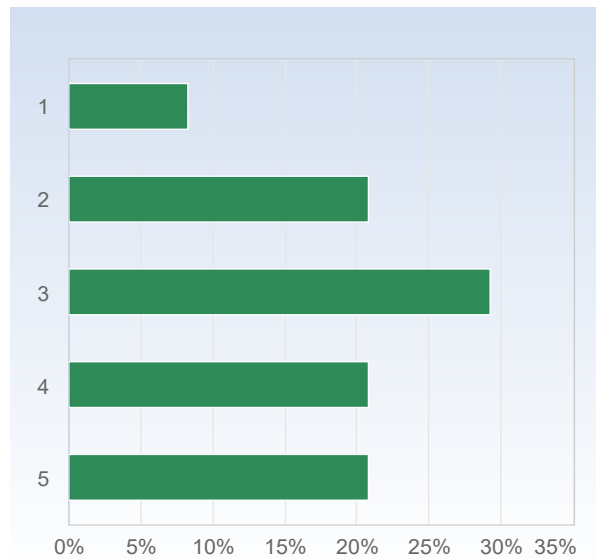
	Mean	Standard Deviation
The examination matched the contents and level of the course.	3.2	1.3

Overall, I am satisfied with the course.

Overall, I am satisfied with the course.	Number of responses
1	4 (16.7%)
2	2 (8.3%)
3	9 (37.5%)
4	8 (33.3%)
5	1 (4.2%)
Total	24 (100.0%)
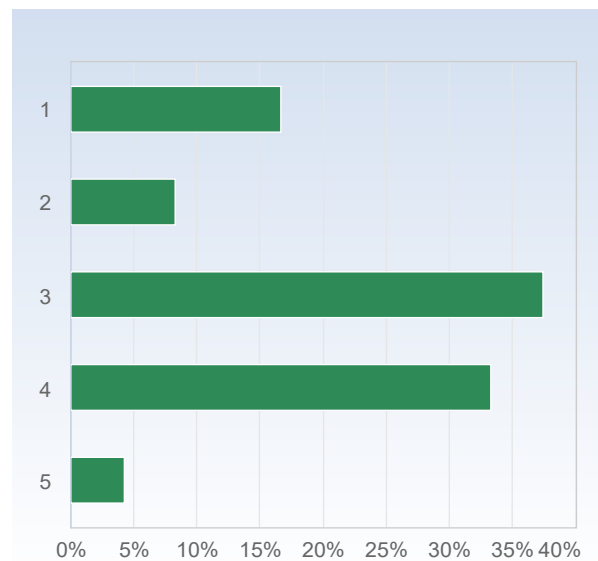
	Mean	Standard Deviation
Overall, I am satisfied with the course.	3.0	1.1

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 (4.2%)
2	4 (16.7%)
3	4 (16.7%)
4	10 (41.7%)
5	5 (20.8%)
Total	24 (100.0%)
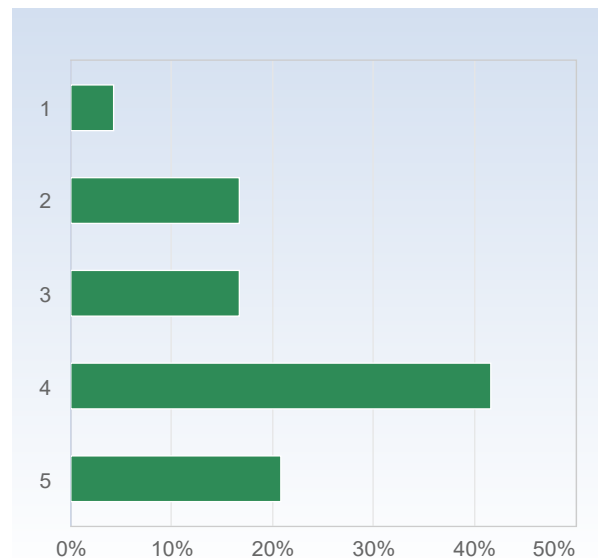
	Mean	Standard Deviation
The course has increased my ability to read a mathematical text.	3.6	1.1

