Northwestern

Individual Report for MATH_290-1_61: MENU Linear Alg/Multivar Calc (Apurva Nakade)

Project Title: **Course and Teacher Evaluations CTEC Fall 2021**

Courses Audience: **19**
Responses Received: **17**
Response Ratio: **89.5%**

Report Comments

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Creation Date: **Wednesday, December 15, 2021**

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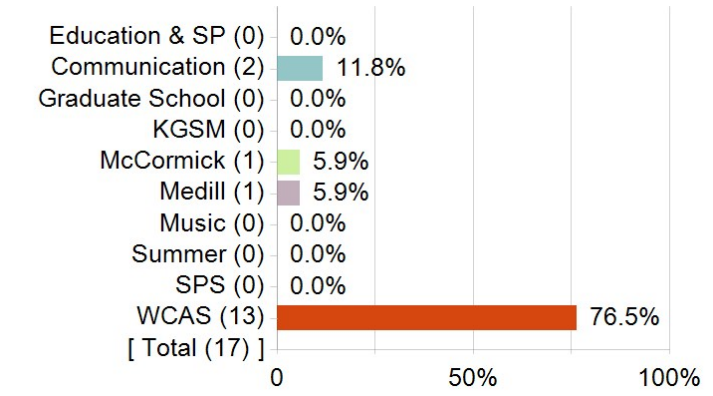
Course Evaluations

Instructor	Course
Apurva Nakade	**MATH_290-1_61: MENU Linear Alg/Multivar Calc**

DEMOGRAPHICS

Your School

Your School



Options	Count	Percentage
Education & SP	0	0.0%
Communication	2	11.8%
Graduate School	0	0.0%
KGSM	0	0.0%
McCormick	1	5.9%
Medill	1	5.9%
Music	0	0.0%
Summer	0	0.0%
SPS	0	0.0%
WCAS	13	76.5%

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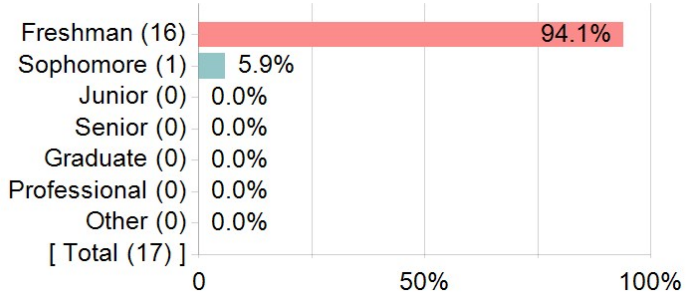
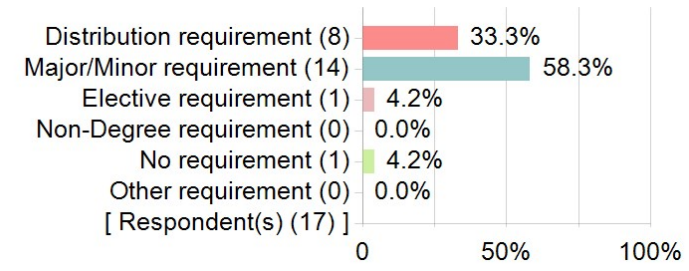
Your Class

Your Class



Options	Count	Percentage
Freshman	16	94.1%
Sophomore	1	5.9%
Junior	0	0.0%
Senior	0	0.0%
Graduate	0	0.0%
Professional	0	0.0%
Other	0	0.0%

What is your reason for taking the course? (mark all that apply)



Options	Count	Percentage
Distribution requirement	8	33.3%
Major/Minor requirement	14	58.3%
Elective requirement	1	4.2%
Non-Degree requirement	0	0.0%
No requirement	1	4.2%
Other requirement	0	0.0%
Respondent(s)	17	

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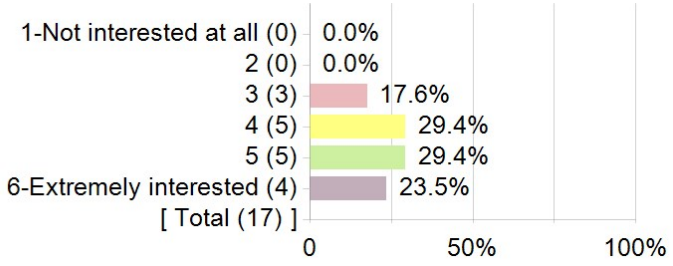
What was your Interest in this subject before taking the course?

