TEACHING STATEMENT
Christopher J. Bishop

If you are a professor, then teaching is your job; the cake to research's icing. You should strive to do to it well, which means to inspire, as well as educate, your students. A year or two ago, I covered an analysis class for one of my colleagues who was away; I discussed the definition of uniform convergence and proof that uniform limits of continuous functions are continuous. It did not seem like anything special to me, but after the class one of the students came up and thanked me for the lecture; he said that it reminded him why he became a math major in the first place. This what we want to do for every student in every class: make them feel that studying mathematics is a worthwhile endeavor, and for some of them, worth devoting their lives to. What follows are a few random thought about what I think are important aspects of teaching.

Smile: There was a study some years ago that showed students a 30 second video of a professor (without audio) and asked them to rate the instructor based on this video. It turns out the rating was almost identical to those given by students who had that instructor for a whole semester and filled out the course evaluation forms. I don't find this particular surprising, except that they used a full 30 seconds of video; a few photographs would probably be enough to show whether the instructor was smiling or not, and that one fact probably has more to do with evaluations than anything else: if the teacher doesn't enjoy being in class, why should anyone else? The teacher, at least, is fulfilling their life's ambition by walking into the classroom and getting an hour to discuss their favorite subject with a captive audience. If this opportunity doesn't make you giddy, then at least fake it until you find employment more suited to your natural disposition.

Be prepared: When I was a graduate student at the University of Chicago, I took a course from Alberto Calderon. He showed up for each class in a jacket and tie (which showed us that this was serious material) and gave an impeccable lecture from memory. On very rare occasions, he would pause for a moment, pull a bundle of carefully written notes from his jacket pocket, refer to them briefly and then carry on. He was well prepared and it showed. You should always show up for class prepared to present the material clearly. In lower level classes the clarity should be even greater, although it is natural to skip preparing "easy stuff" but then get stuck in a computation or explanation. On an advanced level, there is a possible point in favor of letting the students see you dig yourself into a hole and then get out out of it, but this should only happen accidentally in upper division classes and never the lower division.

Answer questions: In one of my favorite math anecdotes, G.H. Hardy claims during a class that a certain claim is trivial. When challenged on this point, he thinks about it a while, paces up-and-down, leaves the room, and returns a half hour later, announcing "I was right. It is trivial.". This is a great story, but a poor policy to actually implement in class. For most students, it takes significant courage to ask a question in class and dismissing it as trivial neither answers the question at hand, nor encourages the formation of any in the future. I love getting questions and I try to respond in a way that encourages more of

them. First of all, the more questions I get, the less I have to wonder what the students are "getting"; they are simply telling me where their gap are. Second, the question indicates that someone actually cares enough about what I am saying to make sure they understand it; that's pretty nice too. I am shocked when I hear (and I have heard) from students that questions are sometimes dismissed in other class as being too easy, off-topic or something that is better discussed after class. Any of these might be true, but I would never this in front of a class: after a few such instances, I would end up having to do all the talking during my lectures. Let the students pull their own weight too, and they do this through questions. If you don't address questions seriously the students will mark you down as either mean, incompetent or afraid, and none of these help the learning process.

Technology: Several years ago I was part of an effort to teach calculus using technology in the form of graphing calculators. This was not a success; using the calculators made simple concepts seem more complicated. On the other hand, one of my favorite courses is MAT 331, "Problem Solving with Computers", where we draw ideas from all over the undergraduate curriculum to write `MATLAB` scripts to solve problems that are too big or too hard for theory alone. In this course I have discussed topics like numerical integration, optimization, root finding, Newton's method, Julia sets, the Mandelbrot set, fractal dimension, image compressions, wavelets, simple substitution codes, letter frequencies, language models, one time pads, random walks, harmonic measure, percolation, and random growth models (this course could be taught for years without ever repeating a topic). Of course, computation can illustrate theory; but the real power and purpose of mathematics is for theory to facilitate computation. While I am not a fan of adding technology to elementary courses, I think it is critical that our majors and graduate students have some familiarity with programming and computation; only a minority will end up as academic mathematicians and machine computation will be a major career component for the rest. Our MAT 331 class at Stony Brook has no programming perquisite and forms just a introduction to what is possible. I would also like to see a more advanced sequel to this course, and something of a similar flavor in the graduate program (perhaps replace a foreign language requirement with a computational competency one).

Testing: Why do we give tests? To filter out the weak students? I prefer to think that tests are a way to encourage students to study, and a way to focus their attention on the most important points. For undergraduate classes, I generally hand out a nearly perfect copy of the actual exam for students to review ahead of time; the actual exam has different instances of the questions, but the structure and difficulty is the same. In my mind, the purpose of giving the in-class exam is simply to provide a powerful motivation for doing the practice exam. Furthermore, because there are no secrets about what the exam will cover, I can ask more and tougher questions that I could otherwise and I rarely (in fact, never) get a complaint about an exam being unfair. In some classes, I feel I have sufficient information from midterms and homework and give a tentative grade in the last week of classes; a student can accept this grade or take an optional final to try to raise it (I promise not to give a lower grade as a result of taking the final).

Listed below are my teaching assignments for the last twenty years.

Fall 2022:
- MAT 532 Real Analysis I ,
- MAT 487 Independent Study,

Spring 2022:
- MAT 627 Topics in Complex Analysis: Conformal Fractals,

Fall 2021:
- MAT 320, Introduction to Analysis,

Spring 2021:
- MAT 533 Real Analysis II,

Fall 2020:
- MAT 126 Calculus B, course coordinator,
- MAT 638 Topics in Real Analysis,

Fall 2019:
- on sabbatical (Simons fellow),

Spring 2020:
- on sabbatical (Simons felllow),

Spring 2019:
- MAT 495 Honors thesis,
- MAT 555 Introduction to Dynamical Systems,
- MAT 699 Dissertation research,

Fall 2018:
- MAT 331 Computer assisted problem solving in mathematics,
- MAT 459 Write Effectively,
- MAT 487 Independent Study,
- MAT 495 Honors thesis,
- MAT 532 Real analysis I,
- MAT 699 Dissertation research,

Spring 2018
- MAT 487 Independent Study,
- MAT 627 Topics in complex analysis,
- MAT 699 Dissertation research,

Fall 2017
- MAT 331 Computer assisted problem solving in mathematics,
- MAT 459 Write Effectively,
- MAT 487 Independent Study,
- MAT 495 Honors thesis,
- MAT 532 Real analysis I,
- MAT 699 Dissertation research,

Spring 2017
- MAT 402 Seminar in Mathematics,
- MAT 698 Independent Study,
- MAT 699 Dissertation research,

Fall 2016
MAT 342 Applied Complex Analysis,
MAT 487 Independent Study,
MAT 551 Real Analysis III,
MAT 699 Dissertation research,
Spring 2016
MAT 487 Independent Study,
MAT 627 Topics in dynamical systems,
MAT 699 Dissertation research,
Fall 2015
MAT 324 Real Analysis ,
MAT 495 Honors Thesis,
MAT 543 Complex Analysis II,
MAT 699 Dissertation research,
Spring 2015
HON 496 Honors College Senior Project,
MAT 656 Topics in Dynamical Systems,
MAT 699 Dissertation research,
Fall 2014
HON 496 Honors College Senior Project,
MAT 122 Overview of Calculus,
MAT 544 Real Analysis,
MAT 699 Dissertation research,
Spring 2014
MAT 487 Independent Study,
MAT 656 Topics in Dynamical Systems,
Fall 2013
MAT 118 Mathematical Thinking,
MAT 487 Independent Study,
MAT 551 Real Analysis III,
Spring 2013
HON 496 Honors College Senior Project,
MAT 627 Topics in Complex Analysis,
Fall 2012
HON 495 Honors College Senior Project,
MAT 401 Seminar in Mathematics,
MAT 551 Real Analysis III,
Spring 2012
MAT 495, Independent Study,
MAT 559 Real Analysis II,

Fall 2011
MAT 324, Real Analysis,
MAT 638, Topics in Real Analysis,
MAT 699, Dissertation Research,
Spring 2011
MAT 542, Complex Analysis I,
MAT 699, Dissertation Research,
Fall 2010
MAT 118, Mathematical Thinking,
MAT 487 Independent Study,
MAT 543, Complex Analysis III,
MAT 699, Dissertation Research,
Spring 2010
MAT 542, Complex Analysis I,
MAT 698, Independent Study,
Fall 2009
MAT 401, Seminar in Mathematics,
Spring 2009
MAT 542, Complex Analysis I,
Fall 2008
MAT 171, Accelerated Calculus,
MAT 626, Topics in Complex Analysis,
Spring 2008
MAT 542, Complex Analysis I,
Fall 2007
MAT 171, Accelerated Calculus,
MAT 324, Real Analysis,
Spring 2007
MAT 402, Seminar in Mathematics,
Fall 2006
MAT 324, Real Analysis,
MAT 543, Complex Analysis II,
MAT 699, Dissertation Research,
Spring 2006
MAT 627, Topics in Complex Analysis,
MAT 698, Independent Study
Fall 2005
MAT 142, Honors Calculus,
MAT 698, Independent Study,
MAT 699, Dissertation Research,

Spring 2005
MAT 125, Calculus A,
MAT 495, Honors Thesis,
MAT 639, Topics in Real Analysis,
MAT 698, Independent Study,
MAT 699, Dissertation Research,
Fall 2004
MAT 122, Overview of Calculus,
MAT 401, Seminar in Mathematics,
MAT 698, Independent Study,
MAT 699, Dissertation Research,
Spring 2004
MAT 125 Introduction to Calculus,
MAT 627, Topics in Complex Analysis,
MAT 698, Independent Study,
MAT 699, Dissertation Research,
Fall 2003
MAT 122, Overview of Calculus,
MAT 626, Topics in Complex Analysis,
MAT 699, Dissertation Research,
Spring 2003
MAT 122, Overview of Calculus,
MAT 627, Topics in Complex Analysis,
Fall 2002
MAT 122, Overview of Calculus,
MAT 142, Honors Calculus,
MAT 698, Independent Study,
Spring 2002 - sabbatical
Fall 2001
MAT 142, Honors Calculus
MAT 636, Topics in Complex Analysis
Spring 2001
MAT 131, Calculus I
MAT 639, Topics in Real Analysis
Fall 2000
MAT 141, Honors Calculus
MAT 626, Topics in Complex Analysis

STUDENT EVALUATIONS
Christopher J. Bishop

The following pages are the student evaluation reports for the undergraduate classes I have taught for the last five years (as far back as the current online evaluation system goes). Each report contains responses to various standard questions, that are followed by student comments. The attached reports are unedited, but below I have collected a few of my favorite positive comments:

• *Professor Bishop was funny, charming, engaging, and an enthusiastic speaker. A great professor to have for an early morning class. His expectations of the work and the students was very realistic, he made an otherwise tedious and boring class seem very worth while.*

• *The Math I learned was actually useful and Professor Bishop is the best! He made the course that I though would be one of the most boring ones of my college career one of the most rewarding! His teaching style is informal, with a smattering of jokes thrown in, and genuine interest in the material. I looked forward to this class, and am sort of sad that it is coming to an end. :(Also, he reminded me of The Sicilian from The Princess Bride, which made the class even more fun!*

• *Professor Bishop, is an amazing professor. Teaches the subject well enough for students with no previous math knowledge to understand. Personally I haven't take math since junior year high school so after not having taken math in 3 years, Prof. Bishop made it easy to understand. His exams are a bit tricky but he hints what would be on the exams anyway.*

• *Professor Bishop is hands down the most exciting math teacher I have ever had. I looked forward to going to this class. He is extremely knowledgable on the subject that it is inspiring.*