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	2 (8.3%)
2	6 (25.0%)
3	8 (33.3%)
4	5 (20.8%)
5	3 (12.5%)
Total	24 (100.0%)
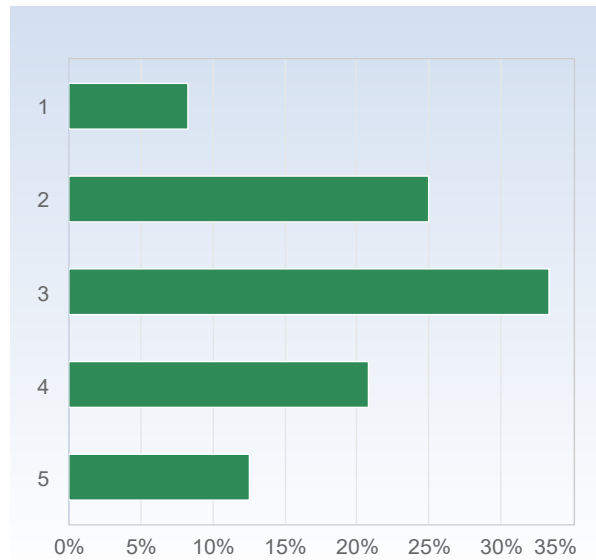
	Mean	Standard Deviation
The course has increased my ability to communicate the subject in writing.	3.0	1.2

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	2 (8.3%)
2	2 (8.3%)
3	11 (45.8%)
4	6 (25.0%)
5	3 (12.5%)
Total	24 (100.0%)
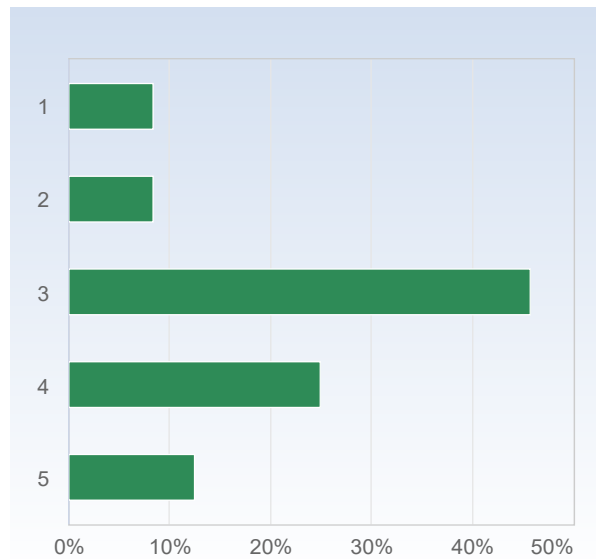
	Mean	Standard Deviation
The course has increased my ability to communicate the subject orally.	3.2	1.1

The course has increased my ability to cooperate.

The course has increased my ability to cooperate.	Number of responses
1	3 (12.5%)
2	4 (16.7%)
3	12 (50.0%)
4	3 (12.5%)
5	2 (8.3%)
Total	24 (100.0%)
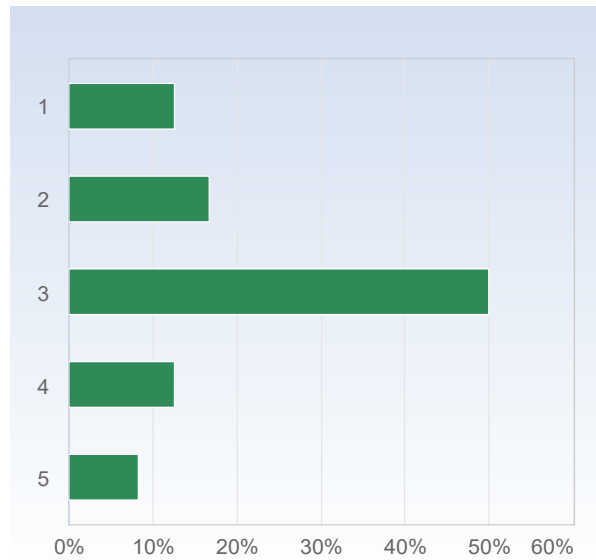
	Mean	Standard Deviation
The course has increased my ability to cooperate.	2.9	1.1

