Tufts UNIVERSITY
School of Arts and Sciences
School of Engineering

Individual Report - Sp24-MATH-0136-01-Real Analysis II - Robert J Lemke-Oliver

Project Title: **Spring 2024 AS&E Course Evaluation**

Courses Audience: **35**
Responses Received: **28**
Response Ratio: **80.0%**

Creation date of the Report: **Thursday, May 16, 2024**

Summary of Results

The Course

Question	Course		Subject (MATH)	
	Mean	Standard Deviation	Mean	Standard Deviation
5. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the course.	3.86	1.21	4.13	0.91
Overall	3.86	1.21	4.13	-

The Instructor

Question	Course		Subject (MATH)	
	Mean	Standard Deviation	Mean	Standard Deviation
15. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the instructor.	4.39	0.92	4.30	0.91
Overall	4.39	0.92	4.30	-

Detailed Results of Course Evaluation

1. How would you rate the success of the course in accomplishing its objectives as stated on the course syllabus?

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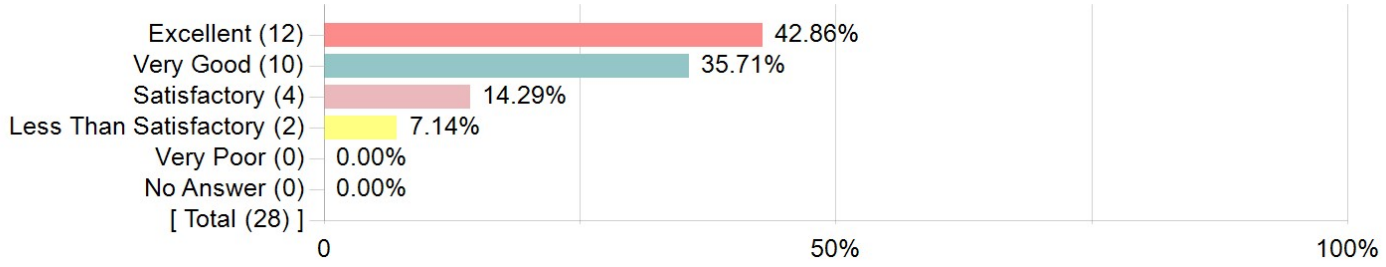

Options	Score	Count	Percentage
Excellent	5	12	42.86%
Very Good	4	10	35.71%
Satisfactory	3	4	14.29%
Less Than Satisfactory	2	2	7.14%
Very Poor	1	0	0.00%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.14
Mode	5
Sum Total	116.00
Standard Deviation	0.93

2. How would you rate the use of class time (lectures, discussions, demonstrations, labs, studio work, etc.) to promote your learning?

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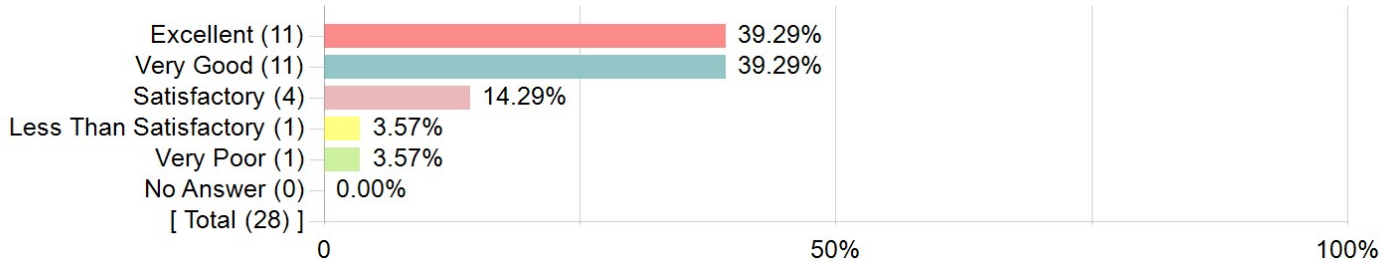

Options	Score	Count	Percentage
Excellent	5	11	39.29%
Very Good	4	11	39.29%
Satisfactory	3	4	14.29%
Less Than Satisfactory	2	1	3.57%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.07
Mode	5, 4
Sum Total	114.00
Standard Deviation	1.02

3. How would you rate the use of out-of-class activities (reading assignments, homework, papers, projects, studio art practice, etc.) to promote your learning?

