

# Duke University - Trinity and Pratt Undergraduate Programs

## Undergraduate Course Evaluations - Fall 2021

**Course:** MATH-185-01: THE ART OF PROOF  
**Instructor:** Stephen McKean \*  
**Response Rate:** 4/10 (40.00 %)

| Question   |   | 1     | 2     | 3      | 4      | 5      | B1   | B2   | Mean | Std  | Median |
|--|---|-------|-------|--------|--------|--------|------|------|------|------|--------|
| Your personal level of engagement with the course was: | n | 0     | 0     | 2      | 1      | 1      | 3.78 | 3.88 | 3.75 | 0.96 | 3.50   |
|  | % | 0.00% | 0.00% | 50.00% | 25.00% | 25.00% |      |      |      |      |        |

Scale: 1 = Very low, 2 = Low, 3 = Medium, 4 = High, 5 = Very high

B1 = Subject Overall.; B2 = Undergrad Overall:

### What knowledge, methods, skills, insights, or ways of thinking did you develop in this course? Please describe three specific things you learned.

- Ability to understand & write mathematical proofs, basic knowledge of set theory, number theory, etc, presentations
- I practiced in-class presentation skills, explaining difficult concepts - I practiced logic skills in dealing with challenging math proofs - I learned to think abstractly and draw comparisons and connections between seemingly unrelated concepts
- I learned how to write in LaTeX which I believe will be a great skill to have. I also feel like I have a better understanding of a lot more higher level math than before. I may now be able to understand and participate in more conversations about math. I was also able to approach problems that I didn't know how to do which is frustrating and hard for me.
- 1. How to think in terms of mathematical precision, defining exact terms and carrying an argument 2. How to approach a difficult problem from multiple angles, all of which are valid and important to understand 3. How to be comfortable with not being able to solve a problem

### Reflecting on the overall learning environment of this class, in what ways did the instructor(s) and the structure or components of the course facilitate your learning? Are there specific course components or methods of instruction you'd keep for future years?

- The course structure is perfect with presentations + monthly projects. It's far more effective and interesting than exams.
- The in-class lectures were very important to learning. Professor McKean's explanations were essential to understanding the homework. He was also very available for help during his office hours, willing to explain difficult examples.
- I thought that the reports and presentations really facilitate learning in the class and help students understand what they're learning in lecture and on homeworks. It is also just fun to see your classmates present and get better at it over time. We were able to do much more complex things at the end than the beginning which I believe is a sign of success. I would definitely encourage the course to be taught this way in future years. I liked the encouragement of participation and collaboration too as not all classes do that.
- The proof presentations were a great idea. They were intellectually stimulating and allowed us to explore our interests outside of the scope of the course.

### What might improve the course? Are there specific course components or methods of instruction you'd change for future years? Did anything in particular impede a positive learning environment?

- Plan less topics to cover, and go more in depth into each topic.
- I don't think that much about the course could be improved upon. I might have enjoyed one group activity or homework to get to know my classmates more and take some stress off maybe around midterms or finals.
- I think the size of the course should be kept small to allow effective discussion and manage class time.

| Question  |   | 1     | 2     | 3     | 4     | 5       | B1   | B2   | Mean | Std  | Median |
|---|---|-------|-------|-------|-------|---------|------|------|------|------|--------|
| The course was intellectually stimulating. It made me think in new ways, encouraged me to adopt different points of view, or challenged me to develop new skills. | n | 0     | 0     | 0     | 0     | 4       | 4.05 | 4.19 | 5.00 | 0.00 | 5.00   |
|   | % | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |      |      |      |      |        |

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

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### What made this class stimulating or how could it be more intellectually stimulating if it wasn't?