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 (4.2%)
2	3 (12.5%)
3	7 (29.2%)
4	9 (37.5%)
5	4 (16.7%)
Total	24 (100.0%)
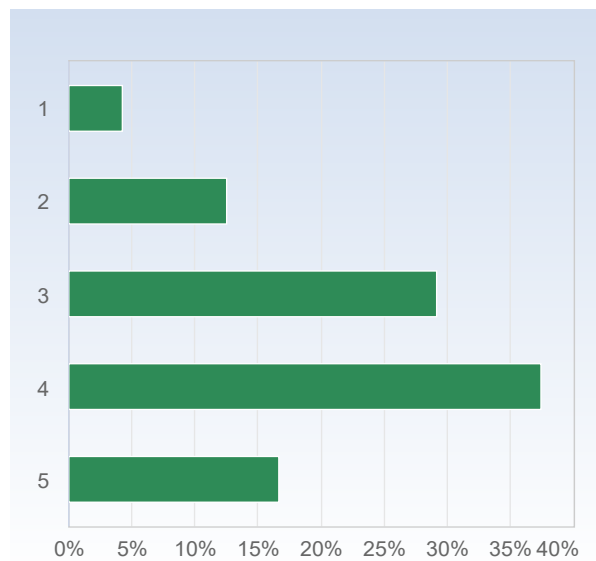
	Mean	Standard Deviation
The course has increased my ability to search and process information.	3.5	1.1

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	2 (8.3%)
3	7 (29.2%)
4	11 (45.8%)
5	4 (16.7%)
Total	24 (100.0%)
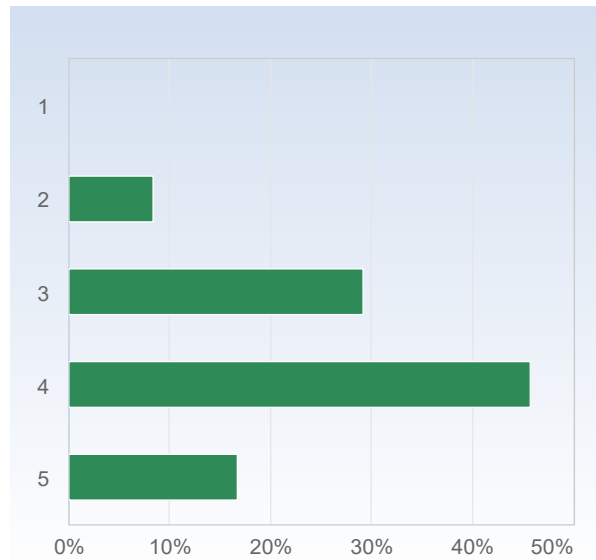
	Mean	Standard Deviation
The course has increased my ability to analyze and solve problems.	3.7	0.9

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 (8.3%)
2	4 (16.7%)
3	10 (41.7%)
4	5 (20.8%)
5	3 (12.5%)
Total	24 (100.0%)
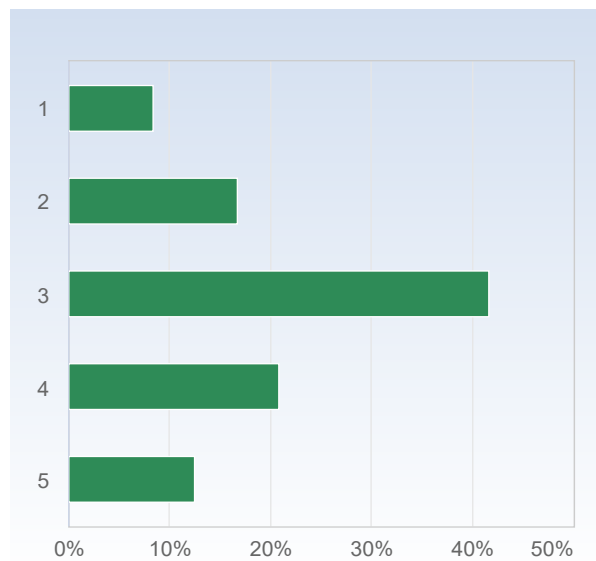
	Mean	Standard Deviation
As a result of this course, I feel confident about tackling unfamiliar problems.	3.1	1.1

Have you taken the examination?

Have you taken the examination?	Number of responses
Yes	23 (95.8%)
No	1 (4.2%)
Total	24 (100.0%)
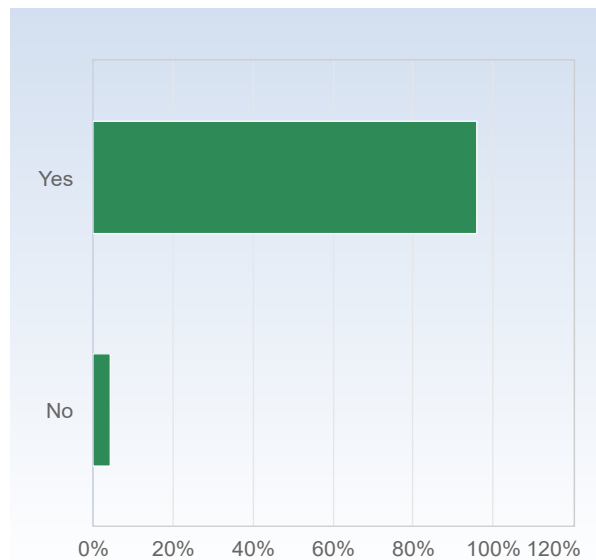
	Mean	Standard Deviation
Have you taken the examination?	1.0	0.2

What did you appreciate most with the course?

What did you appreciate most with the course?
The seminar leader
I liked that it builds from the ground up. I think the exam uses knowledge we know and adds a bit of challenge, with good difficulty.
The more practical approach to the topic
The seminars were very essential! The seminars teachers were helpful and i liked that we got to work with the exercises during the seminars! For me it helped me more to work on my own and ask about a certain thing than to see solutions of all the exercises even those which were easy for me!
Examples during the lectures and problem solving
The integrals. The examples given to work on during the seminar matched what we were expected to know. Examples in general during lectures. How to use IFT
The seminars were very good.
Evgeniy is a great lecturer! Lectures were interesting and relatively easy to digest. Furthermore, the first set of lecture notes were good, and the exercises relevant/ at a good level. The preparation lectures for the exam were especially good, and the exercises were really good, in that they took standard questions and made them slightly more difficult such that everyone learned something new out of it. Furthermore, Evgeniy was very helpful on a personal level, and always willing to help out with exercises and questions where needed. Lastly, the examination was at a perfect level of what was to be reasonably expected given the content of the course.
having regular seminars and problems to solve related to the material
Evgeniy is a charismatic lecturer and is always nice when responding to student questions which was very appreciated. I think he has a passion for the subject and think he can turn this course into something great if the main problems are fixed. The open hours during Tuesdays were great.
I liked the seminars, they provided a great way to practice in a "safe and worry free" environment.
Good lecturer, bad overall course
Our lecturer was very kind and when we asked for him to post answers to exercises, post his notes from the lectures and to give us time each week to ask him questions, he gave it to us.
I appreciate the intentions of the teacher to change the course into something that focuses more on the theoretical side of the mathematics, rather than purely on the calculation.
The pace of the course was good.
The semniars and lectures

What do you think should be improved?