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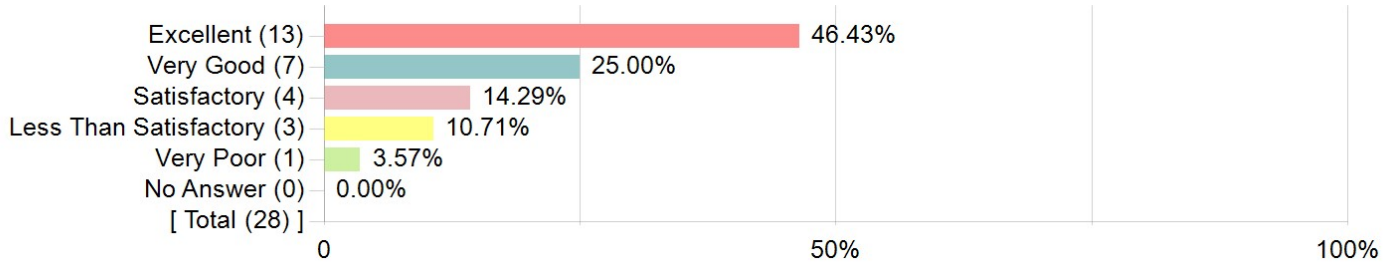

Options	Score	Count	Percentage
Excellent	5	13	46.43%
Very Good	4	7	25.00%
Satisfactory	3	4	14.29%
Less Than Satisfactory	2	3	10.71%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.00
Mode	5
Sum Total	112.00
Standard Deviation	1.19

4. How would you rate the way the course engaged your interest?

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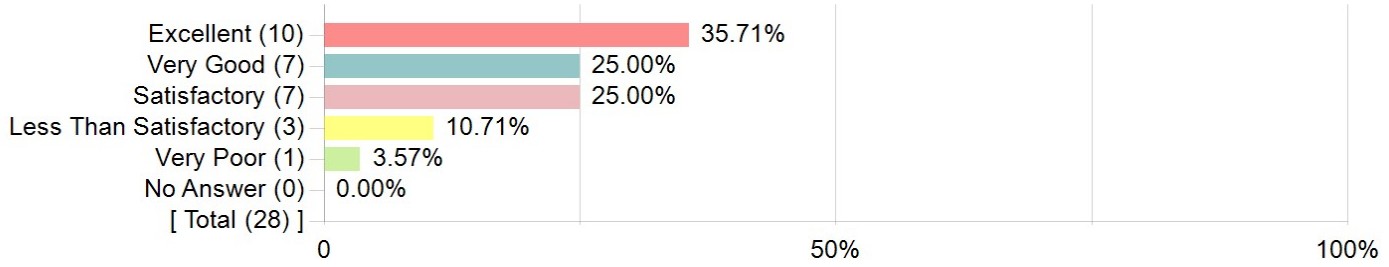

Options	Score	Count	Percentage
Excellent	5	10	35.71%
Very Good	4	7	25.00%
Satisfactory	3	7	25.00%
Less Than Satisfactory	2	3	10.71%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	3.79
Mode	5
Sum Total	106.00
Standard Deviation	1.17

5. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the course.

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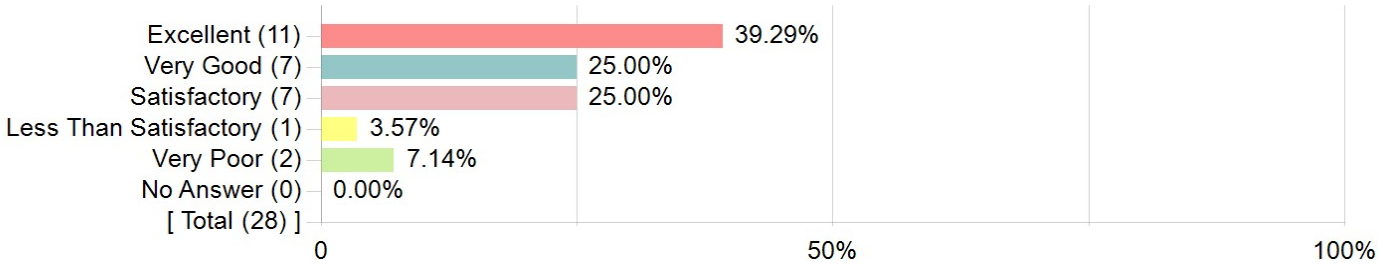