• *I am not exaggerating when I say that Chris Bishop is the best professor I've ever had at Stony Brook. He is like a wizard who stealthily imparts deep understanding of abstract math with seemingly minimal effort. He is always very helpful during his office hours and always makes you feel welcome. And aside from explaining the concepts exceptionally well, his lectures are full of humor, interesting side topics, and insightful comments about math in general. The course is about Real Analysis, but I feel that my understanding of math as a whole has grown as well. I consider myself lucky to have him teaching this course, and I can only hope I have him again in the future.*

• *Learned more about analysis beyond intro to analysis. Analysis isn't my cup of tea, but I learned a lot about measure theory. Professor Bishop's side comments on set theory and math history are great. It helps that I really enjoy foundations of math stuff and math history. I think he would be great at teaching the math history course.*

• *This was my favorite math class I've ever taken, and professor Bishop was my favorite professor in any of those classes. Professor is incredibly enthusiastic not only about the material in lecture, but also about the success of his students (that's not to say you can just show up and get an A, it's obviously a difficult course still). Professor does an exceptional job of keeping lectures engaging and (believe it or not) funny, and shows incredible level of skill in understanding the material at hand. This course dramatically improved my skills as a mathematician and I'd happily recommend it to anyone interested in an advanced math class.*

• *Chris Bishop is a gift to Stony Brook. You need to have him teach more classes, whatever you are paying him, double it and have him teach more courses. There are many geniuses in the math department but there aren't many PROFESSORS. This man communicates ideas effectively, is extremely knowledgeable on the subject matter, he engages the class and reminds us why we want to be math majors. I took this course at an unfortunate time and couldn't give it any attention because of circumstances outside of my control but just attending some of his lectures was enough to get some concepts and he made it very easy to understand. He was very organized and clearly cared about how the class was doing. Besides this he was a very approachable down to earth guy (rare in the in the field of mathematics). I don't know where he came from, but go find more of him.*

• *The professor teaches the course astonishingly effective, he does not always follow the book and always try to use more intuitive and easier way to prove the theorems. This might not be rigorous enough, but giving us a good first feeling of the field matters the most to us. And the guest lectures help us know what this theory can do. In all, this course is one of the best courses have ever taken in my life.*

• *This course will allow you to put "Intermediate MATLAB" on your resume if you work hard and understand the material. MATLAB is frequently used in my job industry, so this experience was essential to gaining the skills I need. By the end of the course, the class is project-based, which is extremely effective in putting your newly developed skills to use. This was also by far the best course I have taken at Stony Brook. I love exploring cool math ideas and problems, and this course does just that. I am not a pure math major, so a lot of the ideas were new to me and absolutely awe-inspiring. You have the opportunity to dive into anything from fractals, cryptography, or random walks. To anyone with just a bit of mathematical intellectual curiosity, MAT331 will be one of your favorite courses here at SBU.*

• *Christopher Bishop is an amazing professor. He is passionate and provides many interesting additions and spins to the material in the lecture. He is very fair to his students, and I think that he is a great professor to study under.*

- *I felt that the time and effort that Professor Bishop had put in to make sure that all of his students fully understand the material was the most valuable thing in his class. While he had told us the importance of grades, he had stressed understanding the topics/lessons of this course more, which truly was effective as I not only had focused on my grades but I actually was able to emphasize more on learning the concepts thoroughly. I had felt that I definitely became more confident in math and through this class and I felt more comfortable in asking questions and reaching out for help whenever I needed. Overall, I had a very positive experience with this course and I would definitely reccomend this course and Professor Bishop as an instructor.*

- *Professor Bishop was one of the best professors I've ever had at Stony Brook. He understood that students have lives outside of his class (which is very rare) and adjusted his course to fit. We were all learning how to deal with doing full-time online classes, but instead of fighting the use of technology, Professor Bishop embraced it. He taught the material very well and was always ready to answer any questions students had regarding the material.*

- *Professor Bishop is beyond patient, informative, and extremely amazing at teaching such a difficult subject. He cares all about the students and their success, not even about grades, but more so about you actually learning the concepts and not memorizing them 'just because'. I have NEVER met a professor so passionate, caring, intellectual, kind, and amazing at teaching students on ALL skill levels! I wish there were more Professors like him, TRULY!*

- *I think professor bishop really was the only professor I had this semester that really understood the mental issues students are facing on online learning. He was the most accommodating and actually wanted us to understand the class not just pass it.*

- *The professor is amazing! His main focus is to make students understand the material well and be able to utilize it in the future, rather than just give them information and make them learn by themselves. The best math professor I've ever had!*

MAT 118 (01-F13-MAIN): MATHEMATICAL THINKING

Fall 2013 | Christopher Bishop

83 | Students Enrolled
37 | Students Responded
44.58% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall, I would give this course a grade of:	54.05% (20)	32.43% (12)	10.81% (4)	0% (0)	2.7% (1)	37	0	0.88	4.35

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	54.05% (20)	29.73% (11)	13.51% (5)	0% (0)	2.7% (1)	37	0	0.9	4.32

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor expectation of students is reasonable.	64.86% (24)	21.62% (8)	10.81% (4)	2.7% (1)	0% (0)	37	0	0.79	4.49

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
The grading in this course was based on the requirements stated in the syllabus.	94.59% (35)	5.41% (2)	0% (0)	0% (0)	0% (0)	37	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required		N	DNA	SD	M
The textbook, readings and required resources were valuable.	91.89% (34)	2.7% (1)	5.41% (2)	0% (0)		37	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials		N	DNA	SD	M
Did the use of the required textbooks, readings or resources sufficiently justify their cost?	59.46% (22)	40.54% (15)	0% (0)	0% (0)	0% (0)		37	0	-	-

	DEC Requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	M N
What is your reason for taking this course? Select all that apply.	58.14% (25)	37.21% (16)	0% (0)	0% (0)	4.65% (2)	0% (0)	0	-	- 43

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (Please specify)	DNA	SD	M N
What is the most effective way to contact the instructor outside of class? Select all that apply.	17.86% (10)	23.21% (13)	28.57% (16)	0% (0)	30.36% (17)	0% (0)	0	-	- 56

	0-3 Hours	4-6 Hours	7-10 Hours	11+ Hours	Not applicable, this was an online course.	N	DNA	SD	M
On average, how many hours per week did you spend on this course outside of class?	43.24% (16)	43.24% (16)	10.81% (4)	2.7% (1)	0% (0)	37	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
How often did you attend this class?	32.43% (12)	45.95% (17)	8.11% (3)	5.41% (2)	8.11% (3)	37	0	-	-

Qualitative

What, if anything, did you find most valuable about this course? -

- The material was the most valuable. I felt like it was something I could apply to real life, as opposed to the material I've learned in most other math classes which I feel it is likely I will never need.
- He explained the best way he could the chapters
- Very helpful professor & fair grading system
- The professor's practice exams were very helpful.
- I liked that this class was different from all other math classes. I have never been great at math, but this course was simple enough to do well in. It is a great alternative for people who are like me that would do horrible in a calculus class.
- 2 grades are dropped, good instruction, easy learning strategies
- Learned a great deal about applying math outside of class... elections etc. Did not require me to rely a lot on arithmetic
- The professor.He is the best math teacher that has ever taught me.He is fair.His lectures are interesting and very effective.
- I like that this is math that applies to the real world.
- I liked the structure of the class and how the tests were not cumulative and were on mondays each time
- awesome teacher
- The way the professor explained the course
- Professor Bishop was funny, charming, engaging, and an enthusiastic speaker. A great professor to have for an early morning class. His expectations of the work and the students was very realistic, he made an otherwise tedious and boring class seem very worth while.
- Bishop's a good professor, and explains things very well. He did very well at dispelling any anxiety over the class.
- New math
- Creative problem solving skills.
- I like how Professor Bishop stated very clearly what would be going on each day. He wrote when we would be having exams and what part of each chapter he would be teaching. The syllabus stated what problems would be due each week. There was no cause for error. I also like that he spared us from the midterm by having exams each week. I like that he is very easy to contact and that he is dropping two exams. There is so much more to say. What a fantastic professor!
- This is a good class and great professor
- The Math I learned was actually useful and Professor Bishop is the best! He made the course that I though would be one of the most boring ones of my college career one of the most rewarding! His teaching style is informal, with a smattering of jokes thrown in, and genuine interest in the material. I looked forward to this class, and am sort of sad that it is coming to an end. :(Also, he reminded me of The Sicilian from The Princess Bride, which made the class even more fun! :P
- The teacher was very relateable and i really enjoyed his teaching style.
- It was practical.
- I learned a lot of interesting things, and things that I did not originally know in this class. I also feel as though a lot of things learned in class are applicable outside of class in the real world.
- Excellent professor, makes the coursework more understandable to students.

In what ways, if any, could this course be improved? -

- The professor doesn't explain the material sufficiently. He needs to go over more problems not theorize them.
- more concrete due dates for homework.
- Professor should allow more time in class dedicated to review. Should allow early students to start quiz immediately.
- have the chapter exams the monday right after finishing the material. i found it harder to study for a test when we were already halfway through the next unit
- Nothing, it was great! :D
- Stay on target. Do not skip lessons.
- Different homework schedule.
- Better T.A.'s
- For the love of god, get different TA's. Mine was consistently unprepared, and would make mistakes during the recitation. I never left that class feeling good about myself.
- Material was gone through at a rapid fire pace. Feels like it would have been a great benefit if we just went through material a hair slower.
- None
- I found the teaching methods confusing, and had better luck teaching myself from the book
- N/A
- Chapters exams maybe every other Monday instead of every Monday
- -better alignment of tests and homework due dates (I was in the Monday lecture, and it was brutal to be studying for the Chapter 'X' exam on Monday while simultaneously learning Chapter 'X +1' and having to have its homework done, also, for Monday. Really overwhelming. -different textbook. the book often made the math more complicated than it had to be...more often than not I relied on the internet to help me if I wanted to go over something from lecture
- No improvement necessary
- He should try to be on page with the tas
- None

MAT 122 (01-END): OVERVIEW OF CALCULUS WITH APPL

Fall 2014 | Christopher Bishop

117 | Students Enrolled
52 | Students Responded
44.44% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	46.15% (24)	38.46% (20)	7.69% (4)	1.92% (1)	5.77% (3)	52	0	1.05	4.17

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	42.31% (22)	38.46% (20)	13.46% (7)	1.92% (1)	3.85% (2)	52	0	0.98	4.13

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	53.85% (28)	28.85% (15)	9.62% (5)	7.69% (4)	0% (0)	52	0	0.93	4.29

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	90.38% (47)	3.85% (2)	3.85% (2)	0% (0)	1.92% (1)	52	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required		N	DNA	SD	M
Text/Resources Valuable	88.46% (46)	9.62% (5)	1.92% (1)	0% (0)		52	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	61.54% (32)	30.77% (16)	3.85% (2)	3.85% (2)	0% (0)	52	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	M N
Reason for Taking Course	40% (24)	51.67% (31)	1.67% (1)	0% (0)	5% (3)	1.67% (1)	0	-	- 60

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	M N
Best Way to Contact Instructor	26.32% (20)	35.53% (27)	26.32% (20)	0% (0)	11.84% (9)	0% (0)	0	-	- 76

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	45.1% (23)	43.14% (22)	9.8% (5)	1.96% (1)	51	0	-	-

U	I Don't Know	A	B	C	D	F	P	S	N	DNA	SD	M
Anticipated Grade		29.41% (15)	35.29% (18)	17.65% (9)	1.96% (1)	3.92% (2)	0% (0)	0% (0)				
0% (0)	11.76% (6)								51	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	47.06% (24)	39.22% (20)	3.92% (2)	5.88% (3)	3.92% (2)	51	0	-	-

Qualitative

What is your reason for taking this course? - Other (please specify)

- Other (please specify) SBC Requirement

What, if anything, did you find most valuable about this course? -

- In-depth Calculus knowledge
- Professor is very nice. He is humerus, and very helpful.
- Math
- I learn how to use derivative.
- Professor Bishop had a very reasonable grading policy and genuinely wanted his students to succeed.
- meeting new people
- this course provides a foundation of calculus.
- His teachings are easily retainable
- Taught me how to make valid estimations using graphs.
- Teacher is passionate about what he teaches.
- I liked the fact that he gives test after each chapter when the material still fresh!
- Professor Bishop, is an amazing professor. Teaches the subject well enough for students with no previous math knowledge to understand. Personally I haven't take math since junior year high school so after not having taken math in 3 years, Prof. Bishop made it easy to understand. His exams are a bit tricky but he hints what would be on the exams anyway.
- Professor Bishop is hands down the most exciting math teacher I have ever had. I looked forward to going to this class. He is extremely knowledgable on the subject that it is inspiring.
- Math is a hard subject to teach, i think, but the professor did a very good job. The test were good style.
- The way he taught made it a lot easier.
- wonderful!!!!
- informations
- The professor is really nice and hopeful.
- the example of the definition
- Professor always explained clearly on how all the thing will be graded. There was chapter exam after we finish each chapter and it helped me a lot.

In what ways, if any, could the course be improved? -

- everything is good
- Nothing.
- knowledge
- I feel the course is fine the way it is.
- Change the textbook some of the answers in the back were wrong, the homework sometimes doesn't involve what was done in class. I do wish there was a few short answers on test to fight for points, it is very easy to lose points on multiple choice.
- extra credit, maybe make the hw be worth more.
- Longer focus on building up to actual calculus
- If the required textbook was a more updated edition.
- More effective recitation techniques
- he needs to learn how to teach
- The professor should slow down in his lecture. Often he would go really fast without any explanation. Most of the time I am lost and I believe going to class is a waste of time. Only time I learn is going to tutor.
- Focus more about business. Better book.
- None

MAT 324 (01-END): REAL ANALYSIS

Fall 2015 | Christopher Bishop

18 | Students Enrolled
12 | Students Responded
66.67% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	91.67% (11)	8.33% (1)	0% (0)	0% (0)	0% (0)	12	0	0.28	4.92

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	91.67% (11)	8.33% (1)	0% (0)	0% (0)	0% (0)	12	0	0.28	4.92

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	83.33% (10)	16.67% (2)	0% (0)	0% (0)	0% (0)	12	0	0.37	4.83

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	100% (12)	0% (0)	0% (0)	0% (0)	0% (0)	12	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	N	DNA	SD	M
Text/Resources Valuable	83.33% (10)	16.67% (2)	0% (0)	0% (0)	12	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	75% (9)	25% (3)	0% (0)	0% (0)	0% (0)	12	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	M N
Reason for Taking Course	0% (0)	75% (9)	0% (0)	0% (0)	16.67% (2)	8.33% (1)	0	-	- 12

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	M N
Best Way to Contact Instructor	38.89% (7)	22.22% (4)	27.78% (5)	0% (0)	11.11% (2)	0% (0)	0	-	- 18

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	16.67% (2)	50% (6)	16.67% (2)	16.67% (2)	12	0	-	-

	A	B	C	D	F	P	S N	DNA	SD	M
Anticipated Grade	58.33% (7)	41.67% (5)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)			
U 0% (0) **I Don't Know** 0% (0)							12	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	91.67% (11)	8.33% (1)	0% (0)	0% (0)	0% (0)	12	0	-	-

Qualitative

What is your reason for taking this course? - Other (please specify)

- Other (please specify) useful for application of graduate programs

What, if anything, did you find most valuable about this course? -

- New method for measurement
- The pacing of the course was ideal for the difficulty of the material. The professor was very approachable, making it easy to ask questions. The tests were extremely fair, given the difficulty of the course.
- The lectures are very insightful and bishop always keeps your interest
- Learned more about analysis beyond intro to analysis. Analysis isn't my cup of tea, but I learned a lot about measure theory. Professor Bishop's side comments on set theory and math history are great. It helps that I really enjoy foundations of math stuff and math history. I think he would be great at teaching the math history course.
- Well-taught course on measure theory.
- Professor Bishop's astounding teaching style. Professor bishop would first state the theorems and discuss verbally the ideas behind the proof, he would then write down the proof and explain each step, and then proceed to giving examples and counter examples. By doing this, he would essentially discuss the theorem twice which is extremely effective; it makes it easier to comprehend long and tedious proofs if you know what to expect, and why certain tricks are used. Moreover, this caters to both visual and auditory learners. Finally, by discussing examples and counter examples, he would make abstract ideas concrete and intuitive. This, in my opinion, is a winning combination that should be practiced by every math professor . If the reader of this review is interested in math education, she may contact me for a longer detailed analysis of Professor Bishop's teaching style. Cheers!

In what ways, if any, could the course be improved? -

- Problem sets were perhaps a little too tough.
- Not the teacher's fault but the course is fast paced. Kinda got left behind after the midterm. Was really lost during the 2nd half of semester. Again, entirely my fault. Should have invested more time in studying the material. Much harder material than the first half. Maybe a warning haha. Professor Bishop is great though. Learned a lot. I probably need to revisit material to really understand measure theory.
- The choice of book wasn't thrilling. I ended up using follands book to study often and it's just a better book
- The homework was incredibly challenging. The lectures do not always provide enough tools for actually proving or otherwise demonstrating results or developing an intuition for concepts discussed in the course; there is too much of an emphasis on "thinking it out".
- More contents about functional analysis

MAT 342 (01-END): APPLIED COMPLEX ANALYSIS

Fall 2016 | Christopher Bishop

46 | Students Enrolled
20 | Students Responded
43.48% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	85% (17)	15% (3)	0% (0)	0% (0)	0% (0)	20	0	0.36	4.85

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	95% (19)	0% (0)	5% (1)	0% (0)	0% (0)	20	0	0.44	4.9

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	95% (19)	5% (1)	0% (0)	0% (0)	0% (0)	20	0	0.22	4.95

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	95% (19)	0% (0)	0% (0)	0% (0)	5% (1)	20	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	N	DNA	SD	M
Text/Resources Valuable	100% (20)	0% (0)	0% (0)	0% (0)	20	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	85% (17)	5% (1)	0% (0)	10% (2)	0% (0)	20	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	MN
Reason for Taking Course	0% (0)	70% (14)	15% (3)	0% (0)	15% (3)	0% (0)	0	-	- 20

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	MN
Best Way to Contact Instructor	31.82% (14)	36.36% (16)	29.55% (13)	0% (0)	2.27% (1)	0% (0)	0	-	- 44

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	20% (4)	50% (10)	20% (4)	10% (2)	20	0	-	-

U	I Don't Know	A	B	C	D	F	P	S	N	DNA	SD	M
Anticipated Grade		60% (12)	25% (5)	5% (1)	0% (0)	0% (0)	0% (0)	0% (0)				
0% (0)	10% (2)								20	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	55% (11)	40% (8)	0% (0)	0% (0)	5% (1)	20	0	-	-

Qualitative

What, if anything, did you find most valuable about this course? -

- Learning complex analysis
- This was my favorite math class I've ever taken, and professor Bishop was my favorite professor in any of those classes. Professor is incredibly enthusiastic not only about the material in lecture, but also about the success of his students (that's not to say you can just show up and get an A, it's obviously a difficult course still). Professor does an exceptional job of keeping lectures engaging and (believe it or not) funny, and shows incredible level of skill in understanding the material at hand. This course dramatically improved my skills as a mathematician and I'd happily recommend it to anyone interested in an advanced math class.
- Course was well structured, workload was very reasonable
- It's super useful for advance physics such as quantum physics and advance mechanic. I also love the speeches at the end of the semester. That really let me know how important math is.
- Professor Bishop's lectures were both highly informative and entertaining to be in. His presentation of the material was impeccable, and his sense of humor and obvious enthusiasm for the subject made it a delight to be in class.
- Chris Bishop is a gift to stony brook. You need to have him teach more classes, whatever you are paying him, double it and have him teach more courses. There are many geniuses in the math department but there aren't many PROFESSORS. This man communicates ideas effectively, is extremely knowledgeable on the subject matter, he engages the class and reminds us why we want to be math majors. I took this course at an unfortunate time and couldn't give it any attention because of circumstances outside of my control but just attending some of his lectures was enough to get some concepts and he made it very easy to understand. He was very organized and clearly cared about how the class was doing. Besides this he was a very approachable down to earth guy (rare in the field of mathematics). I don't know where he came from but go find more of him. The grader Jack Burkhart was very helpful as well.
- most of my math classes feel very rushed and stressful, i didn't feel that way with this class. it was very organized and there were no surprises
- The professor teaches the course astonishingly effective, he does not always follow the book and always try to use more intuitive and easier way to prove the theorems. This might not be rigorous enough, but giving us a good first feeling of the field matters the most to us. And the guest lectures help us know what this theory can do. In all, this course is one of the best courses I have ever taken in my life.
- The professor explains concepts in a way that makes them easy to follow, and the textbook is a good supplement to the lectures.
- It's math baby. How could it not be valuable.

In what ways, if any, could the course be improved? -

- Lectures could be a bit more concise. Solutions to the homework would also be very helpful when studying.
- None that i can think of; the class went very smoothly.
- The second part of the semester, the complex series and residue should be covered with more examples and less proofs.
- really enjoyed professor bishop he was a great professor very knowledgable on the subject
- My only complaint is that professor bishop writes more often on the right side of the blackboard making it hard to follow if you sit on the left side of the classroom (even if you sit in the front).
- The class cannot be improved. Do not touch it.
- A greater emphasis on proofs could potentially improve the overall quality of the course, but given the amount of computational material this may not be entirely plausible due to time constraints.
- I wish the easy and basic problem only worth 1 points and difficult question worth 2 points. or give us some partial points if we can write the correct equation. Other wise, if we did something wrong with the calculation, that means all the work we done are worthless. However, making a mistake in the first few basic problem has the same effect on the final grade. I just don't think that's fair.
- None.

MAT 402 (S01-END): SEMINAR IN MATHEMATICS

Spring 2017 | Christopher Bishop

15 | Students Enrolled
8 | Students Responded
53.33% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	100% (8)	0% (0)	0% (0)	0% (0)	0% (0)	8	0	0	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	87.5% (7)	12.5% (1)	0% (0)	0% (0)	0% (0)	8	0	0.33	4.88

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	100% (8)	0% (0)	0% (0)	0% (0)	0% (0)	8	0	0	5

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	100% (8)	0% (0)	0% (0)	0% (0)	0% (0)	8	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	N	DNA	SD	M
Text/Resources Valuable	100% (8)	0% (0)	0% (0)	0% (0)	8	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	62.5% (5)	0% (0)	0% (0)	37.5% (3)	0% (0)	8	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	MN
Reason for Taking Course	0% (0)	37.5% (3)	0% (0)	0% (0)	50% (4)	12.5% (1)	0	-	- 8

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	MN
Best Way to Contact Instructor	35% (7)	35% (7)	30% (6)	0% (0)	0% (0)	0% (0)	0	-	- 20

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	75% (6)	25% (2)	0% (0)	0% (0)	8	0	-	-

U	I Don't Know	A	B	C	D	F	P	S	N	DNA	SD	M
Anticipated Grade		87.5% (7)	12.5% (1)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)				
0% (0)	0% (0)								8	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	50% (4)	37.5% (3)	12.5% (1)	0% (0)	0% (0)	8	0	-	-

Qualitative

What is your reason for taking this course? - Other (please specify)
• Other (please specify) Math honors requirement

What, if anything, did you find most valuable about this course? -
• The class structure was interesting and the grading was very lenient. • The knowledge that I can't present for ****. But I like to think that I got better. • Professor Bishop's lectures and comments are extremely clear and very insightful, take any course with him if you have the chance.