What do you think should be improved?

The examination felt more difficult than what problems we went through during the lectures and seminars. Also the example problems.

I think that it should be clear what sort of prerequisite knowledge we need for the exam so that it does not come down to not being able to solve a question due to not knowing certain trig identities for example.

How the seminars were structured in the beginning was very helpful. Later when the exercises had to be solved directly after the lecture, it was not effective and important information was not shared with all people present.

At the first lecture, the teacher said that we would not follow the course literature and that the listed book was not very good.
The teacher promised to upload lecture notes. We didn't see any notes for 3 weeks. Then he suddenly went back on his promise and said that we wouldn't get lecture notes after all.
After multiple students complained to the teacher and others, we ended up getting lecture notes for the remaining few weeks.

Overall, the course material was very lacking. There was barely anything to study to prepare for the lectures. The listed sections of the book were not always relevant. It was usually unclear what was expected of us and what we were going to do next week, or even next lecture. This made the course very difficult.

The canvas page was very disorganized and full with outdated information, such as requirements to pass the course.

I think that the course can be a little less theoretical (even though i know that more thoery was on of the old students wishes!) but it felt sometimes like we spent more time on theories and didn't have enough time to go through harder examples!

Lecture notes accessible from the beginning

Most of the exercises on continuity and how to solve differential equations with changes of variables were stated very differently than they were during the examination. Maybe try to make the examples to work on during the semeniars more similar to how they're gonna look during the final examination.

More examples during lectures, and more time between the last lecture and final exam.

Since this this was the first time this "new" course was being held, there was bound to be some ups and downs. I will keep this in mind in my provided feedback. Some small criticism is that all provided exercises need to have answers (and correct answers at that), otherwise it is extremely difficult to learn from doing exercises.

My main source of criticism is regarding the lack of general direction/ focus of the course. What should be explicitly and clearly stated in the beginning is that the course will be more proof based, however the examination will be focused on mainly "standard" exercises. Students should be encourage to read proofs and learn techniques, but topology has a steep learning curve, and understanding/ doing proofs can take more time than learning to do exercises. The hardest part of the course, is without a doubt the topology section. It's fine if this merely is an introduction to the subject, but this needs to be stated. Concepts like neighbourhoods, Cauchy sequences, compact sets, etc are of course necessary in understanding proofs and developing mathematical maturity, and this ought to be stated.

When it comes to course literature, although I personally enjoyed the rigour of Fleming, it gets beyond the scope of the course when going into integration, as it introduces measure theory and alludes to lebesgue integral. This should not be suggested reading. For context, this book is used for a master class in analysis of functions of several variables at MIT, as such it would be reasonable to say it is slightly beyond the scope of the course. However, everything up to the integral will prepare the student of what is to come, so I would not suggest disregarding it completely. Furthermore, certain proofs like the chain rule is very well presented by Fleming. Adams book is great for exercises, and should be incorporated/ encouraged to read and do complementary exercises for all sections of the course.

access to more practice exams, lecture notes available as of the beginning of the course

It was not clear during the course what the main focus was, or what would primarily be covered in the final examination. Previous material was not representative.
On the first day we were told that the book that had previously been used for the course (Adams calculus) was no longer the main learning resource, and that instead we should rely on lecture notes and another book. These lecture notes were then only available the first week, and then again in a sloppy form by the end of the course. We also started being referred to getting exercises from Adams calculus the later weeks which was contrary to the initial information that this book was no longer to be used for the course. The exercises proposed were not reduced to a set which was reasonable to complete in the available time. For example 20 questions from one chapter to be done in 1 day. We were told that we are not expected to do all of them, however I believe it is the job of the educator to provide a focused set of primary problems to solve which are best suited for learning the expected material. While learning, it is difficult/impossible to analyze which questions are best to focus on, or the difficulty level/relevance of them so the result is that more effort is spent on things that are possibly of less importance, and more important topics are neglected.