Options	Score	Count	Percentage
Excellent	5	11	39.29%
Very Good	4	7	25.00%
Satisfactory	3	7	25.00%
Less Than Satisfactory	2	1	3.57%
Very Poor	1	2	7.14%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	3.86
Mode	5
Sum Total	108.00
Standard Deviation	1.21

6. In what ways has this course made you think differently or more deeply? Please provide examples.

Comments
the proofs were very well done
reimagined the whole concept of calculus
Called on to cultivate nuanced understanding of theorems/mathematical objects
This course introduced me to greater understandings of fundamentals of calculus. I was introduced to multiple types of proofs, theorems, and concepts.
I appreciated having visual explanations to go along with analytical proofs.
I think the materials are good, important and ultimately fundamental for higher level of math studying.
Some of the homework were genuinely challenging and interesting. Every new topic made me think more deeply.
It's made me think much more deeply.
The class is basically like solving puzzles, its very fun and satisfying to really work through the problems

7. What aspects of this course worked best to facilitate your learning?

Comments
proofs, as well as the homework extension policy and class breaks.
homeworks
Problem sets
The textbook was helpful as an outside resource for the concepts learned in class. In class lectures felt like the best part of class because of the order and explanation of concepts.
I liked when you told us what we were working towards, so it felt like we had a reason for what we were learning. I also liked the "fun" problems/HW assignments that were a little different! I also like the take–home exams because we can focus more on thinking than memorizing/speed.
I found the lectures quite helpful. However, I wish lecture notes were uploaded as I often found myself prioritizing writing things down for the homeworks rather than focusing on absorbing the material.
Jordan Content 0 and Jordan Measure 0
The review at the beginning at class was extremely helpful.
I really enjoyed every lecture, and I felt that the homework built off the lecture in a very engaging way. All the assignments felt fair, and nothing felt like busywork.
The homework really facilitated my learning.
Homework questions where we were able to apply the ideas (find a function that meets certain criteria, working with integrals to show they're integrable etc)
The homework were instrumental for actually learning the material

8. What suggestions do you have for improving this course?

Comments
none
maybe in class activities to get our hands dirty
Some of the proofs were very long (taking up entire classes) and following them for the entire 75 minutes was sometimes difficult. Maybe inessential proofs could be elided and instead the prof could try to deepen our understanding of the import of theorems themselves
I would suggest easier/more tangible problem sets. Some of the problem sets didn't align well with the workload of the week especially close to midterms. There was also challenges with the deadlines of these assignments. The late deadline was used as a substitute for the difficulty of the problem set which didn't feel productive. I would also find a recitation helpful to reinforce the ideas learned in class.
– Releasing HW assignments earlier in the week – Posting solutions/sketches of solutions for old HW's so we can review for the exam, which would also require being stricter about HW deadlines. – I didn't like that one super hard HW the week before the midterm. It forced us to either focus on the midterm and fall behind on HW, or do the HW instead of studying for the midterm.
Probably a structural critique, but I wish there was less of a focus on differentiation in Rn, and rather a more complete overview of integration and Lebesgue integration. I now feel unprepared as other students will have covered such topics in their undergraduate courses.
I felt that some of the homework assignments were needlessly tedious and unproductive in strengthening my understanding of the course content. In fact, some assignments left me even more confused than if I had simply read the textbook or looked over my notes from class. Additionally, I would have preferred to have gone over more examples during class, as I found instances where Robert provided an example regarding the topic we were discussing to be the most helpful in giving me a better understanding,
Many of the other school's second–semester undergraduate analysis courses are much different than this class. We spent about 2 months on differentiation, which took away from time that could have been devoted to other topics in analysis. In particular, I think the course would have been much better if we had only spent 2 or 3 weeks on differentiation, with the remaining time being used for a deeper study of measure and integration theory, including the Lebesgue integral and a formal study of measure. Currently, these topics are only covered in Math 235, meaning that any undergraduates interested in these arguably foundational concepts have to take a graduate–level class just to be exposed to the topics. This is not the case in many other math departments, where such topics are introduced in the equivalent class to Math 136. A less thorough study of differentiation would not leave Tufts students behind, and a short amount of time spent covering it would still provide students with the background necessary for deeper independent study if a further understanding of differentiation is required in some other contexts. Even though this course seems to draw heavily from the Fitzpatrick text, I (and many friends in this class) believe that restructuring the course as outlined above would be extremely beneficial for students, keeping us on track with other universities and providing valuable knowledge in integration and measure theory, especially relevant in applied and probability–related fields in which students (including myself) may opt to take more application–oriented classes over Math 235 and will therefore miss these topics completely.
Having an actual syllabus that I can see on Canvas so I know what I prepare for the next class; have no more than 1 textbook
Following a textbook/ having some outside of class reference would be very helpful. Most of the time there were relevant sections of the Fitzgerald text but sometimes we weren't following it very closely. The reviews in the beginning of class were way more helpful than I thought they could be, I wish they were longer/ more thorough. More applications/ some of our hw could be applying what we learned (in fields outside of math). It also felt like we moved on from a topic as soon as it became very interesting/ fully developed. Since homework is such a large part of the class, it makes sense to go over it more.
I found that the step–by–step nature of the homework problems felt a little too hand–holdy for me; I think the homework would have been better if we were given the problem, and then maybe were given hints and structure to solve it. It sometimes felt like I wasn't being challenged because each part was too digestable.
N/A
More in class examples or time for students to work on the material themselves with instructor help before doing homework Would also have been helpful if the course had a textbook to follow along with
None