In what ways, if any, could the course be improved? -
• Seminar courses always suffer from the issue that students are not always good teachers. • Course was pretty good. • None. This course was basically perfect!

MAT 331 (01-END): COMPUTER-ASSIST MATH PROB SOLV

Fall 2017 | Christopher Bishop

28 | Students Enrolled
17 | Students Responded
60.71% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	88.24% (15)	11.76% (2)	0% (0)	0% (0)	0% (0)	17	0	0.32	4.88

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	82.35% (14)	11.76% (2)	5.88% (1)	0% (0)	0% (0)	17	0	0.55	4.76

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	76.47% (13)	11.76% (2)	5.88% (1)	5.88% (1)	0% (0)	17	0	0.84	4.59

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	94.12% (16)	0% (0)	5.88% (1)	0% (0)	0% (0)	17	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required		N	DNA	SD	M
Text/Resources Valuable	64.71% (11)	5.88% (1)	17.65% (3)	11.76% (2)		17	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	41.18% (7)	0% (0)	11.76% (2)	35.29% (6)	11.76% (2)	17	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	M N
Reason for Taking Course	0% (0)	76.47% (13)	5.88% (1)	0% (0)	17.65% (3)	0% (0)	0	-	- 17

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	M N
Best Way to Contact Instructor	30.77% (12)	30.77% (12)	38.46% (15)	0% (0)	0% (0)	0% (0)	0	-	- 39

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	17.65% (3)	47.06% (8)	23.53% (4)	11.76% (2)	17	0	-	-

U I Don't Know	A	B	C	D	F	P	S N	DNA	SD	M
Anticipated Grade	58.82% (10)	29.41% (5)	5.88% (1)	0% (0)	0% (0)	0% (0)	0% (0)			
0% (0) 5.88% (1)							17	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	76.47% (13)	17.65% (3)	5.88% (1)	0% (0)	0% (0)	17	0	-	-

	A great deal	A lot	A moderate amount	A little	Nothing	I don't know	DNA	SD	M N
How much did you learn from this course?	64.71% (11)	29.41% (5)	5.88% (1)	0% (0)	0% (0)	0% (0)	0	0.6	4.59 17

	Extremely well	Very well	Moderately well	Slightly well	Not well at all	I don't know	DNA	SD	M N
How well did you achieve the learning goal(s) in this course?	47.06% (8)	41.18% (7)	5.88% (1)	5.88% (1)	0% (0)	0% (0)	0	0.82	4.29 17

Qualitative

What, if anything, did you find most valuable about this course? -

- Very useful programming, honing critical thinking
- Professor is always there when help is needed.
- Learning MATLAB. Mr Bishop guided a class that had students on all sides of the programming spectrum very well. There was no need for prior programming knowledge, however, you need to try harder in case you hadn't any. There were projects of different difficulties, which gave you the chance to work on something that actually interests you. Personally, I had some knowledge, and it was easier for me to follow, but I assume that other would need to devote more time. It was an interesting, albeit challenging, class. I definitely recommend it.
- Great teacher and the software was great programming practice

In what ways, if any, could the course be improved? -

- More practice on using the programming
- I really enjoy the professor's way of teaching.
- The course was good as is.
- None, great course

MAT 331 (01-END): COMPUTER-ASSIST MATH PROB SOLV

35	Students Enrolled
19	Students Responded
54.29%	Response Rate

Fall 2018 | Christopher Bishop

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	78.95% (15)	10.53% (2)	10.53% (2)	0% (0)	0% (0)	19	0	0.65	4.68

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	57.89% (11)	26.32% (5)	10.53% (2)	5.26% (1)	0% (0)	19	0	0.87	4.37

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	68.42% (13)	15.79% (3)	10.53% (2)	5.26% (1)	0% (0)	19	0	0.88	4.47

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	N	DNA	SD	M
Grading Matched Syllabus	94.74% (18)	0% (0)	0% (0)	0% (0)	5.26% (1)	19	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	N	DNA	SD	M
Text/Resources Valuable	52.63% (10)	10.53% (2)	0% (0)	36.84% (7)	19	0	-	-

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	47.37% (9)	5.26% (1)	21.05% (4)	21.05% (4)	5.26% (1)	19	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	DNA	SD	M N
Reason for Taking Course	5.26% (1)	73.68% (14)	5.26% (1)	10.53% (2)	5.26% (1)	0% (0)	0	-	- 19

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	DNA	SD	M N
Best Way to Contact Instructor	37.21% (16)	23.26% (10)	39.53% (17)	0% (0)	0% (0)	0% (0)	0	-	- 43

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	N	DNA	SD	M
Hours Spent Studying	47.37% (9)	36.84% (7)	15.79% (3)	0% (0)	19	0	-	-

	A	B	C	D	F	P	S			
U I Don't Know							N	DNA	SD	M
Anticipated Grade	52.63% (10)	31.58% (6)	10.53% (2)	0% (0)	0% (0)	0% (0)	0% (0)			
0% (0) 5.26% (1)							19	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	84.21% (16)	15.79% (3)	0% (0)	0% (0)	0% (0)	19	0	-	-

	A great deal	A lot	A moderate amount	A little	Nothing	I don't know	DNA	SD	MN
How much did you learn from this course?	47.37% (9)	26.32% (5)	21.05% (4)	5.26% (1)	0% (0)	0% (0)	0	0.93	4.1619

	Extremely well	Very well	Moderately well	Slightly well	Not well at all	I don't know	DNA	SD	MN
How well did you achieve the learning goal(s) in this course?	42.11% (8)	26.32% (5)	21.05% (4)	0% (0)	5.26% (1)	5.26% (1)	0	1.08	4.0619

Qualitative

What, if anything, did you find most valuable about this course? -

- Just learning how to code using MATLAB is a good skill to have for anyone going in the Math field.
- Learning not only how to use MATLAB but also applying the tools to real-world situations and problems.
- This course will allow you to put "Intermediate MATLAB" on your resume if you work hard and understand the material. MATLAB is frequently used in my job industry, so this experience was essential to gaining the skills I need. By the end of the course, the class is project-based, which is extremely effective in putting your newly developed skills to use. This was also by far the best course I have taken at Stony Brook. I love exploring cool math ideas and problems, and this course does just that. I am not a pure math major, so a lot of the ideas were new to me and absolutely awe-inspiring. You have the opportunity to dive into anything from fractals, cryptography, or random walks. To anyone with just a bit of mathematical intellectual curiosity, MAT331 will be one of your favorite courses here at SBU.
- The class focused on a variety of very cool applications with computational mathematics. The numerous interesting projects were the most valuable, in teaching and in getting people interested.
- Professor Bishop went through all the materially very thoroughly and with great detail.
- Professor Christopher is awesome! He teaches us a lot of skills about Matlab. Moreover, his lectures always include modern math knowledges. That's what a math student looks for.
- It is important to ask for help.
- I found Professor Bishop's teaching style to be of great value. He introduced a number of mathematical concepts and related them to computers. There were many "visual" things which made the math behind them more engaging. I also liked that Prof. Bishop provided his source code for a number of scripts and functions. They are a great resource for my further excursions into programming.
- Seeing the applications of different branches in mathematics applied to real life scenarios.
- The professor's office hour is really helpful, he is so willing to help us. Also, he would extend the deadline of our projects and hw sometimes to make sure we finished them with our best try. I really learned a lot. He is the best professor I' ve had so far.
- I definitely left this class with more knowledge about coding and script writing than before.
- After this class, I feel I am familiar with Matlab coding after doing homeworks and projects. In the beginning, the works are challenged, but after finished I really learn something. And professor is always willing to help you.
- I am new to the whole coding concept, so I am glad I learned about it.
- As an AMS major, it was interesting to learn about the theories taught in MAT courses.

In what ways, if any, could the course be improved? -

- The textbook was good for the 1st few weeks, but after that it wasn't really useful.
- More explanations, professor seems to just get caught up in talking.
- I don’t feel like the class was aimed towards students who have no previous coding/ computer science knowledge. I do feel that the requirement should change and be that you need a background in coding and computer science. Professor Bishop is very bright and definitely knows what he is doing but I don’t the objectives of this class were reasonable.
- no
- Perhaps finish teaching before the scheduled end of class period. Quite a few times class was over and the professor was still talking but I had to leave for another class.
- I really don't know. I was challenged, learned a lot, and enjoyed the class. That's all we need.
- Not much to be said on this front.
- Maybe spend less time on the code cracking. To me it was all the same and was not very interesting. However this is personal preference.
- I am a somewhat beginner programmer (I can program tic tac toe in Java, that's about it), so the class was easier for me. I did not have to learn to code from the ground up, but for anyone that does this class will take a lot more time and effort. Professor Bishop focuses more on the mathematical ideas and experiments we do in class than basic programming. Nonetheless, with some internet searches, I'm sure a dedicated beginner programmer can do very well in the course.
- No complaints!
- I wish we could learn more features about MATLAB so I can be fully okay with coding by myself. We only learned the basic coding at the beginning of the semester and further in we just used his scripts the teacher gave us to help solve problems, not much actually learning the coding for practical use outside the class.

MAT 126 (01-END): CALCULUS B

Fall 2020 | Christopher Bishop

188 | Students Enrolled
66 | Students Responded
35.11% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	71.21% (47)	22.73% (15)	4.55% (3)	0% (0)	1.52% (1)	66	0	0.71	4.62

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	77.27% (51)	16.67% (11)	1.52% (1)	4.55% (3)	0% (0)	66	0	0.72	4.67

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	72.73% (48)	18.18% (12)	4.55% (3)	3.03% (2)	1.52% (1)	66	0	0.84	4.58

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	SD	M
						N	DNA
Grading Matched Syllabus	96.97% (64)	1.52% (1)	0% (0)	0% (0)	1.52% (1)		
						66	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	SD	M
					N	DNA
Text/Resources Valuable	63.64% (42)	7.58% (5)	18.18% (12)	10.61% (7)	-	-
					66	0

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	22.73% (15)	6.06% (4)	7.58% (5)	54.55% (36)	9.09% (6)	66	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	N	DNA	SD	M
Reason for Taking Course	1.54% (1)	92.31% (60)	0% (0)	0% (0)	4.62% (3)					
1.54% (1)							65	0	-	-

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	N	DNA	SD	M
Best Way to Contact Instructor	32.35% (44)	25.74% (35)	39.71% (54)	0% (0)	2.21% (3)					
0% (0)							136	0	-	-

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	SD	M	N	DNA
Hours Spent Studying	29.23% (19)	52.31% (34)	16.92% (11)	1.54% (1)	-	-		
					65	0		

P	S	U	A	I Don't Know	B	C	D	F	N	DNA	SD	M
Anticipated Grade			50.77% (33)		36.92% (24)	10.77% (7)	0% (0)	0% (0)				
0% (0)	0% (0)	0% (0)	1.54% (1)						65	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	64.62% (42)	32.31% (21)	3.08% (2)	0% (0)	0% (0)				
						65	0	-	-

	A great deal	A lot	A moderate amount	A little	Nothing	I don't know	SD	M	N	DNA
How much did you learn from this course?	32.81% (21)	45.31% (29)	18.75% (12)	3.13% (2)	0% (0)					
	0% (0)						64	0	0.8	4.08