What was your interest in this subject before taking the course?

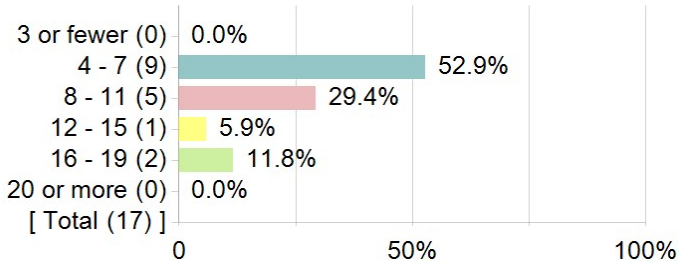


Options	Count	Percentage
1-Not interested at all	0	0.0%
2	0	0.0%
3	3	17.6%
4	5	29.4%
5	5	29.4%
6-Extremely interested	4	23.5%

TIME-SURVEY QUESTION

Estimate the average number of hours per week you spent on this course outside of class and lab time.

Estimate the average number of hours per week you spent on this course outside of class and lab time.



Options	Count	Percentage
3 or fewer	0	0.0%
4 - 7	9	52.9%
8 - 11	5	29.4%
12 - 15	1	5.9%
16 - 19	2	11.8%
20 or more	0	0.0%

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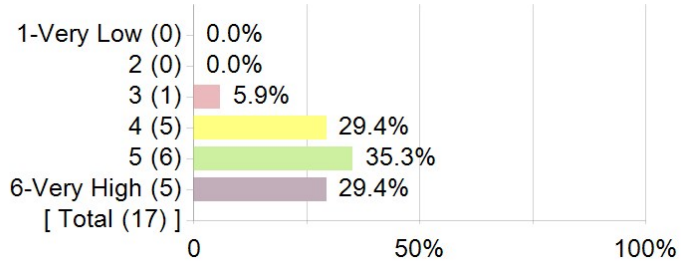
COURSE QUESTIONS

Provide an overall rating of the course.

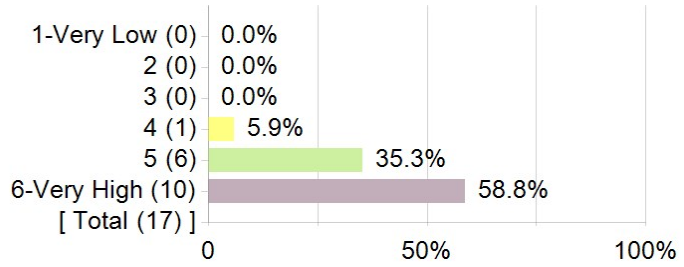
Provide an overall rating of the course.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	1	5.9%
4	4	5	29.4%
5	5	6	35.3%
6-Very High	6	5	29.4%
Statistics			Value
Response Count			17
Mean			4.88
Median			5.00
Standard Deviation			0.93

Estimate how much you learned in the course.

Estimate how much you learned in the course.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	0	0.0%
4	4	1	5.9%
5	5	6	35.3%
6-Very High	6	10	58.8%
Statistics			Value
Response Count			17
Mean			5.53
Median			6.00
Standard Deviation			0.62

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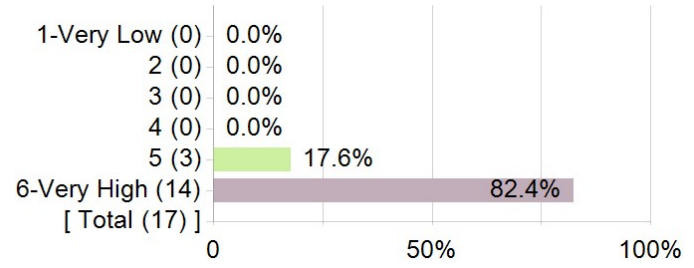
Rate the effectiveness of the course in challenging you intellectually.