Detailed Results of Instructor Evaluation

9. How would you rate the instructor's organization of each class?

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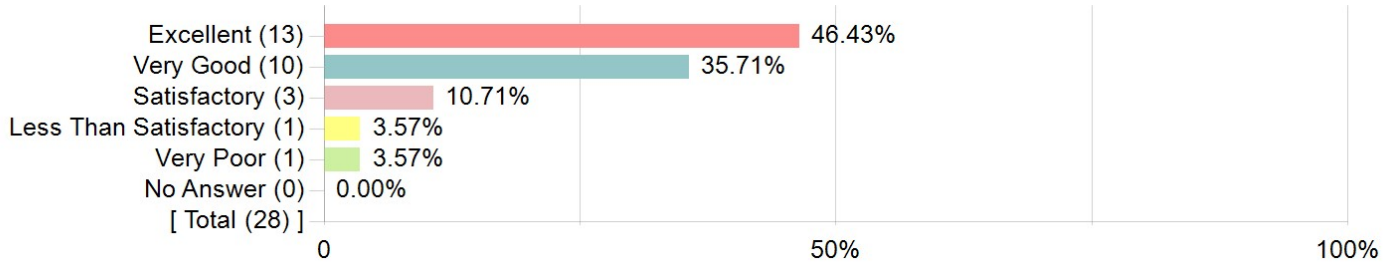

Options	Score	Count	Percentage
Excellent	5	13	46.43%
Very Good	4	10	35.71%
Satisfactory	3	3	10.71%
Less Than Satisfactory	2	1	3.57%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.18
Mode	5
Sum Total	117.00
Standard Deviation	1.02

10.How would you rate the instructor's success in explaining concepts and ideas?

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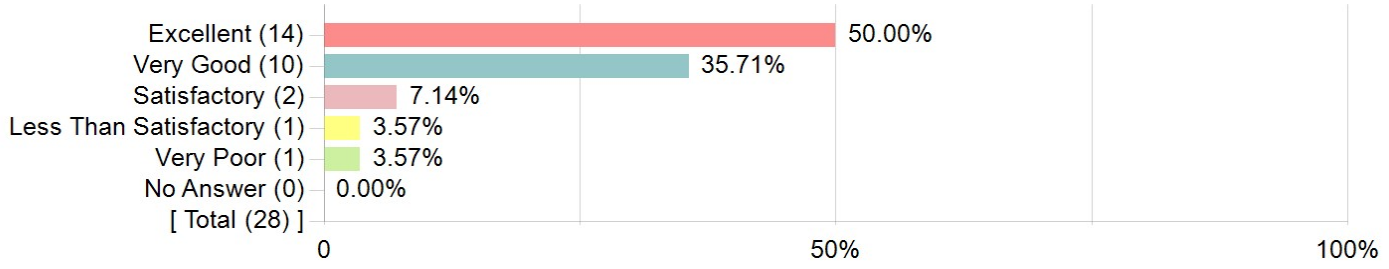

Options	Score	Count	Percentage
Excellent	5	14	50.00%
Very Good	4	10	35.71%
Satisfactory	3	2	7.14%
Less Than Satisfactory	2	1	3.57%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.25
Mode	5
Sum Total	119.00
Standard Deviation	1.00