I don't know	Extremely well	Very well	Moderately well	Slightly well	Not well at all	N	DNA	SD	M
How well did you achieve the learning goal(s) in this course?	35.94% (23)	34.38% (22)	20.31% (13)	4.69% (3)	4.69% (3)				
	0% (0)					64	0	1.08	3.92

Please rate the value of the following learning activities:	**Valuable**	**Not Valuable**	**Not utilized in this course**	**No opinion**	**N/A my class did not utilize online**	**SDN**	**MDNA**
Readings/textbook	57.81% (37)	14.06% (9)	10.94% (7)	15.63% (10)	1.56% (1)	1.1464	3.160
Quizzes/tests	90.63% (58)	6.25% (4)	0% (0)	3.13% (2)	0% (0)	0.5764	3.840
Discussions	48.44% (31)	3.13% (2)	37.5% (24)	6.25% (4)	4.69% (3)	1.0864	2.980
Writing assignments	3.13% (2)	3.13% (2)	73.44% (47)	3.13% (2)	17.19% (11)	0.4764	2.080
Projects	1.56% (1)	3.13% (2)	76.56% (49)	1.56% (1)	17.19% (11)	0.3664	2.060
Presentation assignments	3.13% (2)	1.56% (1)	75% (48)	3.13% (2)	17.19% (11)	0.4564	2.060
Journaling	1.56% (1)	1.56% (1)	76.56% (49)	3.13% (2)	17.19% (11)	0.3664	2.020
Blogging	1.56% (1)	1.56% (1)	76.56% (49)	3.13% (2)	17.19% (11)	0.3664	2.020
Portfolios	1.56% (1)	1.56% (1)	76.56% (49)	3.13% (2)	17.19% (11)	0.3664	2.020
Group work	3.13% (2)	1.56% (1)	75% (48)	3.13% (2)	17.19% (11)	0.4564	2.060
Video lecture	90.63% (58)	1.56% (1)	0% (0)	1.56% (1)	6.25% (4)	0.464	3.930
Audio lecture	56.25% (36)	4.69% (3)	23.44% (15)	7.81% (5)	7.81% (5)	1.0864	3.190
Other	19.05% (12)	0% (0)	41.27% (26)	25.4% (16)	14.29% (9)	1.0863	2.150

For each of the following, please indicate whether or not the statement describes this online course:	**Yes**	**No**	**Somewhat**	**N/A my class did not utilize online**	**N**	**DNA**
It incorporated a variety of media (e.g., graphics, audio, video, PowerPoint, etc.)	68.75% (44)	10.94% (7)	17.19% (11)	3.13% (2)	64	0
All media and document files worked properly	87.5% (56)	1.56% (1)	9.38% (6)	1.56% (1)	64	0
It was easy to navigate	95.31% (61)	1.56% (1)	3.13% (2)	0% (0)	64	0
It was well organized	95.31% (61)	1.56% (1)	3.13% (2)	0% (0)	64	0
Tools and resources were easy to find	95.31% (61)	1.56% (1)	3.13% (2)	0% (0)	64	0

For each of the following, please indicate whether or not the statement describes your instructor(s)?	**Yes**	**No**	**Sometimes**	**N**	**DNA**
They were easily reachable	93.65% (59)	3.17% (2)	3.17% (2)	63	0
They gave timely replies	92.06% (58)	3.17% (2)	4.76% (3)	63	0
They graded promptly	93.65% (59)	3.17% (2)	3.17% (2)	63	0
They provided frequent and useful feedback	88.89% (56)	4.76% (3)	6.35% (4)	63	0
They facilitated interaction among students	80.95% (51)	7.94% (5)	11.11% (7)	63	0
They gave clear instructions	98.41% (62)	1.59% (1)	0% (0)	63	0
They made their expectations clear	98.41% (62)	1.59% (1)	0% (0)	63	0

	Yes	**No**	**N**	**DNA**	**SD**	**M**
Do you feel your work was graded with feedback promptly enough for you to improve subsequent assignments?	95.24% (60)	4.76% (3)	63	0	-	-

Qualitative

What is your reason for taking this course? - Other (please specify)
• Other (please specify) Co-requisite of chemistry

What, if anything, did you find most valuable about this course? -

- prof. bishop really paid attention to his students needs and concerns. It was reassuring to see a prof. care so much about their students.
- It was a great course and I always looked forward to learning in lecture with Professor Bishop. He made all the concepts very clear and everything went smooth. He really is an extremely nice person who would actually change his way of teaching and take the feedback from all the students and incorportate it into his lectures. The lecture part was online but the reecitations were in person. The expectations were made clear in the syllabus and they were followed throghout the semester. There were homework assignments due weekly and every week, there was a quiz. For the 3 weeks of midterms, there were no quizzes. If you paid attention during lecture and did most of the homework, all the concepts were made clear. With practice, it wasn't too hard to do good in the course. We had a participation grade in the beginning of the semester where we did problems together on lumen during lecture but the students didn't see that as beneficial. Professor,

  then, incorporated that time with a small lesson on the expectations for the next week's quiz. So, every thursday, he would go over the possible concepts that would be on the next week's quiz. In the end, 2 lowest quizzes and the 2 lowest HWs were also dropped. Overall, it was a well-coordinated course with many new concepts to offer and Professor Bishop teaching it just made it a lot smoother and easy to learn.
- Prof. Bishop is extremely helpful and will take extra time to go over topics that we do not understand. There are no surprises in this class. Everything you need to know is readily available to you.
- Prof Bishop is great! He cares for his students and is more interested in helping the students learn calculus rather than the grade.
- Professor Bishop was by far the most understanding professor I have had. Despite the current situation we are in, he was very lenient and approachable when it came to any issues. The way he prepared us for quizzes and exams were very helpful
- Mr.Bishop was an amazing teacher and made changes to things you didn't like.
- I found learning integrals the most valuable of this course.
- N/A
- Professor Bishop is definitely one of the sweetest people I have ever met. He is SO accommodating and is willing to help you in any possible way. He makes everything crystal clear in lectures about what he expects from us, and if you think something isn't quite effective, he will listen to your feedback and adjust accordingly. As a first year with college mostly online, he made the course easy enough to handle without being overwhelming. Definitely would recommend as a professor- he will take good care of you and your grade. Curves very very generously as well.
- Professor Bishop was one of the best professors I've ever had at Stony Brook. He understood that students have lives outside of his class (which is very rare) and adjusted his course to fit. We were all learning how to deal with doing full-time online classes, but instead of fighting the use of technology, Professor Bishop embraced it. He taught the material very well and was always ready to answer any questions students had regarding the material. If students took issue with the way quizzes or tests were written, he adjusted them to make them more fair. Professor Bishop always made everything fair for everyone.
- Professor Bishop was always straight-forward in teaching the material. He never got sidetracked, and this is very important when teaching a subject like math.
- The professor took into account the needs of the students during this tough time and really spent a lot of his own time accommodating us.
- Professor Bishop is beyond patient, informative, and extremely amazing at teaching such a difficult subject. He cares all about the students and their success, not even about grades, but more so about you actually learning the concepts and not memorizing them "just because". I have NEVER met a professor so passionate, caring, intellectual, kind, and amazing at teaching students on ALL skill levels! I wish there were more Professors like him, TRULY!
- Professor Bishop is extremely reasonable and wants his students to do well in this course. He tweaked a lot of the things in this course because students were having difficulties. One of the sweetest and most caring professors. Courseload is manageable. Personally, math isn't my strongest subject but having a great professor really helped me to do well in this course.
- How easy it is to reach out for help from Professor Bishop and how broken down each topic was. It was easy to under-

stand.

- I would be happy if the professor explain things with a little bit more examples
- having the quiz material be very similar to the material on the exams make the quizzes a very useful resource.
- The most valuable thing about this course was how Professor Bishop taught in such a way that we could really learn something and be able to work hard for our grades. Personally, I was not the best at math and needed a lot of time and practice to fully understand topics. However, Professor Bishop had always went over every concept in full detail with us alongside solving multiple practice problems from the lesson with us so we know both the topic and how to apply our knowledge through solving different problems. Additionally, towards the end of each week Professor Bishop would take some time out to briefly go over the lessons from that week to ensure that we had a proper understanding of the materials presented which had truly helped a lot especially if we have had any questions or did not understand the first time. Also, whenever we needed to go over a question again, Professor Bishop would not only just go back to the question but try to explain in a different way if we still did not understand which truly helped a lot. I had felt that the time and effort that Professor Bishop had put in to make sure that all of his students fully understand the material was the most valuable thing in his class. While he had told us the importance of grades, he had stressed understanding the topics/lessons of this course more, which truly was effective as I not only had focused on my grades but I actually was able to emphasize more on learning the concepts thoroughly. I had felt that I definitely became more confident in math and through this class and I felt more comfortable in asking questions and reaching out for help whenever I needed. Overall, I had a very positive experience with this course and I would definitely reccomend this course and Professor Bishop as an instructor.
- Professor Bishop is very patient and understands that the material could be difficult at times so he was nice about re-explaining subjects.
- The professor is amazing! His main focus is to make students understand the material well and be able to utilize it in the future, rather than just give them information and make them learn by themselves. The best math professor I've ever had!
- (Fall 2020) Professor Bishop was very accommodating about and very understanding of the new difficulties involved with online schooling and testing, as well as my late transfer into the course. Lumen OHM- the online homework system we used- was invaluable to me. The ability to see an instructional video for each question, as well as instantly generate new questions similar to it, was extremely helpful throughout the course.
- Content of exams and quizzes were predicted well by the professor
- Prof. Bishop was beyond helpful with adjusting the course as we went along so that we learned as easily as possible. He listened to any feedback we gave and worked with us to find a solution to any issues we had regarding difficulty or time management or anything else. He was always very clear with what we should expect, and his expectations of us were perfectly reasonable.
- The open-minded perspective of Prof Bishop to really help out the class when we struggled helped motivate us to do more even when the content was harder to understand.
- The topics were interesting, and It was fun learning new integration techniques as a whole in this entire semester.
- What I found most valuable in this course were the live lectures.
- The professors openness about the exact material that was on the exams. This was my most favorite part about Bishops teaching style because I could effectively study the material for an exam while not feeling lost.
- i think professor bishop really was the only professor i had this semester that really understood the mental issues students are facing on online learning. he was the most accommodating and actually wanted us to understand the class not just pass it.

In what ways, if any, could the course be improved? -

- i think his main lectures were not as enriching as the rest of the class was.
- There isn't much all I will say is it's in person
- Often times during the lectures I would notice that my attention span was decreasing so clicker questions or other questions throughout the lecture could help alleviate this.
- This course doesn't have anything to improve on really.
- The homeworks can be a little shorter. I felt that some of them were too long.
- I felt the Homework and class content didn't prepare us enough for the first couple of exams but Prof Bishop going over the content beforehand with expectations fixed that.
- Learning how to do calculus both with and without calculators might be helpful
- Recitations could be improved a bit
- Next time, try making class participation required more. I found myself slacking a little bit after participation was no longer required, which made it difficult catching up later. Although it is my personal fault, many students in general don't do well in online classes, so making participation essential may help many
- Overall, I liked all of the components of this course and I have no complaints about any of the components. Hence, I think that this course does not need any further improvements as the components of the course and the teaching style truly benefit all students, regardless of how proficient they are with math.
- making the quizzes less frequent or allowing more time to take the quizzes would eliminate some stress.
- This course is really good and very simple to understand
- Could not have asked for anything better than what Professor Bishop has already done!
- Nothing, this course was amazing.
- N/A
- I believe the course could be improved by making homework questions lesser questions as the system for the homework makes the questions time consuming.
- Nothing
- Nothing!
- Easier course work. Stop making the answers A-J. Only make them A-D.
- This course could be improved by allowing students having to take the quizzes and exams in person a cheat sheet considering the other section online was able to use open book for everything.
- n/a

What suggestions would you offer for improving the organization of the course menu, tools, resources and overall navigation? -

- n/a
- I did not have any interaction with Prof. Dang so this evaluation is unfair to them.
- I would just adjust the aesthetic the of the webpage but keep the links and important information there still as it was very easy to maneuver throughout the semester.
- N/A
- Professor Bishop is AMAZING! A true gem, one of a kind Professor... it takes a lot of skill to be able to do what he does, allowing all students of all kinds of academic skill levels to be able to fully understand the concepts of calculus.
- Everything was working perfectly fine
- no suggestions.
- I have no suggestions for providing the organization of the course menu, tools, resources and overall navigation as they were all easily accessible.
- no comment
- I think the course was organized properly.

MAT 638 (01-END): TOPICS IN REAL ANALYSIS

Fall 2020 | Christopher Bishop

10 | Students Enrolled
6 | Students Responded
60% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	100% (6)	0% (0)	0% (0)	0% (0)	0% (0)	6	0	0	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	100% (6)	0% (0)	0% (0)	0% (0)	0% (0)	6	0	0	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	100% (6)	0% (0)	0% (0)	0% (0)	0% (0)	6	0	0	5

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	SD N	M DNA
Grading Matched Syllabus	100% (6)	0% (0)	0% (0)	0% (0)	0% (0)	6	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	SD N	M DNA
Text/Resources Valuable	100% (6)	0% (0)	0% (0)	0% (0)	-	-
					6	0

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	50% (3)	0% (0)	0% (0)	50% (3)	0% (0)	6	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	N	DNA	SD	M
Reason for Taking Course	0% (0)	0% (0)	0% (0)	0% (0)	100% (6)	0% (0)	6	0	-	-

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	N	DNA	SD	M
Best Way to Contact Instructor	11.11% (1)	33.33% (3)	44.44% (4)	0% (0)	0% (0)	11.11% (1)	9	0	-	-

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	SD	M	N	DNA
Hours Spent Studying	66.67% (4)	33.33% (2)	0% (0)	0% (0)	-	-	6	0

	A	B	C	D	F	P	S	U	I Don't Know	N	DNA	SD	M
Anticipated Grade	83.33% (5)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	16.67% (1)	6	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	33.33% (2)	33.33% (2)	0% (0)	0% (0)	33.33% (2)	6	0	-	-

	A great deal	A lot	A moderate amount	A little	Nothing	I don't know	SD	M	N	DNA
How much did you learn from this course?	66.67% (4)	16.67% (1)	0% (0)	0% (0)	0% (0)	16.67% (1)	6	0	0.4	4.8

	Extremely well	Very well	Moderately well	Slightly well	Not well at all	I don't know	N	DNA	SD	M
How well did you achieve the learning goal(s) in this course?	33.33% (2)	50% (3)	0% (0)	0% (0)	0% (0)	16.67% (1)	6	0	0.49	4.4

Please rate the value of the following learning activities:	**Valuable**	**Not Valuable**	**Not utilized in this course**	**No opinion**	**N/A my class did not utilize online**	**SDN**	**MDNA**
Readings/textbook	60% (3)	0% (0)	20% (1)	20% (1)	0% (0)	1.265	30
Quizzes/tests	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Discussions	80% (4)	0% (0)	0% (0)	20% (1)	0% (0)	1.25	3.40
Writing assignments	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Projects	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Presentation assignments	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Journaling	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Blogging	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Portfolios	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Group work	40% (2)	0% (0)	20% (1)	20% (1)	20% (1)	1.35	2.750
Video lecture	80% (4)	0% (0)	0% (0)	20% (1)	0% (0)	1.25	3.40
Audio lecture	80% (4)	0% (0)	0% (0)	20% (1)	0% (0)	1.25	3.40
Other	40% (2)	0% (0)	0% (0)	20% (1)	40% (2)	1.415	30

For each of the following, please indicate whether or not the statement describes this online course:	**Yes**	**No**	**Somewhat**	**N/A my class did not utilize online**	**N**	**DNA**
It incorporated a variety of media (e.g., graphics, audio, video, PowerPoint, etc.)	100% (5)	0% (0)	0% (0)	0% (0)	5	0
All media and document files worked properly	100% (5)	0% (0)	0% (0)	0% (0)	5	0
It was easy to navigate	100% (5)	0% (0)	0% (0)	0% (0)	5	0
It was well organized	100% (5)	0% (0)	0% (0)	0% (0)	5	0
Tools and resources were easy to find	100% (5)	0% (0)	0% (0)	0% (0)	5	0

For each of the following, please indicate whether or not the statement describes your instructor(s)?	**Yes**	**No**	**Sometimes**	**N**	**DNA**
They were easily reachable	100% (5)	0% (0)	0% (0)	5	0
They gave timely replies	100% (5)	0% (0)	0% (0)	5	0
They graded promptly	100% (5)	0% (0)	0% (0)	5	0
They provided frequent and useful feedback	80% (4)	0% (0)	20% (1)	5	0
They facilitated interaction among students	100% (5)	0% (0)	0% (0)	5	0
They gave clear instructions	100% (5)	0% (0)	0% (0)	5	0
They made their expectations clear	100% (5)	0% (0)	0% (0)	5	0

	Yes	**No**	**N**	**DNA**	**SD**	**M**
Do you feel your work was graded with feedback promptly enough for you to improve subsequent assignments?	100% (5)	0% (0)	5	0	-	-

Qualitative

What, if anything, did you find most valuable about this course? -

- I especially liked the proof of the ATST, and the discussion of hypersurfaces in 3 space.
- I did enjoy the interaction with the people from outside Stony Brook and I think they added value to the course. I think in the future maybe some kind of hybrid course could be done well which would allow for outside interaction but also being in person.

MAT 533 (01-END): REAL ANALYSIS II

Spring 2021 | Christopher Bishop

10 | Students Enrolled
4 | Students Responded
40% | Response Rate

Quantitative

	A	B	C	D	F	N	DNA	SD	M
Overall Grade	50% (2)	25% (1)	25% (1)	0% (0)	0% (0)	4	0	0.83	4.25

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
The instructor was effective in teaching the subject matter.	50% (2)	25% (1)	25% (1)	0% (0)	0% (0)	4	0	0.83	4.25

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	DNA	SD	M
Instructor Expectations	75% (3)	25% (1)	0% (0)	0% (0)	0% (0)	4	0	0.43	4.75

	Agree	Grading did not match the syllabus	There was no syllabus	I did not read the syllabus	I don't know	SD N	M DNA
Grading Matched Syllabus	100% (4)	0% (0)	0% (0)	0% (0)	0% (0)	4	0	-	-

	Agree	Disagree	I did not read the required materials	No text, readings or resources were required	SD N	M DNA
Text/Resources Valuable	75% (3)	25% (1)	0% (0)	0% (0)	-	-
					4	0

	Agree	Sufficiently used but not worth the cost	Not sufficiently used	No cost required	I did not read the required materials	N	DNA	SD	M
Text/Resources Worth Cost	75% (3)	0% (0)	0% (0)	25% (1)	0% (0)	4	0	-	-

	SBC requirement	Major Requirement	Minor Requirement	Upper-Division Credit	Personal Interest	Other (please specify)	N	DNA	SD	M
Reason for Taking Course	0% (0)	0% (0)	0% (0)	0% (0)	75% (3)					
25% (1)							4	0	-	-

	Office Hours	Before or After Class	Email	Telephone	I Never Contacted the Instructor	Other (please specify)	N	DNA	SD	M
Best Way to Contact Instructor	25% (2)	37.5% (3)	37.5% (3)	0% (0)	0% (0)					
0% (0)							8	0	-	-

	0-3 Hours	4-6 Hours	7-9 Hours	10+ Hours	SD	M
					N	DNA
Hours Spent Studying	25% (1)	50% (2)	25% (1)	0% (0)	-	-
					4	0

P	S	U	A	I Don't Know	B	C	D	F	N	DNA	SD	M
Anticipated Grade			75% (3)		0% (0)	0% (0)	0% (0)	0% (0)				
0% (0)	0% (0)	0% (0)	25% (1)						4	0	-	-

	Always	Most of the time	About half the time	Before exams	Very infrequently	N	DNA	SD	M
Attendance	75% (3)	0% (0)	25% (1)	0% (0)	0% (0)				
						4	0	-	-

Please rate the value of the following learning activities:	**Valuable**	**Not Valuable**	**Not utilized in this course**	**No opinion**	**N**	**DNA**
Readings/textbook	100% (4)	0% (0)	0% (0)	0% (0)	4	0
Quizzes/tests	25% (1)	25% (1)	50% (2)	0% (0)	4	0
Discussions	50% (2)	0% (0)	50% (2)	0% (0)	4	0
Writing assignments	50% (2)	25% (1)	25% (1)	0% (0)	4	0
Projects	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Presentation assignments	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Journaling	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Blogging	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Portfolios	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Group work	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Video lecture	25% (1)	25% (1)	50% (2)	0% (0)	4	0
Audio lecture	0% (0)	0% (0)	100% (4)	0% (0)	4	0
Other	0% (0)	0% (0)	100% (4)	0% (0)	4	0

For each of the following, please indicate whether or not the statement describes this online course:	**Yes**	**No**	**Somewhat**	**N**	**DNA**
It incorporated a variety of media (e.g., graphics, audio, video, PowerPoint, etc.)	75% (3)	0% (0)	25% (1)	4	0
All media and document files worked properly	100% (4)	0% (0)	0% (0)	4	0
It was easy to navigate	75% (3)	0% (0)	25% (1)	4	0
It was well organized	75% (3)	0% (0)	25% (1)	4	0
Tools and resources were easy to find	75% (3)	0% (0)	25% (1)	4	0

For each of the following, please indicate whether or not the statement describes your instructor(s)?	**Yes**	**No**	**Sometimes**	**N**	**DNA**
They were easily reachable	100% (4)	0% (0)	0% (0)	4	0
They gave timely replies	75% (3)	0% (0)	25% (1)	4	0
They graded promptly	100% (4)	0% (0)	0% (0)	4	0
They provided frequent and useful feedback	75% (3)	25% (1)	0% (0)	4	0
They facilitated interaction among students	50% (2)	25% (1)	25% (1)	4	0
They gave clear instructions	50% (2)	0% (0)	50% (2)	4	0
They made their expectations clear	100% (4)	0% (0)	0% (0)	4	0

	Yes	**No**	**N**	**DNA**	**SD**	**M**
Do you feel your work was graded with feedback promptly enough for you to improve subsequent assignments?	50% (2)	50% (2)	4	0	-	-

Qualitative

What is your reason for taking this course? - Other (please specify)

- Other (please specify) Grad student

What, if anything, did you find most valuable about this course? -

- The curriculum.
- Professor Bishop provided interesting examples and motivation for things upon occasion
- Christopher Bishop is an amazing professor. He is passionate and provides many interesting additions and spins to the material in the lecture. He is very fair to his students, and I think that he is a great professor to study under.

In what ways, if any, could the course be improved? -

- I feel like class centered around “here’s this definition/proof” when I wish there had been more “here’s why the proof is what it is” or “here’s the idea behind this definition/proof.” Also, present things how you know best, even this means deviating from the book
- Not using slides, in person classes

What suggestions would you offer for improving the organization of the course menu, tools, resources and overall navigation? -

- Blackboard vs grade scope vs course website thing was a bit confusing at times.

Mathematics Department

Stony Brook University

To whom it may concern,

I would like to take this time to express my appreciation and gratitude toward Professor Christopher Bishop and for the experience of having him as my teacher while studying toward my undergraduate degree at Stony Brook University. Professor Bishop taught my section of MAT 331 – Computer Assisted Problem Solving in the fall semester of 2017.

I was glad to be asked to be used as an example to testify to Professor Bishop's skill as a teacher and to highlight traits and abilities that made my time in his class such a joy and valuable experience.

There were many things I found valuable about Professor Bishop's class including his desire to make using MATLab and difficult areas of mathematics more accessible to his students and the passion that he backed each of his lessons with. He drew to my attention the immense practicality of using MATLab in such a technologically driven time, and his instruction in the language gave me an advantage over other new graduates while job searching after graduation. I am happy to say that this practical element, in partnership with my mathematics degree, helped me secure the position as an analyst at an insurance brokerage company.

Learning to model mathematical events on a computer was a brand new experience, but one that should not be overlooked, in such a technologically driven time. This was applied in each of his projects and lessons throughout the semester which focused on specific areas of math and used experiments to achieve a result that could be reported on. What the projects also showed me is that it is one thing to be able to perform a mathematical process, but another to be able to write about it. This was my first taste of mathematical writing and the skills that came with being able to clearly explain a process and the ideas backing it.

Besides the computer and writing skills I developed in Professor Bishop's class, I was also reminded of why I chose to study mathematics in the first place. My first day in class, I glanced at the syllabus and saw topics that I had never heard of, which initially terrified me. One cannot underestimate the impact of a passionate and prepared teacher, and in no time the fear was gone, and was replaced by excitement when I realized that Professor Bishop knew how to teach these subjects to give students context with respect to their prior mathematical studies. The end of his semester was dedicated to cryptography, which was a topic I had always wanted to know more about, and I was very excited to be given the opportunity to learn from a professor who had a distinct ability to teach in an accessible way. By the end of the semester, I found great

interest in real life applications of math, and began to apply to graduate programs for Actuarial Sciences, and to study for the first exam.

I can say with confidence that Professor Bishop was one of my favorite professors from my time at Stony Brook, and also brought me fresh motivation toward pursuing a career in mathematics. I found that his passion and knowledge for his subject made me excited to attend class every week, and his instruction made me well rounded as a student, and as a new graduate joining the workforce. I am very glad to have been lucky enough to be given the opportunity to have taken class with Professor Bishop at Stony Brook University.

Thank you for your time,

Sincerely,

Gillian Armstrong

Cell: 718.689.0034

Email: GillianArmstrong95@gmail.com

Work Email: Gillian.Armstrong@marsh.com

To whom it may concern,

Dr. Chris Bishop was one of the most engaging, enthusiastic, and helpful professors that I ever had. His extraordinary way of teaching and communicating mathematics had a significant impact on my academic and career choices, and taught me how to communicate math to others. I am forever grateful for having the opportunity to be his student.

I took an Analysis course with Professor Bishop over two years ago, and I still vividly remember his captivating lectures and enthusiastic exposition of measure theory. Professor Bishop's course involved more than just theorems and proofs. He eloquently pointed out subtleties and counter examples, guided us through the proofs, and encouraged us to think and ask questions. Notwithstanding his expertise in the area, the proofs and definitions never seemed pre-packaged and memorized in advance. Rather, Professor Bishop motivated the definitions and showed how they arose naturally; discussed the proofs in a conversational manner, emphasizing the difference between clever tricks and deep insight. We were therefore able to pick up how he understands and learns things, and gain from it. The homework assignments were also very well selected. The questions were challenging but doable, and deepened our understanding of the subject. I always felt comfortable to ask questions in his lectures, and know that I will not be answered with "its trivial to show that", or "clearly".

This was one of my first advanced math courses, and for the very first time I could see the beauty and elegance of math. It was during that semester that I decided to pursue math, and Professor Bishop's lectures had everything to do with it. I am currently a graduate student at Columbia, and as I prepare for my own teaching assignments, I remember the impact Professor Bishop's lectures had on me and I hope to be able to do the same for others.

Sincerely,

Lea Kenigsberg.

Lea@math.columbia.edu

Jessica Loehr
209 Owasco Drive
Port Jefferson, NY 11777
(631) 901-6246
Jloehr@islandtrees.net

September 3, 2018
Re: Christopher Bishop

To Whom It May Concern:

I am writing to recommend Professor Christopher Bishop for teaching the subject of Complex Analysis. During the Fall of 2016 I took MAT 342 (Applied Complex Analysis) with Professor Bishop.

Through my experience working with Professor Bishop during that semester, I learned what a compassionate and dedicated mathematician he is. He was easily accessible to his students, willing to accommodate to the entire class and their academic needs, and able to present the very dense material in a clear and concise way. Although analysis has always been a hard subject for me to grasp, the way he taught led me to be very successful that semester.

I was especially impressed with the way Professor Bishop was able to break down complicated theorems in a way that made it easy for everyone to understand, all the while using high level mathematical vocabulary.

Based on my personal experience, I can confidently recommend Christopher Bishop as a professor for any Complex Analysis course. I can be reached through the contact information above should you wish to speak about this further.

Sincerely,

Jessica Loehr

Dear Sir or Madam,

As a second-year PhD student in mathematics at Columbia university, I am writing in support of Professor Christopher Bishop, who has made a tremendously positive impact on my mathematical career.

Professor Bishop was my senior thesis adviser, and he was also the one who motivated me to specialize in probability theory and stochastic analysis. I first asked him about open problems in mathematical analysis during my second-to-last semester of undergraduate studies at Stony Brook University. He suggested a very interesting probabilistic problem related to the geometric properties underlying the paths traced out by two-dimensional random walks and Brownian motion. Throughout the ensuing year-long project, Professor Bishop was very helpful in guiding me through various numerical experiments while also suggesting references to increase my knowledge of general probability theory. In the process, I became enamored with the subject and Professor Bishop strongly encouraged me to pursue further master studies related to conformally invariant planar interfaces appearing in statistical mechanical models. Thanks to his encouragement and recommendation, I was able to go to Switzerland the following year in order to pursue such studies with the leading experts in the world.

Furthermore, Professor Bishop was also the lecturer for my first seminar class in Fourier analysis during my second year of undergraduate studies. During this class, it was clear that he was very passionate and knowledgeable about analysis, and highly enthusiastic about teaching it. I was greatly motivated to write my own work, and I very excitedly composed a piece describing some relations of Riemannian geometry to harmonic analysis.

In summary, Professor Bishop has encouraged me to express my creative abilities more so than any other professor, and has opened up many career opportunities I would not have otherwise had.

Sincerely,
Shalin Parekh

Contact: sp3577 [at] columbia [dot] edu

Kevin Sackel
ksackel@mit.edu
26 Calvin St Apt 3
Somerville, MA 02143

To whom it may concern,

I am joyed to write on behalf of Professor Christopher Bishop's skills as a teacher and mentor. During my time as an undergraduate student at Stony Brook University, from 2009 to 2013, I attended two courses taught by Professor Bishop, in addition to writing an Honors College Thesis under his supervision. Over these mathematically formative years, he was a tremendous influence on me, and his clear and effective tutelage helped very much to convince me that I would continue down the route of mathematics for years to come.

My second semester, in Spring 2010, I was convinced by a friend to take MAT 542, which was a graduate-level "core curriculum" course on complex analysis taught by Professor Bishop. It was a daunting experience for me. I had missed the first week of class, so I had to play catch up on material of which I only knew disconnected morsels. For hours and hours, I struggled to understand the material and complete the problem sets. The one thing which drew me in, and which ultimately convinced me to stay in the class, was Professor Bishop's clear and engaging style. I was attending lectures which were magical, in that they promoted a clear appreciation for the power of the mathematics described. It was one of the first times I felt like I understood what real mathematics looked like, and how interconnected and elegant it could be. Over time, more and more of Professor Bishop's words seemed less foreign. I began to understand how there was a whole world of mathematics behind the curriculum as well, since he would often bring up mathematical tidbits that were jumping-off points for the class, notably including a proof of the famous Prime Number Theorem at the end of the course. Scattered through my notes are helpful pointers which were indicated by Professor Bishop, including when a statement was more useful than it seemed at first glance, or when a proof was so slick that it might obscure the main idea. These pointers were not only helpful in digesting the information, but in providing a perspective that is often difficult to glean from other lecturers.

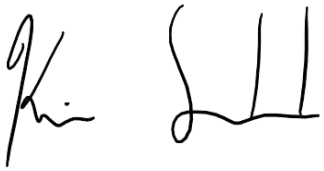
The next course I took with Professor Bishop was MAT 401 in Fall 2012, an undergraduate mathematics seminar with topics which vary each term with the instructor. The way he chose to run the class was to let the students give lectures after the first week, providing constructive feedback along the way. There was also a final project, which was an essay on a related topic. Even in this style of course, after lectures by students, Professor Bishop might say a few words that were eye-opening for anyone interested in material beyond the curriculum, and meshed well with the casual and historically-minded nature of the textbook we were following (Thomas Körner's *Fourier Analysis*). His choice to flip the classroom made the class a true seminar for mathematicians, and forced me to think about how a lecture should be given. Furthermore, the final project at the end was a fantastic introduction to the world of writing mathematics, which is often not emphasized enough. This style should be a gold standard for how an undergraduate seminar should be run – a student-centric course with useful and thorough feedback.

Finally, Professor Bishop was my mentor for my Honors College Thesis (HON 495) through my final year, Fall 2012 to Spring 2013. It was no accident that I asked him to be my mentor – he was always very open and friendly about research opportunities. In his MAT 542 class, he had mentioned that if any students were interested in certain aspects of the material, for example numerical analysis of Schwarz-

Christoffel maps, he would be open to talk about research. At the beginning of the fall, he offered a variety of possible topics to work on, including some I had started reading about over the summer, which gave me a chance to really invest myself in the research world. He was always happy to chat, providing many helpful resources along the way, and I always felt comfortable asking questions. I always appreciated his willingness to treat me as a true researcher. At the same time, I recall his patience one particular time when I felt as though I was hitting a brick wall with one project. He was calming, reminding me it was still early, and offering plenty of ideas about how to proceed. Overall, I was proud of the work I produced, and I owe a lot of it to Professor Bishop's mentorship.

Since graduating, I have continued down the long mathematical road, first as a Churchill Scholar, obtaining a Masters of Advanced Study after completing Part III of the Mathematical Tripos at the University of Cambridge, and currently as a Ph.D. student at MIT, now entering my fifth year. Along this road, the effects of Professor Bishop's encouragement still linger, and I am grateful to have had such a friendly and effective mentor.

Sincerely,



Kevin Sackel

I was a doctoral student of Professor Bishop's until my graduation from Stony Brook in 2011 and had the opportunity to have him as a lecturer prior to my thesis work. As a teacher I found Professor Bishop to be engaging, thorough, and more than helpful to aid in his student's understanding of the material whether through classroom discussions or office hours.

It was through one of his classes that I came to consider the possibility of working with him for my research. At the time I had just decided against pursuing an area that I had put in a lot of time and effort and was feeling a little lost and worried about my future in the program. When I mentioned this to Professor Bishop he said that he might have some problems in his research program that I might find interesting and we should talk about them. After a few discussions it was clear to me that he was passionate about the problems he wanted to see solved (whether it was by him or his students) and I thought he might be a supportive mentor and adviser.

This turned out to be the case. His door was always open to talk through difficulties I might be having and his positivity helped me through times of self-doubt. I knew through conversations with my peers that this was not always the case with their advisers and I'm certainly lucky to have had Chris as mine.

Kind Regards,
Chris Green

Hrant Hakobyan
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Kansas State University
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Manhattan, KS 66506
E-mail: hakobyan@math.ksu.edu

June 29, 2018

Professor Christopher J. Bishop as a teacher and mentor.