The lectures were heavily focused on theory and proofs, which is not necessarily bad, but the theory was practically never approached from the perspective of the problems we were practicing on, which made it both hard to follow the theory, and hard to do the exercises since I personally felt very under-prepared both when coming to a lecture and when solving problems after the lecture.

Many of the exercises felt badly prepared, some with incorrect answers (and many with no answers), and some which turned out to be badly /incorrectly formulated when asked about.
On several occasions the TA during seminars did not understand how to solve a question, or said it would take too long to do.
My suggestion in relation to exercises is that the main teacher should publish the questions including answers, or at least have them prepared beforehand for publication the day after, in order to make sure the questions are correct and solvable. And that the TAs should have a better communication with the main teacher about what should be covered during seminars, and that the planned material can be fit in the time allocated.

1) The course needs to have one main textbook to refer to (or fully completed lecture notes before the course started) during the course. It switched from Adams, to Fleming and lecture notes (which did not exist for the first half of the course), and then again to Fleming, Adams and some lecture notes given after each lecture. It was simply very difficult to structure your daily study hours efficiently with so much of the material being spread out.

2) It was very difficult to keep up with the material since the book by Fleming is more suitable after having learnt basic several variable calculus first. Adams would in this case be better for actually learning how to do the problems.

3) There needs to be a separate lecture for partial differential equations. No one in the class could consistently solve them until about a week before the exam where we asked for our first walkthrough on how to solve these kinds of problems.

3) Seminars were scheduled directly after the lectures which meant the seminar leaders could not present the problems to us since we had not done them yet. The exercise problems on each seminar should be the problems of the previous lecture, not the current one since it is impossible to do them in the hour between the lecture and seminar.

4) Written solutions and more examples in written form would have helped a lot. Also, answers to all problem sets should be published since there were endless amount of times we were actually learning the wrong way of doing things without knowing it was wrong. This is a very risky approach when learning a completely new subject since you constantly feel like you are never able to truly grasp what you are even supposed to do. Even the seminar leaders sometimes gave the wrong answers without knowing it.

5) I wish he showed up for questions later during the exam and not during the beginning since you will not have any questions when you have hardly started the first question. Especially since there was an error in question 6 which confused a lot of people.

6) More open hours or SI would be great for this course.

7) Exercises that were too long, even for the seminar leaders, should be marked with a star so that you don't spend too much time thinking you don't understand the basics trying to solve a 3 hour long problem. This is also important when learning, since you should not tackle very hard problems before even knowing how to consistently solve an easy problem.

8) There may have been too much focus on proofs during lectures. I think proofs are generally better given in a written format before or after lectures. The actual lectures can be much more helpful when they focus on explaining the difficult concepts and proofs in a more intuitive and less technical way. I do not believe any human can follow a formal analysis proof on a blackboard without any sort of preparation by reading the proof first. Because Fleming was too advanced, reading it before the lectures did not really help. For example, it spent 7 pages or so on measure theory before proving RM integrals for n dimensions, while the lectures did RM integrals in 2D during one lecture with a very different looking proof.

9) More consistent notation. This will likely come with a consistent textbook or written lecture notes. Often times, the notation was hard to follow since it was quite different from that in Fleming.