11. How would you rate the timeliness of the instructor's feedback on assignments, exams, and other work?

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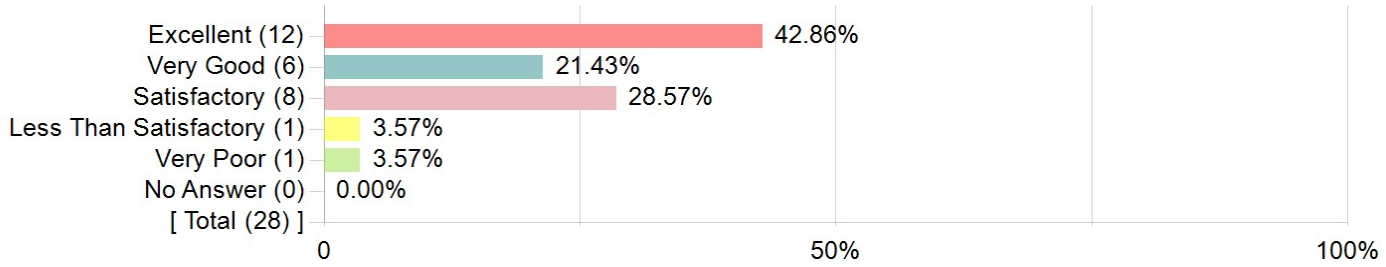

Options	Score	Count	Percentage
Excellent	5	12	42.86%
Very Good	4	6	21.43%
Satisfactory	3	8	28.57%
Less Than Satisfactory	2	1	3.57%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	3.96
Mode	5
Sum Total	111.00
Standard Deviation	1.10

12. How would you rate the usefulness of the instructor's feedback on assignments, exams, and other work?

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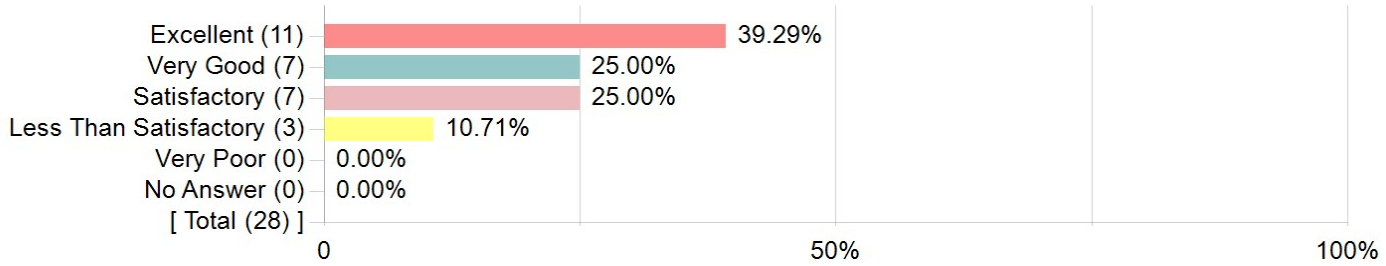

Options	Score	Count	Percentage
Excellent	5	11	39.29%
Very Good	4	7	25.00%
Satisfactory	3	7	25.00%
Less Than Satisfactory	2	3	10.71%
Very Poor	1	0	0.00%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	3.93
Mode	5
Sum Total	110.00
Standard Deviation	1.05

13. How would you rate the instructor's success in creating and maintaining an inclusive class, respectful of all students?