- I have not taken many math classes recently, so I was using skills and knowledge in math which I do not regularly exercise.
- I think that the introduction of new and old ideas but then building on those ideas is the class' greatest source of intellectual stimulation. As a non-STEM major, I had to learn to think in new ways and approach assignments differently. I believe the class was successful in opening my mind.
- It was a great introduction to mathematical proofs for students who are not used to thinking mathematically.

| Question  |   | 1     | 2     | 3     | 4      | 5      | B1   | B2   | Mean | Std  | Median |
|---|---|-------|-------|-------|--------|--------|------|------|------|------|--------|
| Considering all components of the course (lectures, discussions, sections/labs, assessments, projects, course environment, etc), overall the course was   | n | 0     | 0     | 0     | 1      | 3      | 3.77 | 3.99 | 4.75 | 0.50 | 5.00   |
|   | % | 0.00% | 0.00% | 0.00% | 25.00% | 75.00% |      |      |      |      |        |
| Based on the effectiveness of instruction (clarity, expertise, enthusiasm, rigor, support, inspiration, etc), overall the instructor, Stephen McKean, was | n | 0     | 0     | 0     | 1      | 3      | 4.05 | 4.18 | 4.75 | 0.50 | 5.00   |
|   | % | 0.00% | 0.00% | 0.00% | 25.00% | 75.00% |      |      |      |      |        |

Scale: 1 = Poor, 2 = Marginal, 3 = Average, 4 = Very Good, 5 = Excellent

B1 = Subject Overall.; B2 = Undergrad Overall:

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## Undergraduate Course Evaluations - Fall 2021

**Course:** MATH-185-01: THE ART OF PROOF

**Instructor:** Stephen McKean \*

**Response Rate:** 4/10 (40.00 %)

| Question  |   | 1     | 2     | 3     | 4     | 5     | 0     | B1   | B2   | Mean | Std  | Median |
|---|---|-------|-------|-------|-------|-------|-------|------|------|------|------|--------|
| Based on the effectiveness of instruction (clarity, expertise, enthusiasm, rigor, support, inspiration, etc), overall the teaching assistant, was | n | 0     | 0     | 0     | 0     | 0     | 0     | 0.00 | 4.29 | 0.00 | 0.00 | 0.00   |
|   | % | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |      |      |      |      |        |

Scale: 1 = Poor, 2 = Marginal, 3 = Average, 4 = Very good, 5 = Excellent, 0 = N/A

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**In what ways did the teaching assistant(s) facilitate your learning and what might have helped even more? Include any constructive comments you'd like to share with here.**

**What would you like to say about this course to a student who is considering taking it in the future?**

- Amazing course.
- There are no tests in this class, which is very helpful. It reduces some of the stress which this class produces. The projects are definitely difficult and involved, but they are also rewarding experiences. This is a great class for someone who wants to learn about interesting parts of math, but does not want to major in it.
- I would encourage every student who had some interest in math and was a humanities major to take this class. It satisfies a Trinity requirement but unlike the easy classes you may take to satisfy a requirement, this class really teaches you a lot.
- Anyone should take it. This is not a traditional Duke math course, so don't be scared away from taking it.

| Question                  |   | 1     | 2     | 3      | 4     | 5      | B1   | B2   | Mean | Std  | Median |
|---------------------------|---|-------|-------|--------|-------|--------|------|------|------|------|--------|
| The course was difficult. | n | 0     | 0     | 2      | 0     | 2      | 3.85 | 3.29 | 4.00 | 1.15 | 4.00   |
|                           | % | 0.00% | 0.00% | 50.00% | 0.00% | 50.00% |      |      |      |      |        |

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

B1 = Subject Overall:, B2 = Undergrad Overall:

| Question   |   | 1     | 2     | 3      | 4     | 5      | 6      | 7     | 8     | 9     | 10    | B1   | B2   | Mean | Std  | Median |
|--|---|-------|-------|--------|-------|--------|--------|-------|-------|-------|-------|------|------|------|------|--------|
| How many hours in a typical week did you spend on this course (outside of class meetings)? | n | 0     | 0     | 2      | 0     | 1      | 1      | 0     | 0     | 0     | 0     | 5.34 | 4.53 | 4.25 | 1.50 | 4.00   |
|  | % | 0.00% | 0.00% | 50.00% | 0.00% | 25.00% | 25.00% | 0.00% | 0.00% | 0.00% | 0.00% |      |      |      |      |        |

Scale: 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5, 6 = 6, 7 = 7, 8 = 8, 9 = 9, 10 = 10+

B1 = Subject Overall:, B2 = Undergrad Overall: