



Course Evaluation Fall 2024

Report grouped by students without names

MATH-355-01-2425F Introduction to Analysis

Ryan Alvarado



Report prepared by **Explorance Support**
Created **Thursday, January 2, 2025**



Course Audience: 26
Responses Received: 20
Response Ratio: 76.92%

Individual Student Responses

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Rarely

Complete assignments

- Often

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

office hours

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

paying attention to smaller proof details and how ordering of assumptions is important

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

advanced proof writing

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

huge amount of info was very challenging but prof alvarado was very helpful and effective in teaching material in a thorough and understandable manner

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

extremely helpful in office hours and great at inspiring and connecting with students, very understanding to student hardships and needs

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Always

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I found it very important to attend office hours, even after we had an exam or homework due. With this course specifically, it is so important to get on top of the material early because it all builds on each other.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Math 355 improved my attention to detail and taught me that there are many things in math that we cannot assume. Professor Alvarado made it very clear that there are few things we can take advantage of in analysis. He structured his lectures by consistently asking questions that picked apart the assumptions of theorems/ideas.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I learned how to make my proofwriting even more rigorous. I gained a more concrete background of the tools we took advantage of in Calc II.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

I appreciated how this course was taught as a "story." We began by mentioning the fundamental theorem of calculus, but we were not able to prove this claim until the final day of the course. Though this course was very fast-paced, the assignments and expectations were clear.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Professor Alvarado cares for his students deeply. He shows interest in their extracurricular activities and cares about his students as community members at Amherst College. He checks in on us when we seem down and has a consistent, energetic, and bright smile. He holds office hours consistently, but he is also more than willing to meet with students outside of these hours if there are concerns. He always leaves very detailed comments on our exams so that we can learn from our mistakes.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Always

Complete assignments

- Always

Meet with professor outside of class

- Rarely

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I think rereading notes is effective. The course comes at you extremely quickly, almost too quickly to grasp a lot of content. So reviewing outside of class is the only thing that helped me to feel like I wasn't falling extremely behind.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

I think Prof Alvarado did a nice job of being excited about content which then spreads to the student. I did feel like he was very honest about the pace of the course being extremely quick which in being honest about it caused me a lot of stress. I would think about how I felt stress, then think about how the course is designed to be stressful, and it almost sent me into a spiral. Although, I feel like it slows down in the end and so does Prof Alvarado's teaching, which allows the end of the semester to feel less stressful.

04. Please describe the most significant skills and/or knowledge that you gained

or further developed during this course.

I gained a lot of knowledge regarding math. I found it to be interesting when it became less stressful. It was quite honestly not my favorite math course, but I do appreciate how it is the heart of elementary calculus and respect its value as a math major.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

Incredibly fast, which caused it to be stressful. Expectations were very clear, especially after the first assignment so we understand how the graders grade answers. I think I will leave this with a good refresher on calculus, and I think my mathematical logic skills have grown.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

He answers questions very willingly and wants us to engage with the material. He makes sure to know everyone's name and ask them about themselves which is very kind. I appreciate how he made sure everyone felt seen.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Sometimes

Attend class

- Always

Participate in class

- Rarely

Complete assignments

- Always

Meet with professor outside of class

- Rarely

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Theorem sheets

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor's Alvarado's energy always made the class more enjoyable

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

deeper understanding of analysis

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or

discussions in the course impact your learning?

It was good

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Always willing to help out the students

- 08. Type your comments below for [Ryan Alvarado](#).**

Great teacher made the class really fun

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Always

Participate in class

- Always

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

[No Response]

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado was always super energetic when presenting material, making the class much more engaging and understandable. Furthermore, Professor Alvarado was always super willing to discuss topics further after class and in office hours, helping motivate me to study the subject on a much deeper level.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

[No Response]

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

[No Response]

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Professor Alvarado always held multiple office hours a week and was helpful to every student. Additionally, Professor Alvarado was always willing to chat about the course or other things outside office hours, and he was always super positive and helpful.