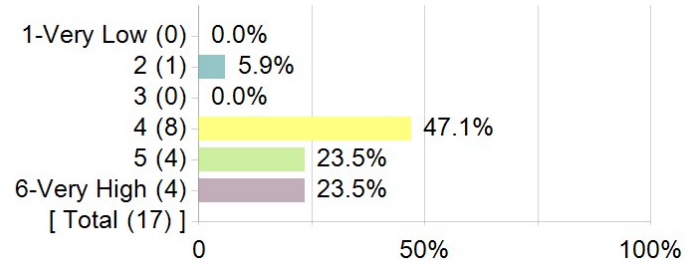
Rate the effectiveness of the course in challenging you intellectually.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	0	0.0%
4	4	0	0.0%
5	5	3	17.6%
6-Very High	6	14	82.4%
Statistics			Value
Response Count			17
Mean			5.82
Median			6.00
Standard Deviation			0.39

Rate the instructional materials (texts, audiovisual materials, etc.) used in this course.

Rate the instructional materials (texts, audiovisual materials, etc.) used in this course.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	1	5.9%
3	3	0	0.0%
4	4	8	47.1%
5	5	4	23.5%
6-Very High	6	4	23.5%
Statistics			Value
Response Count			17
Mean			4.59
Median			4.00
Standard Deviation			1.06

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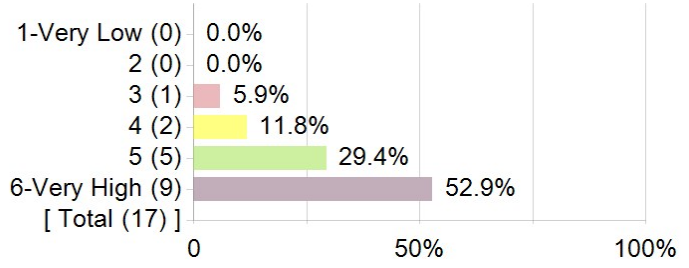
INSTRUCTOR QUESTIONS

Provide an overall rating of the instruction.

Provide an overall rating of the instruction.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	1	5.9%
4	4	2	11.8%
5	5	5	29.4%
6-Very High	6	9	52.9%
Statistics			Value
Response Count			17
Mean			5.29
Median			6.00
Standard Deviation			0.92

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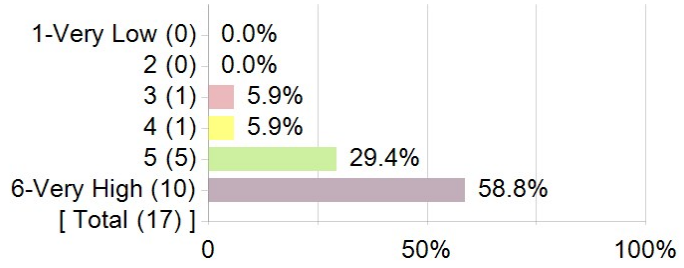
Rate the effectiveness of the instructor in stimulating your interest in the subject.