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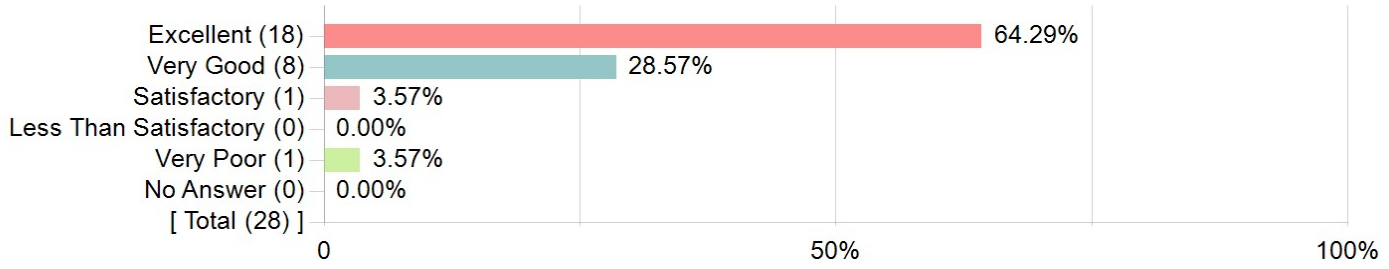
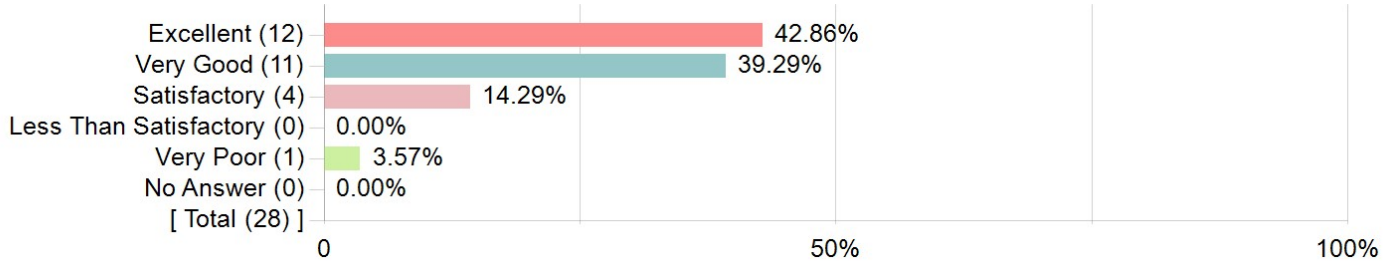


Options	Score	Count	Percentage
Excellent	5	18	64.29%
Very Good	4	8	28.57%
Satisfactory	3	1	3.57%
Less Than Satisfactory	2	0	0.00%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.50
Mode	5
Sum Total	126.00
Standard Deviation	0.88

14. How would you rate the instructor's communication with you outside of class?

14. How would you rate the instructor's communication with you outside of class?



Options	Score	Count	Percentage
Excellent	5	12	42.86%
Very Good	4	11	39.29%
Satisfactory	3	4	14.29%
Less Than Satisfactory	2	0	0.00%
Very Poor	1	1	3.57%
No Answer	NRP	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.18
Mode	5
Sum Total	117.00
Standard Deviation	0.94

15. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the instructor.

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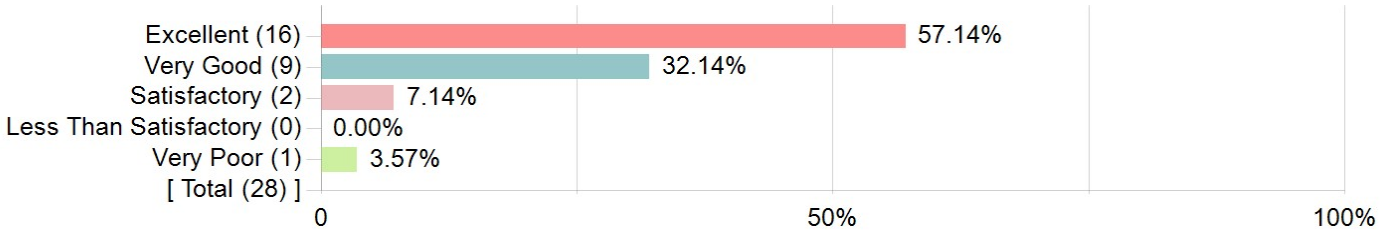

Options	Score	Count	Percentage
Excellent	5	16	57.14%
Very Good	4	9	32.14%
Satisfactory	3	2	7.14%
Less Than Satisfactory	2	0	0.00%
Very Poor	1	1	3.57%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.39
Mode	5
Sum Total	123.00
Standard Deviation	0.92

16. Please provide any additional comments regarding the instructor.

Comments
great communication outside of class! On a different note, the two times the TA led the lecture as a substitute were not very productive. I found his communication style to be condescending at times and he did not do very well with answering questions from the class or in general asking how the class wanted to use the time.
Robert was amazing!! He was engaging and really made an effort to get to know everyone of us. I honestly didn't like Real I very much, but enjoyed this class tremendously thanks to Robert's clarity and enthusiasm throughout the semester. As a math student, I had found that truly good professors is a rarity, so I am very grateful for Robert and his contribution to Tufts and my education. I hope to take another course with him in the future! My only comment is that he was very communicative with us during class, as he would begin each class with housekeeping info + announcements, however these may also be helpful in a weekly Canvas announcement if we can't make it to a class.
Robert is very enthusiastic but can be hard to reach. He is passionate and caring and really wants students to learn. The TA though could be quite unhelpful in homework feedback.
Main issues were the lack of organization of out of class assignments. Having the homework released at random times was difficult in allowing me to time out my work and responsibilities throughout the week. It felt that I was constantly waiting for an assignment to be released. Professor Oliver–Lemke was patient and helpful during office hours.
Great instructor; I learned a lot from the lectures. However, I found the TA to lack a degree of professionalism. I'm also a TA, and I would never use the language he used to communicate with my students.
As a graduating Math major, I am not being hyperbolic in saying that Robert is far and away the best professor I've ever had in this department. He is so passionate about ensuring that we have a solid understanding of the content and is exceptional at breaking down such complex topics into digestible terms. On top of this, his ability and willingness to connect to his students cannot be outmatched. This can be seen through his transparency about upcoming assignments, exams, or topics; his eagerness to learn everyone's name in his 40 person lecture; his clear and proactive communication outside of class; as well as his tendency to gauge our current comfort level about specific course content or assignments and subsequently make adjustments in order to accomodate any struggles. I also adore his policy of allowing a "no questions asked" extension policy for every homework assignment, as it encourages me to actually put in the effort to try and fully understand each assignment instead of submitting a sloppy and rushed product due to scrambling to get it in on time. In spite of my distaste for the course itself, Robert has been excellent and I'm very grateful to have been able to take two of his courses while at Tufts.
In consideration of our previous communication, I feel like if it is not for my advisor constantly checking in to see how I am doing in class(since I am retaking this class), he would not respond my emails like he did before. On a personal level, there is just a weird vibe. I found it hard to talk to him. And I went to his the office hour once, where I did not feel very welcoming like some other professors'., even though he answered my questions with some hints. It really seems like he favors those that are exceptionally intelligent, or hyper–energetic and super fun students. There were times some students or I raise hands to ask questions, and he would be completely oblivious about it. Teaching is OK. From this class, I do not get a deep understanding. I walked in hoping for a connection of different concepts but his class just provides a list of concepts. Today is 04/28, my most recent email from 04/24, where I asked for a recommendation for a textbook is still unresponded and unopened. I was really hoping for a response within 48 hours. If he continue to not respond, I might forget about it and actually not get the book, while I am not so sure how I can completely rely on lecture notes since I am bad at taking notes and listening at the same time.
Great professor!

17. How would you rate the space in which instruction occurred (classrooms, laboratories, etc.)?

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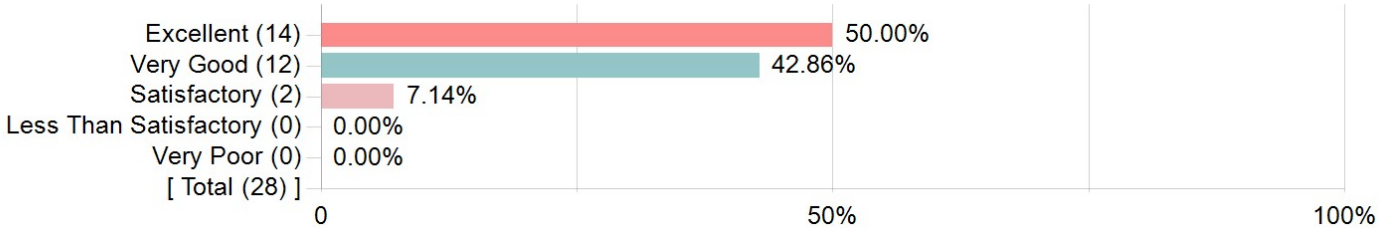

Options	Score	Count	Percentage
Excellent	5	14	50.00%
Very Good	4	12	42.86%
Satisfactory	3	2	7.14%
Less Than Satisfactory	2	0	0.00%
Very Poor	1	0	0.00%

Statistics	Value
Invited Count	35
Response Count	28
Response Ratio	80.00%
Mean	4.43
Mode	5
Sum Total	124.00
Standard Deviation	0.63