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

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Participate in class

- Always

Complete assignments

- Always

Meet with professor outside of class

- Always

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Going to office hours to discuss with Professor Alvarado, completing the homework carefully each week, and attending all of the lectures were helpful for the class. Reading the book to gain supplementary knowledge or preview the material was helpful when I was able to do so.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado is an incredible Analysis teacher. He makes the material fun and engaging, and due to his energy, I am always eager to learn during each class. I am very glad to have taken the class, and am considering taking more math courses, even though I am not currently a math major.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

Mathematical reasoning, proof writing, problem solving, analytical skills, knowledge of analysis — all of these were difficult to build, but a great learning experience.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

The course is designed very well. The lectures provide new information at a fast but manageable rate, and Professor Alvarado posts the notes so that we can grab any information that we may have missed. Homework assignments are consistent with clear expectations. While challenging, they were central to improving my understanding of the information given in the class. Exams are good reflections of the material that we learn, and help solidify my knowledge.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

I attended Professor Alvarado's office hours quite frequently (at least once a week, usually twice). Office hours are a great experience — Professor Alvarado does a great job of helping answer our questions while also building an inclusive and collaborative learning space. It is clear that these office hours help me a lot, as well as all of the other students who attend. Professor Alvarado also does a great job of engaging with students and our questions during lectures, which helps me digest the information that I need to know. He works very, very hard to be available to his students nearly all the time. He responds to emails and questions incredibly quickly, and I very much appreciate the immense amount of work he puts in for us students.

08. Type your comments below for [Ryan Alvarado](#).

I am very happy that I was able to take your Analysis class; I enjoyed it a lot! And I am very sad that you will be on sabbatical next year as this will likely be the last time I take one of your classes at Amherst. Thank you for all the work that you do for us students!

Individual Student Responses (continued)

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01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Taking advantage of the resources that Amherst College Math department offers, such as extensive professor office hours and Q-center help sessions.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

He is an incredible lecturer who is very passionate about teaching analysis in such a way that makes it feel like a journey, so everything we learned felt helpful and necessary to learn. It's nice that he built up the course with a goal in mind: prove the FTC.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I learned how to draw connections between theorems and definitions from different units to help me remember them.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

I think it was perfect.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

He is always so supportive and positive and wants to see his students succeed. I had a health issue mid-semester and felt stressed out regarding the course, but he helped calm me down and kept me confident in the course. In all of his office hours, he helped push my understanding of analysis and helped me think critically about the problems we were solving.

- 08. Type your comments below for [Ryan Alvarado](#).**

Thank you for such a great experience! Taking courses with you has been a highlight of my time at Amherst!

Individual Student Responses (continued)

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Prepare for class

- Always

Attend class

- Always

Participate in class

- Often

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I was very diligent about my theorems and definitions. Right after class, I would add my theorems and definitions to latex and make sure that I understood what they were all saying. It's always bad to get behind in a class, but I think that in math it's particularly bad because it often leaves you completely lost. Staying on top of things to not get that overwhelming feeling is really important.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado is easily one of the best professors I've had at Amherst. He is engaging, smart, understanding, and incredibly enthusiastic in his lectures. He has an infectious passion for math and motivates the content really well.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I think that I got much better at writing proofs and at logical reasoning. Professor Alvarado is detail-oriented (something that I can struggle to be) and I feel like this class strengthened my ability to focus on the details.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

I thought it was all really good. The assignments helped a ton in solidifying my understanding of concepts, and the pacing was perfect given what we had to get through.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

The learning environment was always very inclusive and I never felt nervous to participate in class. Office hours were fun and professor Alvarado often made himself available past the allotted time.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Always

Participate in class

- Never

Complete assignments

- Always

Meet with professor outside of class

- Always

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Going to office hours and talking with other students about the material through asking questions and trying to explain concepts to other students.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

The course helped me rethink the way I use rigorous mathematical reasoning, and make sure that each step of my claim is supported.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I gained a greater ability to dissect the specific steps of reasoning in articulating a rigorous proof for a concept that feels quite obvious and intuitive.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

The pace was very fast but that is more a result of all the material Prof. Alvarado had to fit into the semester. It was very clear that there were high expectations for the students in this course but Prof. Alvarado offered a lot of support to reach those expectations.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Prof. Alvarado is an incredibly supportive and attentive professor. I greatly appreciate all of my conversations with him that helped motivate me through the course. The feedback was very helpful in exams and he was very clear that there were always resources available for extra assistance throughout the class.