To whom it may concern:

It is with immense pleasure and honor that I write this letter on behalf of Professor Christopher J. Bishop. I have know Professor Bishop since 2001, first as a teacher and later as a PhD adviser, and a co-author. It is in this capacity of a former mentee that I will comment on Chris's effectiveness as a teacher and adviser.

Before I delve into details about Bishop's influence on me as a mentor and a scholar, I would like to mention that his helpfulness extended far beyond the direct supervision of my dissertation. Chris has always been very helpful whenever I traveled to conferences, he arranged for me to have teaching free periods during my studies, nominated me to several departmental and outside awards, and would take me with him if he was giving a talk at a nearby university. Chris was also extremely helpful when I was facing problems with the military service in my country. On two occasions he even wrote letters to the Supreme Certifying Committee of Armenia on my behalf. In the first letter he stated how my work would benefit from me staying one more year in Stony Brook, and in the second letter he commented on the quality of my work in my PhD thesis. His letters allowed me to first get a deferment and then an exemption from the military service. He was always asking me if he could be of any help in this matter. To me this was a testament to how caring Chris was towards his graduate students. To this day, every time I tell Chris about a new result I prove or a paper I write I have a feeling that

he is even more excited about it than I am. He is an excellent example of a true "academic father".

My first encounter with Chris as a mentor was in the second year of my studies in Stony Brook. I asked several professors about the possibility of working with them. What drew me to Bishop was the nonstandard way he approached the task of getting me interested. Already for the very first meeting he had an outline/proposal for my thesis project written up on 5 - 6 pages. Somehow he was able to gauge my knowledge in the right way and the problems he suggested were easy for me to understand. Now the problems turned out to be quite difficult and I ended up working on other but related topics, but being a beginning PhD student Chris's hands-on approach gave me confidence and certainty. Already after the first meeting I felt that thesis was not going to be something ephemeral and unobtainable, and only required time, hard work and patience.

It is hard to overestimate Chris Bishop's influence on my own research both during and after graduate school. Some of the qualities that I appreciated being his PhD student included his generosity with his time and ideas, his encyclopedic knowledge of mathematics and his patience. I was also lucky to have an open minded adviser - he did not force a problem on me to solve, but rather encouraged me to think for myself and look for problems and topics that I found to be closer to my liking.

The first project in my thesis was a solution of a problem that Chris and Jeremy Tyson formulated in a paper they wrote some time before. It was about existence of sets of zero Lebesgue measure and conformal dimension 1. Chris didn't direct me toward that problem. In fact, he didn't even remember that he formulated such a problem. Nevertheless, he was happy to see that I was finding problems on my own. He helped and encouraged me to write down a detailed solution and on numerous occasions provided the crucial ideas which helped me to come to the final solution.

The second part of my thesis was about defining and investigating a concept which I was quite excited about at the time. I had a gut feeling what I wanted but didn't know how to formalize the concept. The interaction with Chris on this topic was extremely influential. It seemed like every week I was coming up with a new definition and Chris was giving examples showing that the definition was not the one I was aiming for (it would either be trivial for some examples or not satisfy a property I wanted to). Eventually I came up with a definition and a theory which was satisfying, but I think the main outcome was that this very stimulating interaction with Chris helped

me understand the classical theory of modulus for curve families on a much deeper level than I could have by taking a course or reading a book. This understanding turned out to be very important in my subsequent work, since a large part of it was related to the notion of modulus. I think all of that would have been impossible if it wasn't for Chris's extraordinary amount of knowledge and his ability to instantly penetrate to the root of any problem I was thinking about. It seemed magical at the time, and I had a lot of fun.

The last part of my thesis was actually suggested by Bishop. I remember vividly how Chris called me once to his office and said that while reading a paper he encountered a problem that I might have liked. Turned out not only he found an interesting open problem but also he had the solution. It was about constructing an example of a fractal set with some surprising properties. It took me some time to figure out the details outlined by Chris, but he was very patient and encouraging all the way until the publication. This was a great example of how generous he was with his ideas.

Yet another example of Chris's mathematical generosity came up a few years after my graduation. After attending a workshop in American Institute of Mathematics, I mentioned to Chris some of the problems suggested during the workshop. A couple of weeks later he came up with a beautiful example solving one of these problems. His example was also showing the sharpness of a result I had proved but not published before. Chris suggested that we combine these results into one paper. I thought that it was extremely generous on his part, since I felt that his result was much more interesting and harder to prove than mine. Working with Chris on this project was yet another fun experience. I was in Armenia at the time, so I would work on the paper during the day (night in the US) send the results to Chris in the evening, and by the next morning he already sent me his remarks. He was very efficient. We kept polishing the paper for a while and eventually a postdoc of mine, Marshall Williams, joined the paper and it was finally published in GAFA in 2016. I consider this to be my most important paper to date and it would not have been possible without Chris's ingenuity, efficiency and generosity.

This letter would not have been complete without mentioning Chris's influence on me as a lecturer. I took many courses with Chris on topics ranging from quasiconformal mappings, Kleinian groups and dynamics to computational geometry and conformally invariance processes. His beautiful lectures were always extremely clear, perfectly paced and structured. Most of the courses he teaches start from the basics and end with topics of current re-

search. He somehow is able to distill the complex concepts and ideas and present them in a very understandable way. Looking back, I can say that those were some of the best classes that I have ever attended, delivered by a world class expert. The only way I can describe Chris's seminar presentations is as works of art. I have never seen a talk he gave which hasn't impressed me by its clarity, beauty and novelty of ideas.

To summarize, I would like to say that Professor Christopher J. Bishop is an outstanding adviser, who is able to cultivate the mathematical talent in his students by stimulating and challenging them with interesting and relevant open problems. Bishop is undoubtedly a leading authority in Analysis who is completely taken by this beautiful subject. His excitement with Mathematics transfers to everyone who is lucky enough to have him as a mentor.

Sincerely Yours,

Hrant Hakobyan
Associate Professor of Mathematics

Dr. Kirill Lazebnik
Harry Bateman Research Instructor
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California Institute of Technology
Pasadena, CA 91106
Email: lazebnik@caltech.edu
http://www.its.caltech.edu/~lazebnik

September 17, 2018

This is a recommendation letter on behalf of Professor Christopher J. Bishop. I have known Chris in two capacities: (1) as my scientific advisor in the doctoral program in the Stony Brook University math department (from January 2014 through May 2017), and (2) as a lecturer at Stony Brook for the courses MAT655 (*Introduction to Transcendental Dynamics*, Spring 2016), MAT543 (*Geometric Function Theory*, Fall 2015), and MAT551 (*Functional Analysis*, Fall 2013).

(1) I decided to work with Chris because of an interest in the mathematics he was doing, and also because I could comfortably ask him questions ranging anywhere from nitpicking details about a technical proof to vaguer questions such as 'Why is this result important?' While studying for my oral exam with Chris, we met weekly (and indeed we met weekly during semesters for the remainder of my Ph.D at Stony Brook). These meetings would usually consist of me asking about some step in a proof of Ahlfors' *Lectures on Quasiconformal Mappings* which I did not understand, and Chris puzzling out the full line of argument. This was tremendously helpful to see as a student; not only the solution, but the process of seeing Chris start out with an intuitive reason why a thing should be true, and then putting a line of reasoning together to outline a proof.

This continued past the oral exam. The first paper Chris had me read was *Dimension of Quasicircles* (Smirnov, 2009). There are many statements in the paper which are clear to people who work in the field, but are perhaps unclear to a student starting out. I emailed Chris a list of questions about the paper (eight of them), and received a prompt response. Here is one example:

(Question from me, dated Sep. 2014): In his proof of Theorem 1, he defines quantities Iv - 'entropy', $\Lambda v(\lambda)$ -'Lyapunov exponent' and a 'probability distribution'. Are these words defining important concepts? I can follow the proof just fine without knowing what the general definitions of 'entropy', 'Lyapunov exponent' of a 'probability distribution' are, but should I learn the general concepts?

(Answer from Chris): Yes, it is worth learning more about these, although the connections with conformal maps are somewhat formal. Entropy is generally a measure of the 'randomness' of a probability distribution (= a measure of total mass 1). For example, the probability measure of maximum entropy on $[0, 1]$ is the uniform distribution and the measures of maximum entropy on the real line are the Gaussians. Thus entropy is a measure of how 'evenly distributed' a measure is and plays an important role in statistics and physics (very often in these fields one wants to consider distributions that satisfy some known constraints, but is otherwise as random as possible; these are the measures of maximal entropy). Since entropy measures how 'spread out' or 'concentrated' a measure is, it is not surprising that it would have some connection to the dimension of the support of the measure. The Lyapunov exponent measures the exponential rate of expansion in a dynamical system. In simple systems, such as self-similar expanders, this is closely related to the idea of Hausdorff dimension. *[continued…]*

Other questions Chris answered from this list were more technical, such as 'how do we know that this quantity is $o(1)$?'.

My thesis was a refinement of a construction of Chris's contained in his paper *Constructing entire functions by quasiconformal folding* (Bishop, 2015). There was a later paper *On the set where the iterates of an entire function are neither escaping nor bounded* (Osborne and Sixsmith, 2015) that asked several questions Chris was confident could be answered using techniques from his work. This resulted in the paper *Several Constructions in the Eremenko-Lyubich Class* (Lazebnik, 2017) which essentially comprised my thesis. Again, as was the case when I was preparing my oral exam, I met weekly with Chris where he gave me invaluable technical and non-technical advice during this project. As he mentioned, getting me a thesis was a top priority of his.

From the perspective of professional development Chris has also been very helpful. He funded (in part or in their entirety) my trips to about 10 conferences/workshops during my Ph.D including: *Parameter Problems in Analytic Dynamics* (Imperial College London, June 2016), *Topics in Complex Dynamics School in Barcelona* (October 2015), *Summer school on SLE, conformal welding, and random planar maps* (UCLA, 2013). It was in the complex dynamics summer school in 2015 where Chris put me in touch with Nuria Fagella and Xavier Jarque, who are now my coauthors. During my visit to the U.K. in October 2016, Chris put me in touch with several mathematicians who then invited me to give talks at their institutions, including Phil Rippon and Gwyneth Stallard at the Open University.

As I have hopefully convinced you, Chris is an excellent scientific advisor who does all in his power to help his students succeed.

(2) As a lecturer, Chris has the ability to transition between giving intuition behind a result/concept and explaining its proof. This was evident for instance in MAT543 (*Geometric Function Theory*) - a course on harmonic measure following the textbook of Garnett and Marshall. The Hayman-Wu Theorem is a statement which, roughly speaking, gives a non-obvious upper bound on the length of the conformal image of a line segment in a certain setting. This bound would be obvious if the conformal map had bounded derivative, and Chris told us that a lot of results in geometric function theory can be vaguely interpreted as saying conformal maps almost have bounded derivative. This led into a careful explanation of the proof of the theorem. I think it is difficult to maintain the balance, especially in an advanced course, between trying to communicate intuition and giving proofs, and Chris certainly achieves this.

The other two courses, MAT655 (*Introduction to Transcendental Dynamics*) and MAT551 (*Functional Analysis*) were also well taught, with Chris's expertise livening up the material. For instance MAT551 followed Lax's *Functional Analysis*. When we reached material about Banach algebras, Chris told us about the history of the Corona theorem (conjectured by Kakutani in 1941 and proven by Carleson in 1962) - a statement about the spectrum of bounded holomorphic functions on the unit disc. This led to a brief discussion of Carleson measures and gave a concrete example of the theory in Lax's textbook.

Chris is an engaging lecturer who can communicate proof and liven up a lecture with his intuition and experience in the subject.

Sincerely,

Kirill Lazebnik