10) I think the standard usual 80% cut off for the exam should be standard for passing with distinction. This course had a cut off at about 85% while requiring to have at least 2 points on every question and not being able to get a pass with distinction if you get 1 point or less on a single question (with 3 being the maximum amount for each question). The nature of an exam is that sometimes you may not have the time to come up with a good way to solve a problem you usually know how to solve since it is a very stressful and time constrained environment. This exam made it so that if you did not know the answer to a single question, trying to go through your answers on the other problems felt like a waste of time since if you already had enough points to pass, the only way to get a higher grade is to solve that one single problem instead of improving your score as a whole. Exams always have an element of luck to them, minimizing the aspect of luck to test for actual knowledge should always be the goal in my opinion. Considering that most people did not even pass the exam last year where they had a 75 or 80% distinction cut off, making the scoring system harder this year seems counterproductive.

11) The 6th and 7th question on the exam could have had nicer numbers to work with. Solving the problems was not the hard part, keeping track of fractions and minuses when actually computing the problem was the hard part. I think good questions should minimize your time as a calculator and maximize your time as a problem solver.
I found the course literature very difficult to follow. I found the "adams" book to be too superficial at times, whereas the "flemming" book was incredibly complicated, using notation we were not familiar.
It would be great to have lecture notes from the start of the course, as well as a book that follows the course to a more thorough extent.
Communication with the students.
Not making the exam a lot harder than the exercises we got during the course.
Everything about the course literature was very confusing.

1. The organisation of this course could be improved. If there in the beginning of the course would exist an official plan for the topics and chapters covered each week, it would be much easier to make an individual plan.

2. When we started the course in august, we were told that Adams would be main literature, with Fleming as complementary reading. But also, most of us also interpreted that the lecturer said that there would actually be the main literature, but that they would come later during the course. However, apparently, we only used Fleming, and in the middle of the course we found out that the lecture notes that we thought would be the main literature was apparently optional for him to do. If this was clear in the beginning of the course, I would have attended lectures to just take picture of his notes and use them as notes (for me it's hard to learn anything at lectures and they prevent me from being able to study and learn, therefore I hadn't attended any lectures). Now it was too late and what I thought I would be able to read and study as material was non-existent. This really messed up my planning for how to go through this course and made it hard to know what to focus on. I understand fully that writing lecture notes takes a lot of time, and I would be happy without them, the problem was that I thought it wasn't a question if, but when they would come. An idea to solve this problem would be to record each lecture, then there we could take part of the lectures and his way of teaching anyway.

3. The choice of course literature was in my opinion not suitable for our level of knowledge. Fleming is difficult to go through, especially if you don't know the basic knowledge of the subject. I tried to read from both Adams and Fleming, but realised that I sadly don't have enough time to go through and understand writing styles and notations of both of these books. He referred to Fleming in the weekly planning, which made it hard to know if I was supposed to understand every heavy proof this book contains. The results of going back and forth was that I couldn't get an overview of the course and understand what different aspects was important and not. After trying to read both books (but of course there wasn't time to fully understand both books) and doing all problems we got every week, still, the day before the exam I realised that I have no idea how we use the theorems and so on. You could say that it I my fault since I didn't attend lectures, but my study method have worked in all other courses and this is what I learn most from, not from lectures.

4. I would love if there would be exercise or SI-sessions where you could ask questions (after being requested, we got one with the lecturer each week, which was great!). The problem with seminars is that we are directly given the answers to the questions, but at least in my case, I want to understand the theory before I use the formula to get the correct answer. If you want to get something out from the seminars, this way of studying is very difficult as long as the day only have 24 hours.

5. After being requested, we got answers to exercises, which I really liked! Please continue to give answers, otherwise I can just do what I think is correct, and since I don't have anything that proves me wrong, I will assume that I have understood the course. The exam will then be a pleasant surprise, in worst case letting me know that I might have misunderstood everything and therefore fail the course… (The common argument to not give us answers is that "you learn better when discussing", but there are some people that for different reasons don't have anyone to discuss with and don't have enough time to search for answers at every possible place, especially since our questions were made up by our teacher and therefore not something other people in the world already have discussed online).