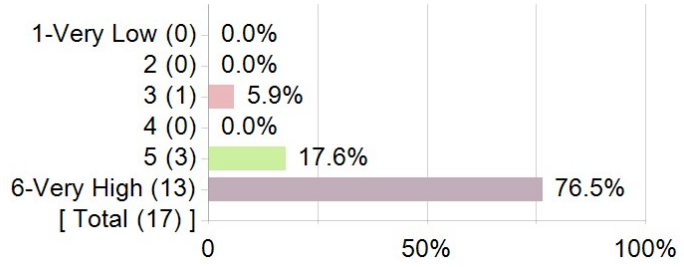
Rate the effectiveness of the instructor in stimulating your interest in the subject.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	1	5.9%
4	4	1	5.9%
5	5	5	29.4%
6-Very High	6	10	58.8%
Statistics			**Value**
Response Count			17
Mean			5.41
Median			6.00
Standard Deviation			0.87

Rate how well prepared the instructor was for the class.

Rate how well prepared the instructor was for the class.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	1	5.9%
4	4	0	0.0%
5	5	3	17.6%
6-Very High	6	13	76.5%
Statistics			**Value**
Response Count			17
Mean			5.65
Median			6.00
Standard Deviation			0.79

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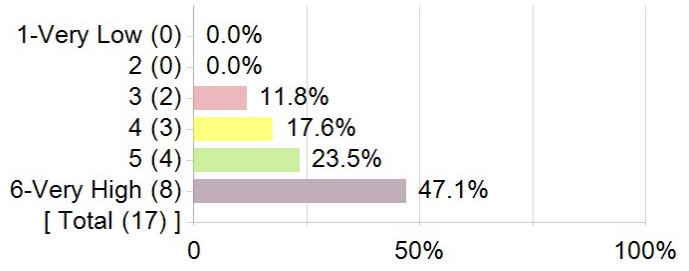
Rate the effectiveness with which the instructor communicated course content and ideas.

Rate the effectiveness with which the instructor communicated course content and ideas.

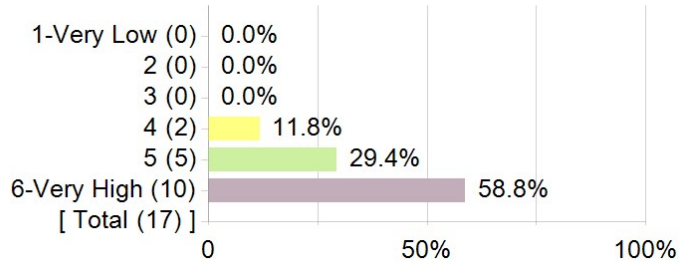


Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	2	11.8%
4	4	3	17.6%
5	5	4	23.5%
6-Very High	6	8	47.1%

Statistics	Value
Response Count	17
Mean	5.06
Median	5.00
Standard Deviation	1.09

Rate the instructor's enthusiasm in teaching this class.

Rate the instructor's enthusiasm in teaching this class.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	0	0.0%
4	4	2	11.8%
5	5	5	29.4%
6-Very High	6	10	58.8%

Statistics	Value
Response Count	17
Mean	5.47
Median	6.00
Standard Deviation	0.72

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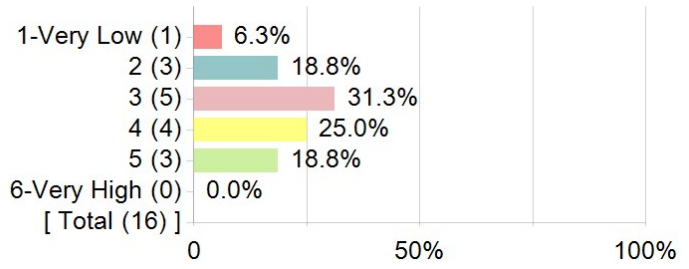
How useful were discussion sections for this course?

How useful were discussion sections for this course?