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Always

Participate in class

- Rarely

Complete assignments

- Always

Meet with professor outside of class

- Sometimes

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Homework! All of the problems helped reinforce the concepts from class. Theorem/definition sheets were SUPER helpful!! Making them required was super helpful because then we already had them next to us for the homework.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

To think that the goal of this class was to prove FTC is insane considering it's a "simple" thing we learn in Calc 1. But Professor Alvarado's energy was super motivating and made the whole journey exciting. Every day he started class with an insane amount of contagious energy. Though I never found sequences super interesting, he made them seem like the most interesting mathematical concept I have ever learned.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

[No Response]

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

Class moves fast! But the homework was the perfect time to slow down and process the information. Also having to submit theorem/definition sheets was also key in forcing me to slow down and review.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

I was a frequent visitor in Professor Alvarado's office hours because I really needed help at times but I found the environment of his office hours to be a comfortable to sit with the material even if I didn't have an immediate question. His explanations in office hours were always clear because of his use of the white board and how he asked questions of us to guide us. His ability to address every student during office hours made the environment even more inclusive because he made efforts to talk to everyone.

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Rarely

Attend class

- Often

Participate in class

- Often

Complete assignments

- Always

Meet with professor outside of class

- Rarely

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

- Reading textbook passages as necessary to better understand the lecture or the homework problems.
- Fill out the theorem–definition sheet.
- Pay attention to the thinking behind proofs given in lecture.
- Be careful in writing homework proofs.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

The way the course was presented and ordered was excellent. Every definition and theorem felt very motivated. All of the components needed to understand anything had always been presented earlier in the class. Also, Prof. Alvarado did an excellent job of presenting the proofs in lecture. He made even complicated proofs seem easy. The homework problems were also very well selected.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I most obviously gained a ton of proof-writing experience, especially in the more rigorous style needed in an analysis class. I think the biggest thing I gained is a sense of what analysis is about. As far as this class goes, I realized halfway through that almost everything was just sequences and neighborhoods. I feel like I understand those ideas very deeply and future ideas in analysis I learn will come more easily because of that.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

The pace seemed appropriate. I would have preferred to see more detail on the construction of the reals and the proofs of \mathbb{R} 's properties, but I understand how that wouldn't have fit along with everything else we did. I also felt the treatment of power series was a little short. Again, compromises. Lectures were superb. Homework problem sets generally had the right length. The problems were very well selected for my learning.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Prof. Alvarado did an excellent job answering questions in class. Feedback on coursework and exams was clear and thorough.

08. Type your comments below for [Ryan Alvarado](#).

Best class ever!

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

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Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Always

Participate in class

- Always

Complete assignments

- Always

Meet with professor outside of class

- Always

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

It was very helpful to do pre-reading before class. I was able to do this at the beginning of the semester, but later lost this habit. That's because I realized, perhaps a little too late, that math really does require daily practice, even if the practice is as short as 15–20 mins. Just looking at problems and interacting with the concepts is important to maintain a good understanding and intuition needed later in proof-writing. I also found it beneficial when I would try homework problems on my own (accompanied by my theorem–definition sheet: a great tool!) and then resorted to office hours only if I had spent more than an hour on a problem without any real progress.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado constantly reminded us that we were no longer in the area of math where we use concepts as merely calculation tools. What's important about math, and presumably all higher-level math, is that you understand the objects and especially why we have these objects in the first place. The professor placed great importance in

motivating concepts based on our prior math experience and this made it easy to care about the topics we would go over. It was also nice that we were constantly reminded to note how things build on each other.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

In higher-level math, theorems and definitions are the mathematician's toolbelt. When we go to prove something, it helps to have an intuition of the objects involved and what the statement is trying to describe, but it is also crucial to be able to translate that intuition into rigorous language via definitions and theorems. I think having a theorem-definition sheet was one of the most helpful things I've seen in my math career, and I'll definitely be applying it to other classes.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

The course design was great. I understand that this course is actually quite condensed, but the professor did a great job at keeping an eye out for our mental health and would modify the courseload or schedule as needed. This was definitely a hard course in mathematics, but not once did I feel like there wasn't someone I could talk to for help. All assignments were straightforward and clear and lecture time was great for learning the material and seeing important examples.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Professor Alvarado is very kind anywhere you see him. In office hours and in class, he'll ask us about our day, give us great tips and help to complete homework, but will also just joke around and try to liven up the mood. He'll also acknowledge when he is stressed, which makes him feel more real, especially when we're all stressing ourselves too! He is always open to answering questions, even when the question is simply to "repeat what that means" again.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

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01. How often did you:

Prepare for class

- Always

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- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I would attend office hours, ta hours or make appointments with the Q center to help my learning outside of the classroom. I also tried to study with my peers before exams. Discussing topics and doing practice problems in a group helped my learning. This process also helped me stay less stressed before exams.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado came to class everyday with vibrant energy. I could always tell that he was happy to be there. Listening to his lectures were never boring and I liked that he made time for the class 3 days a week to ask questions from class. Professor never made me feel lesser than for not immediately understanding a problem and he always did a good job explaining the steps to solving a problem. I have enjoyed going to office hours because it was always a fun space full of students and I never felt alone in my math struggles.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I learned efficient study skills from using my theorem/definition sheets. The homework problems that we were given always focused on understanding a broader concept and I was able to develop problem solving skills through trying multiple practice problems.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

I thought by exam 2 that the pace of the class had picked up a bit but it wasn't too fast. The expectations for the course were very clearly laid out on Moodle and discussed the first day of class. I felt like the layout of the class with homework, 3 exams, and a final was very fair. Even though I sometimes found the theorem/definition sheets to be tedious work, they really helped me in the long run with studying and I'm grateful that I have them neatly arranged from my other study work.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Professor Alvarado was always very open to discussion, both in class and during office hours. He regularly asked if we had questions about the math he was explaining in order for us to better follow along.

08. Type your comments below for [Ryan Alvarado](#).

Thank you for another great semester of math! I love taking your classes and I will be sad to graduate next year and not take another one. Keep putting photos of your cats on the front of exams (I love this) and wish you all the best.

Individual Student Responses (continued)

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Participate in class

- Always

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Making a schedule for the assignments and goals that were expected of me every week.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Alvarado has quite the demanding and energetic presence making it easy to engage in class. Always with a smile on his face. This course is all about creative ways to bind together intuition and definition to make mathematics at any level, easier to understand and fully righteously correct.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

How to be comfortable reading higher level math texts. How definitions play an integral part in mathematics. And truly how to make something rigorous to the point of certainty.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

He was very clear of the expectations and work load from the start. But my lord, this course has so much work to do and information to take in, to the point where it feels overwhelming at times. But that said, Amherst has great resources to make it manageable.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Always asking if any one has anything to ask. Always happy to make time to talk to a student. Always honest with his life & priorities to the students in the case when he does not have time to meet at the moment. Always asks if he answered your question thoroughly enough and if you got any more questions.

- 08. Type your comments below for [Ryan Alvarado](#).**

Thank you for inspiring and engaging me in the everlasting realm of Mathematics. And thank you again for a great course.

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Never

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Attending office hours regularly was a key part of my learning in analysis. Many of the homework problems require a lot of time to think through, so being in a space where other students were tackling the same problems and Professor Alvarado was available for answering questions provided a platform to overcome roadblocks.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado took time in each unit to connect where we were going as a class to what we have already done, making each section feel like a true progression of knowledge that made sense. He also provided challenging weekly homework that required a lot of attention to detail and thorough understanding of the theorems and definitions taught in lecture.

04. Please describe the most significant skills and/or knowledge that you gained

or further developed during this course.

This class developed my understanding of writing proofs, paying attention to the details provided and using the theorems already proved to show what properties follow from given sequences, series, and functions.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

The course moves quickly. The homework assignments often feel like they can be covering content that was taught up to two weeks prior. As such, I had to remain on top of learning new theorems in class and using slightly older ones in homework. In practice, this meant that classes were just for taking down new concepts while homework was the place I engaged with and understood them.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Alvarado provided lots of time for office hours, at which he would rotate around the room, asking students if they were ready to ask a question rather than waiting for the students to come to him. This was really nice, since I'm often not comfortable taking the initiative to ask questions. Alvarado made each space of learning—the classroom and office hours—a safe place to talk, ask questions, and enjoy the process of learning. In terms of exam feedback, Alvarado provided both personal comments to point out mistakes and an answer key to refer to as review.

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Always

Participate in class

- Often

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I completed the homework on a weekly basis, which is an important aspect of all math courses but especially Analysis where all the content builds on itself so much.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado always gave very engaging and interesting lectures. Also, whenever my peers or I had a question about the material after class, or had additional thoughts or hypotheses we wanted to express, Professor Alvarado helped improve our understanding by answering those questions and confirming or contradicting our ideas. Professor Alvarado makes Analysis so fun and exciting to learn, and his clear enjoyment of the material he teaches was infectious (I am an Analysis enjoyer now too, at least with my basic knowledge). I look forward to learning more in the future, especially since Prof. Alvarado was very kind in providing additional things I could look into after the course ends.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

The most significant skill I gained in this course, aside from the knowledge of Analysis itself, was better proof techniques. I feel as though my mathematical proof skills greatly improved over the time I spent in Analysis. I think more carefully about my implications and am more careful in going through every step instead of just brushing some under the rug. I have improved as a problem solver. Also I can prove the FTC now which is fun and I know how series work more than I did in Calc II.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

The homework was well selected for the course and helped give me a better understanding of the material covered in lecture. The Theorem/Definition sheets are a good way to ensure students are reviewing their notes and also provides a useful compendium at the end of the year.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Professor Alvarado was very helpful during his office hours and answered questions effectively and thoroughly, and even though his office hours were usually very packed, he managed to get around the room to different students so everyone got to ask at least a few questions. Professor Alvarado does a very good job cultivating an environment where mistakes are a learning experience and not something to be afraid of or upset about. He was also always happy to talk about further ideas in Analysis and interesting things you can do with Analysis, and I enjoyed having conversations about that when office hours were a little more chill.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Often

Attend class

- Often

Participate in class

- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Sometimes

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Actively reviewing theorems/proofs/definitions outside of class helped me a lot. Homework helped me intuitively understand what we were working on, which was great. That made me able to rewrite theorems/definitions/etc based on what made sense, rather than just regurgitating them.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

[No Response]

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I think I've gotten much better at writing proofs and at the problem-solving approach needed for it.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

[No Response]

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

Alvarado has been fantastic. He makes classes engaging and is always helpful at office hours.

- 08. Type your comments below for [Ryan Alvarado](#).**

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Rarely

Attend class

- Always

Participate in class

- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Sometimes

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Revise the Theorem & Definition sheets before starting an assignment and also regularly rereading the proofs we wrote in the class. Understanding what a sequence is goes a long way.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Prof. Alvarado has multiple times in the classes emphasized how important it is that we speak the language of mathematics carefully and showcased that in every definition/theorem/corollary etc. that was stated in the class. I think that that has been one of the most important takeaways for me from this class.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

This class helps one with getting a really good grip of the different proof methods that are ubiquitous in mathematics and it is not possible to get through it without understanding them. Since proof-writing is a vital skill, I do not think that there can be anything else that I gained/further developed that was of higher significance.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

At times the class felt a bit repetitive, especially since everything we have done in this class builds upon the simple idea of a sequence. However, I do not know if there can be any way to fix that since that is rooted in the nature of analysis.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Prof. Alvarado demonstrates so much interest in the class and teaching it that one cannot feel disinterested even for a minute in his lectures. His zeal is highly contagious and that made attending all the classes worthwhile for me even when I felt like I had a very good grip of the subject since just seeing his engagement with the material makes one feel more motivated. Also, he always makes sure to greet the students when he sees them and talks to them even if for only a couple of minutes and I think that affects the relationships one forms with his class a lot and in a good way, definitely.

08. Type your comments below for [Ryan Alvarado](#).

I think he is a great professor from so many different aspects and I hope I can take at least one more class with him before I graduate. His classes do not feel like any other and he is very good at making the students feel included and comfortable in the classroom.

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Sometimes

Complete assignments

- Always

Meet with professor outside of class

- Often

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

Go into office and TA hours, work with classmates. Read the textbook and ask complete the homework/assignments given

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

He brought lots of energy and passion to every class which I really appreciate and think it cultivates a strong learning environment. I found office hours to be a bit hard to come in and get support, however, because so many students were always there. I know it can be hard teaching multiple classes but it felt hard to be able to ask questions and his time was very limited so I would sometimes only be able to ask one question and have little time to discuss or ask more questions.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

I truly learned so much in this class and I really think Professor Alverado is an incredible teacher and truly helped me gain a much better understanding of not only Analysis but my love for math.

05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?

I felt the pace was fast however given it is a rigorous class I understand, every class was well structured and organized which I appreciate and the assignments were clear.

06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.

Always energetic and present! He brought a great attitude and was ready to teach. Like I said above I was a little frustrated with the lack of availability during office hours and being able to ask questions/talk through problems.

08. Type your comments below for [Ryan Alvarado](#).

[No Response]

Individual Student Responses (continued)

Please note: If the customizable 7th question is not displayed, it indicates that the instructor has not provided a question for this section.

Course Name: MATH-355-01-2425F Introduction to Analysis

Instructor Name: Ryan Alvarado

01. How often did you:

Prepare for class

- Always

Attend class

- Always

Participate in class

- Rarely

Complete assignments

- Always

Meet with professor outside of class

- Always

02. Using specific examples, please briefly describe what you did that you feel was particularly effective for improving your learning in this course?

I attended SO many Office Hours (almost all of them honestly). This was very helpful as I was able to receive more context regarding particularly challenging problems and go into exams feeling like I knew the metrics of success.

03. In what ways did this course and instructor [Ryan Alvarado](#) stimulate or shape your intellectual interests, thinking, and/or imagination?

Professor Alvarado was amazing. He loved to show us "cute things" in our classes, where he would show material that wouldn't be on exams, but was kind of fun to know. He was funny and lively. He also was great in Office Hours, in that we wouldn't just tell me the answer — he guided me in the correct direction.

04. Please describe the most significant skills and/or knowledge that you gained or further developed during this course.

Proof writing for sure. This is the first math class that has necessitated really rigorous proof writing.

- 05. Considering the overall design of the course, how did the pace, presentation of information, clarity of expectations, assignments, activities, and/or discussions in the course impact your learning?**

The pace was fast in a good way. It wasn't so quick that no one was able to ask questions or anything, but the material was covered very efficiently. The presentation of information was GREAT, and I also thought the clarity of expectations was super strong. I was never in doubt of the metrics of success in the class. Homeworks were quite difficult but really helpful for exams.

- 06. Please describe the nature of your interactions with the instructor [Ryan Alvarado](#) in this course, including the instructor's engagement with student questions and ideas in class, their cultivation of an inclusive learning environment, their availability outside class, and the feedback you received on your course work.**

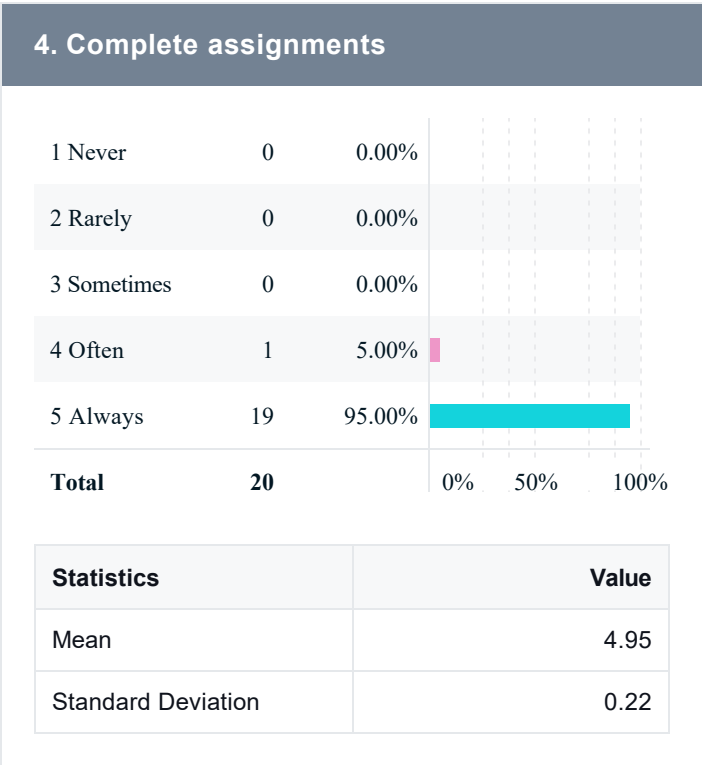
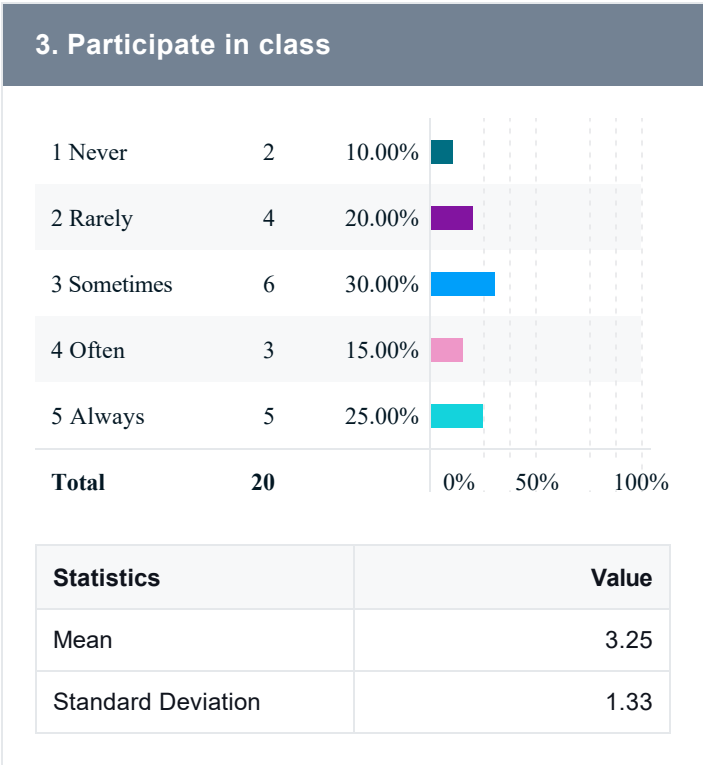
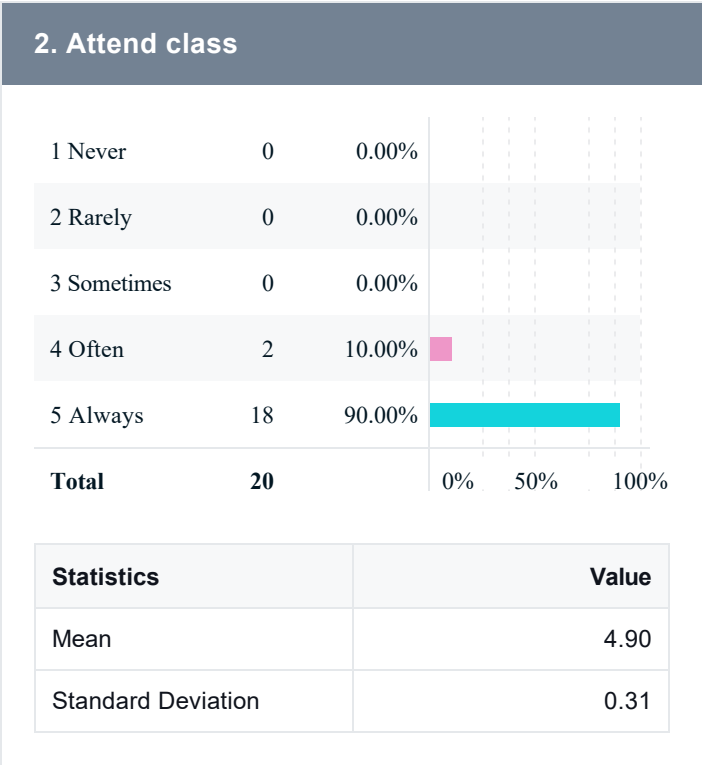
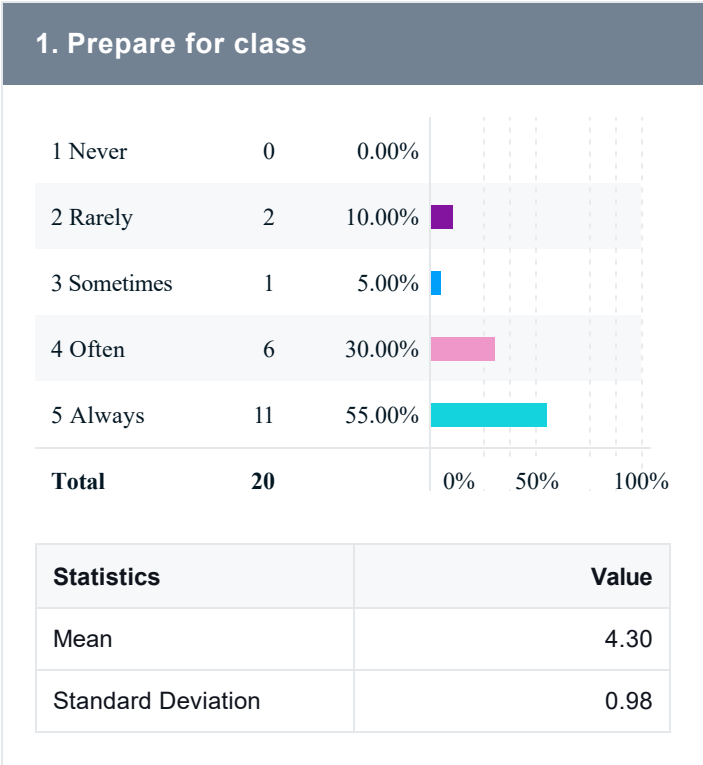
Professor Alvarado is one of the best professors I've had at Amherst. He is such a lovely person, and in addition to helping me with math, always offered a receptive ear and helping hand when I was feeling a bit down.

- 08. Type your comments below for [Ryan Alvarado](#).**

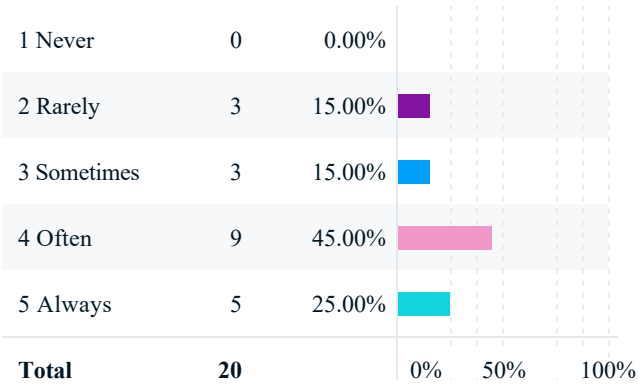
[No Response]

Question 1 Statistical Summary

How often did you:



5. Meet with professor outside of class



Statistics	Value
Mean	3.80
Standard Deviation	1.01