6. It would save much time if the questions, answers and the – at the end handwritten – lecture notes would not have some errors. I know it is too easy to do a mistake, but in an optimal world, I think it would be good if you just double checked what you have written, since we as students don't assume that our learning source contains errors. Otherwise, it is also an idea that when some students find any errors, either them or the lecturer post it in a discussion thread on Canvas.

7. A note on the exam, we don't understand everything. Usually, the lecturer comes at least twice during the exam and stays there for a few minutes to answer questions. I know it was a Saturday morning and it is boring to lose the entire day to attend an exam, but my wish is that he would at least come after one-two hours and stay only a few minutes. He came really soon after the exam began, and then it was hard to even have any questions yet. Later, I understood that this resulted in me misunderstanding a question and therefore probably also failed that question.

8. About grading, in every other course we have had so far it is 75 or 80% on the entire exam required to get pass with distinction. On this exam it was required 85% and at least 2/3 of the points on each question. This means that perfection is the required for VG, which is almost unapproachable. As I have understood it, VG isn't a measure for "who is smartest in the class" so that only a small percentage can reach that, but a measure if you have understood the course.

Problems:
I truly appreciated the efforts and ambitions of the teacher, however, the planning and preparations made were not at all sufficient enough to ensure a productive learning environment. To disregard, at large, the course literature and telling students to rely on lecture notes that did not exist or were not published until much later in the course is not a productive approach. Besides, the course literature primarily referenced, "Calculus" by Stewart, was denoted as "reference literature" (not main) and furthermore was not accessible through the university library (it

can also be noted that even the teacher assistants mentioned this book to be too advanced for the level of the course). The exercises given had errors in them, some were impossible to solve, and many lacked any kind of solution or answer, making it difficult to judge the actual work load, and were not numerous enough to get any kind of extensive experience in problem solving. Again, however, I value to intentions of the teacher and agree that the essential format of the content (focus on the theoretical parts) is important, but they need to have a solid foundation to rest on.

Suggestions for improvement:
1. Make sure that the course material is accessible from the beginning of the course.
2. Include more exercises, preferably scaling from easier to more difficult, with solutions for at least half of the exercises (I can see the value of not having solutions for everything, but to me it feels important to have at least one reference to a given type of problem).
2.1. I would suggest as well that the teacher developing the problems also solve them just to check that they are doable and as a way to find potential typos.
2.2. If mistakes are found after the exercises have been issued, please issue a revised version and inform all students.
3. Do not try to develop new course material while the course is running, OR if this is the wish of the teacher the material should be considered complementary until it has reached a state where it can be used as the main (or sole) course material.
4. Make sure that the curriculum is up to date with the changes of the course.
5. Make it clear to the students what is expected of them and this should be reflected in both course literature and exercises (e.g. do not tell them that the lecture notes will be the most important source of course material without providing them in good time).
-The communication between teachers and TAs
-The methods that TAs use to solve problems sometimes were not covered in the course
-In my opinion, I would like to have more realistic and exam-like examples during the lectures and seminars
-Using intuitive solutions to solve the questions coming from years of teachers, and students definitely lack this. So I would appreciate it if teachers avoided using these solutions during the lectures and seminars.
More help with the programming and more organized in general

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
No absolutely not!
The literature was non-existent. I would have liked if that was apparent on the course page on canvas (me and some others try to buy used literature some time before the actual start of the course. It'd be good if the instructions on what literature to use was correct - we ended up buying Addams, which... was obviously not necessary)
No.
No
no
No.
Not directly discriminatory, but as someone with disabilities affecting the ability to follow lectures live, not having any written material before the lectures (Fleming did not help much since it was way too advanced for what the lectures went through) really made it difficult to keep up with the course. Any course only using lectures as the main material will consequently hurt the ones who needs math in written form to truly understand it.
No, none of the books were discriminatory in any way.
Nope
The lecturer was very kind, but since the course was so unstructed, especially about course literature, people like me, that only learn from self-studying, were almost destined to fail this course.
No.
In no way.
Never
No