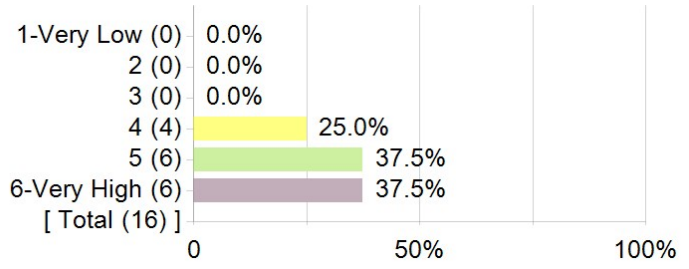


Options	Score	Count	Percentage
1-Very Low	1	1	6.3%
2	2	3	18.8%
3	3	5	31.3%
4	4	4	25.0%
5	5	3	18.8%
6-Very High	6	0	0.0%

Statistics	Value
Response Count	16
Mean	3.31
Median	3.00
Standard Deviation	1.20

How useful were the instructor's office hours?

How useful were the instructor's office hours?



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	0	0.0%
4	4	4	25.0%
5	5	6	37.5%
6-Very High	6	6	37.5%

Statistics	Value
Response Count	16
Mean	5.13
Median	5.00
Standard Deviation	0.81

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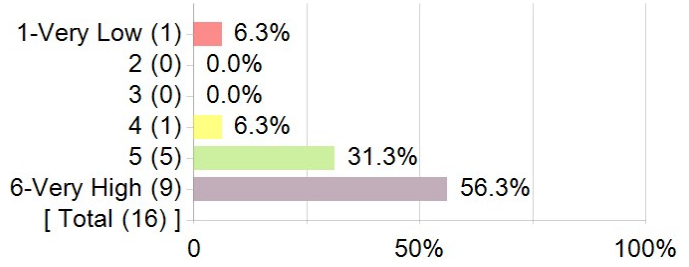
How much did the written homework assignments help you learn the subject?

How much did the written homework assignments help you learn the subject?



Options	Score	Count	Percentage
1-Very Low	1	1	6.3%
2	2	0	0.0%
3	3	0	0.0%
4	4	1	6.3%
5	5	5	31.3%
6-Very High	6	9	56.3%
Statistics			Value
Response Count			16
Mean			5.25
Median			6.00
Standard Deviation			1.29

OPEN-ENDED QUESTIONS

Did the course help you learn? Why or why not?

Comments
Although the course helped me learn, it was mostly independent learning for me.
Helped me learn effective strategies for tackling homework, and for taking exams.
This course was challenging but it helped me learn.
I got a good foundation in linear algebra. Sometimes I felt like we brushed over the nuances of the subject, so that became problematic down the line.
The course was very intense and highly packed with information that was new to me and I definitely think I learned a lot.
This course was my first exposure to linear algebra. I definitely learned from the course though it has certainly been challenging.
I learned a lot from this course; the course is very fast paced, and new material is covered almost every single lecture. Because of that, there is a lot of material that you will have to know in a very short period of time.
Yes, Linear Algebra was a new subject for me and it was taught well.
Yes, this course encouraged deeper learning than I have experienced in other math classes. The focus on conceptual topics requires a strong understanding of all concepts that are taught.
It did help me learn as it painted mathematics in a different way from the normalized plug and chug mathematics we know. It makes you think outside the box to solve unique problems.
Yes. I have never taken linear algebra before, so everything in this course is new to me. I find the class goes through the materials very quickly and it can be very hard to understand. In general, we just need a lot of time and practice to understand and master the material. I think that office hours are especially helpful as I can go through the class materials with the professor and ask clarifying questions.

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Please summarize your reaction to this course focusing on the aspects that were most important to you.

Comments
Excellent teaching, and the course was exactly what I expected.
This course was challenging but manageable. Apurva is an awesome instructor and is always very helpful in class and in office hours.
This is a great linear algebra class. I thought it perfectly balanced content that was more practical and computational with stuff that was more theoretical and abstract. Apurva is everything a math professor should be: funny, relaxed, but still very knowledgeable and helpful. I especially appreciated that he kept the pace quick and never got bogged down in details or obtuse proofs that wouldn't be immediately useful to us. I also liked that he repeatedly clarified in which cases it would be more helpful to think intuitively and where it would be more helpful to just do the algebra.
This course challenged me intellectually and definitely requires some sort of group collaboration to succeed (by any standard). Sometimes the course materials (i.e. the answer key for the final homework assignment) are incomplete.
Be ready to do as many practice problems as possible to develop math intuition because a lot of problems require you to intuitively know how to use basic concepts in more abstract ways.
I liked the accessibility of resources to improve my understanding of the material covered in class (teachers notes, previous midterms and finals, numerous office hours, drop in peer tutoring, etc.)
I was actually surprised to see how fast the course moved, but I was still happy to take the course as it was very interesting and I learned about new branches of mathematics and the relationships between different aspects of math.
Professor Nakade is pretty good, but it’s definitely a hard course.
Great professor, great class sizes, great resources for students
Great course for anyone who is thinking about majoring in Math or at all interested in upper–level math. It was very nice how the course begins with linear algebra (which requires no background knowledge) as opposed to the traditional sequence that begins with multi. Exams are difficult, but homework assignments are doable if you find good study groups and quizzes count for very little of the final grade.
This course was amazing. Apurva teaches pretty well and achieves a good mix of lecturing and class participation. However, this class is not easy and will require you to study and do the work. For context, about 90 people enrolled in this class and for the next sequence next quarter only 50 are enrolled. If you are contemplating between regular linear algebra/multivariable or MENU, I would take MENU 290 as you cover the material more in depth and gain a better understanding. You also gain a great community. If it is with Apurva, I highly recommend taking it especially
First of all, this course is very hard. Just very hard. It demands a lot of time out of your schedule to understand the material. For someone who has never taken linear algebra before, it takes me at least 8 hours each week to finish just the homework. Additionally, the exam is long compared to the time allotted and the weekly quiz is always the death of me. I find that I need much more time than a week to master the materials on the quiz. However, the quiz is worth very little of my grade that I am not too worried about it. Because the exam has a conceptual and a computational part, the course demands you to understand the material very well and apply that knowledge in a variety of ways. Despite all of that hardships, I enjoy the class a lot, even though I have never been good at it. Firstly, Apurva (yes, we are on a first–name basis) is a very sassy, but nice professor with a great passion for math. He is brutally honest whenever I make a mistake, and we joke about it all the time. Because I went into every office hour he had, he got a chance to understand how I learn and cater his explanations that way. Usually, if you are lucky and are the only person in office hours, Apurva will let you talk through your reasonings with his guidance. I find this method very helpful. When I was very stressed about not understanding the class, he sat me down and allowed me to talk through areas I didn't understand. Sometimes, you might find the class very frustrating as it is always "guess and check," but it is a great feeling when you figure the materials out. My biggest advice is to always go into office hours, even for the dumbest reason: I went in after my very first class asking for the definition of a plane. Also, do the practice exams and try to understand the concepts as well as possible. Do not be defeated by the quizzes because your efforts will pay off. Finally, if you find this class too much to handle on top of your classes, there is no shame in dropping it.

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What are the primary teaching strengths of the instructor?

Comments
He had organized notes.
Excellent at stimulating my interest in maths, and very good at answering any of my questions during office hours.
Apurva is very encouraging when you are struggling with a problem and you can really tell that he was excited about math and teaching!
He is very friendly and has a good sense of humor. That definitely united our class when the topics got tougher.
Prof. Nakade is good at providing examples for different linear algebra problems and at answering questions about topics we were struggling with.
He would often have us work through problems with other classmates to better figure out what we did and didn't know, and often addressed clarifying questions as he lectured.
Professor Nakade gives you a lot of examples to make sure that you understand the material that is being covered that day in class. He also lovessss when students ask questions; so much so that he will ask questions to the students if no one has any to ask him.
He's very approachable and you can tell he cares about his students. He is very helpful in office hours and responsive to emails. He also always sets aside time for questions. Highly recommend!
Apurva was very interested in the material that he taught. I can't count the number of times that he would bring up a concept and tell us how "amazing" or "cool" something was.
He knows the material very well and comes into class prepared to teach.
His teaching is very visual as he draws everything out and highlights similar concepts. He is also especially good at walking the student through homework questions. He also allots time before class to answer any question that we have.

What are the primary weaknesses, if any, of the instruction?

Comments
The communication of his ideas weren't always clear.
–
n/a
When someone has a question, sometimes Apurva will just encourage them to go to office hours without briefly reviewing the topic. I know the pace of the class is quick, but I think we could've afforded to answer some of those questions during classes because, many times, those questions were shared. Also, sometimes I would ask Apurva to post some notes or a corrected answer key, but he would forget to do that. We didn't do example problems for every type of question, so that can cause you to stumble on the quizzes.
Sometimes Prof. Nakade would skip steps in how certain things worked and it made it difficult to follow along.
He had a bit of trouble sometimes understanding what about a problem or concept was confusing a student.
I would say that one thing that I would like to improve would be some of Professor Nakade's explanations for certain topics. Sometimes the only way he can explain things is by saying that "that's just the way it is". To the students that are confused about the topic, that doesn't always offer help to their problem with understanding the material.
His teaching style can be a little chaotic and took a little getting used to, but once you're used to it, its great!
none
Could showcase some of the material in better ways.
He can be a little disorganized and doesn't follow the curriculum too strictly. Therefore, it can feel like we are a little behind. However, both of these do not bother me.

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Can you offer suggestions for improvement?

Comments
–
n/a
I think Apurva needs to be a bit more organized and keep track of when a student requests certain information.
Aim to not skip as many steps when explaining concepts, as simple steps can make a large difference in understanding the concepts.
I would say that Professor Nakade could try and explain ideas and concepts in layman's terms, as sometimes when he explains ideas in great detail the original misconception of material can get lost and a new problem with understanding Nakade's response can arise, which thus creates more confusion.
Honestly no, all great!
Sometimes allowed for too many questions in the beginning of class which resulted in rushing through the last few lecture slides or pushing them to the next class period.
I would say making the connection between concepts a little clearer would be helpful and if the course allows it, maybe go a little slower to allow students time to digest the information.

Suggest improvements to discussion sections:

Comments
The discussion sections were simply unhelpful. The quizzes were just an additional stress.
Have a greater focus on answering any questions other students may have, since i thought it didn’t help me learn very much.
n/a
I've had my TA incorrectly answer one of my questions, so I had to go to Apurva's office hours to clarify the mistake. Although the quizzes are valuable, maybe they should be more sporadic (i.e. every other week), so we can focus on reviewing key topics before the quiz. This will give us enough time to review practice questions for every type of problem because sometimes they don't come up on the homework.
Discuss the provided questions as a class with the TA in the last ten minutes of the section
The discussion sections really just felt like a time to take a quiz and then hang out for the remainder of the time. The worksheets would get passed out but the TA would only really explain certain questions with like 5 minutes remaining, so the majority of the time you didn't really know if you got the questions right.
Discussion worksheets were not very helpful, time in discussion sections could have been spent better through answering student questions or helping with homework assignments
More organized and make groups throughout the rest of the year to work on the discussion worksheet.
Instead of testing the students on the material learned the previous week, maybe you can test them on the materials learned the two weeks before. I always find that I understand the material a week after I am quizzed on it, so I never do well on the quiz. Also, maybe we can go through the worksheet questions together or go through the homework questions because otherwise, I don't find the discussion sections helpful at all.

Suggest improvements to office hours:

Comments
–
n/a
More online office hours
None
Having office hours later in the day
I think the office hours should not be in the middle of the day as there are students who also want to attend office hours, but they have other classes to go to.

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Suggest improvements to written homework assignments:

Comments
–
n/a
I wish the assignments covered every type of question we reviewed in class.
Some homeworks were disproportionately longer than others, a more even workload would have been more useful.
None
They are very long and hard, but I think that they are very helpful. There are some questions that feel almost impossible to answer, so I would appreciate some hint or some help in general.

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