Brown University
Spring 2020 Course Feedback

Course: Spring2020APMA1360S01: APMA1360 Spring20 S01 Applied Dynamical Systems-S01

Instructor: Ross Parker *

Response Rate: 24/28 (85.71 %)

Question		1	2	3	4	5	6	7	8	B1	B2	B3
Please indicate your reason(s) for taking this course (check all that apply):	n	0	11	3	3	18	1	5	16	0.00	0.00	0.00
	%	0.00%	45.83%	12.50%	12.50%	75.00%	4.17%	20.83%	66.67%			

Scale: 1 = Pre-requisite for other course(s), 2 = Requirement for my academic program, 3 = Considering this field as my potential concentration, 4 = To strengthen my graduate school applications, 5 = Elective within my academic program, 6 = Elective outside of my academic program, 7 = Reputation of instructor, 8 = Interest in topic

B1 = Brown University, B2 = Division, B3 = Department

Question		4	3	2	1
Please indicate how often you attended class or for an online course how often you completed modules or other online activities on schedule.	n	17	4	1	1
	%	73.91%	17.39%	4.35%	4.35%

Scale: 4 = Always, 3 = Frequently, 2 = About half of the time, 1 = Less than half of the time

Question		5	4	3	2	1
What proportion of class preparation and assignments (e.g. reading; daily homework; papers; problem sets) did you complete?	n	7	15	1	0	0
	%	30.43%	65.22%	4.35%	0.00%	0.00%

Scale: 5 = Some optional tasks in addition to everything that was required, 4 = Everything that was required, 3 = Most of what was required, 2 = About half of what was required, 1 = Less than half of what was required

Question		6	5	4	3	2	1
On average, how many hours per week were spent on this course excluding regularly scheduled class time?	n	0	0	3	18	2	0
	%	0.00%	0.00%	13.04%	78.26%	8.70%	0.00%

Scale: 6 = More than 16 hours per week, 5 = 13 – 16 hours per week, 4 = 9 – 12 hours per week, 3 = 5 – 8 hours per week, 2 = 1 – 4 hours per week, 1 = Less than 1 hour per week

Question		5	4	3	2	1	B1	B2	B3	Mean	Std	Median
Reflecting on your efforts, to what extent do you agree with the statement: I put in enough effort to learn from this course.	n	18	5	0	0	0	4.40	4.37	4.25	4.78	0.42	5.00
	%	78.26%	21.74%	0.00%	0.00%	0.00%						

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

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Question		5	4	3	2	1	B1	B2	B3	Mean	Std	Median
This course: Challenged me to develop new skills, ideas, concepts, or ways of thinking.	n	18	3	1	0	0	4.53	4.49	4.35	4.77	0.53	5.00
	%	81.82%	13.64%	4.55%	0.00%	0.00%						
This course: Helped me develop a better understanding of the principles, theories, content, and/or facts in this area.	n	19	3	0	0	0	4.58	4.49	4.35	4.86	0.35	5.00
	%	86.36%	13.64%	0.00%	0.00%	0.00%						
This course: Had assignments that helped me learn.	n	19	2	0	0	0	4.43	4.42	4.37	4.90	0.30	5.00
	%	90.48%	9.52%	0.00%	0.00%	0.00%						
This course: Overall, I rate this course as effective.	n	19	3	0	0	0	4.51	4.41	4.27	4.86	0.35	5.00
	%	86.36%	13.64%	0.00%	0.00%	0.00%						

Scale: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree

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Instructor: Ross Parker *

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Question		5	4	3	2	1	0	B1	B2	B3	Mean	Std	Median
The Instructor (Ross Parker): Was well prepared for each class or online module (e.g. lectures, discussions, and/or in-course activities were well organized).	n	22	0	0	0	0	0	4.66	4.58	4.52	5.00	0.00	5.00
	%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%						
The Instructor (Ross Parker): Effectively engaged students in classes or online modules (e.g. elicited student interest; encouraged student participation; responsive to questions; offered opportunities for small group discussion).	n	21	1	0	0	0	0	4.53	4.44	4.25	4.95	0.21	5.00
	%	95.45%	4.55%	0.00%	0.00%	0.00%	0.00%						
The Instructor (Ross Parker): Effectively engaged students outside of classes or online modules (e.g. kept electronic resources up-to-date; available during office hours; responsive to requests to meet).	n	21	1	0	0	0	0	4.51	4.44	4.34	4.95	0.21	5.00
	%	95.45%	4.55%	0.00%	0.00%	0.00%	0.00%						
The Instructor (Ross Parker): Made course material clear and understandable (e.g. was effective in explaining content).	n	21	0	0	0	0	0	4.49	4.36	4.19	5.00	0.00	5.00
	%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%						
The Instructor (Ross Parker): Overall, I rate this instructor as effective.	n	22	0	0	0	0	0	4.56	4.46	4.30	5.00	0.00	5.00
	%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%						

Scale: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree, 0 = N/A

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Spring 2020 Course Feedback

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Instructor: Ross Parker *

Response Rate: 24/28 (85.71 %)

Thinking about the overall course and its content, what has been particularly effective about Ross Parker's approach to teaching in the course?

• Ross has a way of explaining things so that either you understand it or you feel comfortable enough to ask questions. He clearly had a large base of knowledge with the material and showed it every day. Implementing jokes was also a nice touch

• He always had relevant examples that made the content very clear.

• Ross explained concepts as logically and and clearly as possible. He never hesitated to repeat something or backtrack in class and was very very approachable. One of the best Math teachers I've ever had. Ross's love for the material was infectious

• The professor very effectively and clearly delivered lectures at a pace accessible to the whole class. He was very receptive to student needs, graded assignments very quickly, and provided a great deal of support outside of class hours. Overall a great professor.

• Extremely clear and extremely attentive to students' needs. He knows the materials extremely well. I can't really find any other words to describe how great his class has been.

• He explains concepts clearly and supplements his explanations with appropriate examples and diagrams.

• Ross Parker is hands down the best APMA professor I have had at Brown (and I am an APMA concentrator). Professor Parker encourages student participation and is highly approachable. I tend to be shy about approaching professors and going to office hours -- with Professor Parker, I was a regular at office hours and always felt comfortable asking questions. Professor Parker clearly puts in a lot of time and effort into teaching. Not only is he prepared for lectures, but he hosts more office hours than most professors and offers to schedule additional times to meet. For the final group project at the end of the semester, it felt like Professor Parker was one of the group members, not just the person who would be grading us. As a lecturer, Professor Parker does a great job motivating each class. What have we covered so far? What do we eventually want to understand? How are we going to get there? He then identifies the next step and how it fits into the grand scheme of things. Only then, once everyone in the class understands the purpose of what we are doing, does he dive into the actual math. Professor Parker also motivates every concept with examples, which makes it much easier to follow the more technical math that comes afterwards. Also, Professor Parker is a clear speaker, is the opposite of monotone, and incorporates humor into his lectures which is always appreciated. A final point is that Professor Parker several times throughout the semester sent us anonymous surveys about how the course was going, what he should do differently, etc. I never really had any advice, but it goes a long way when a professor demonstrates that he/she cares about providing the best education possible and actively asks for feedback. (all comments refer to both before and after covid restrictions)

• Ross has been absolutely amazing! He really, really great at teaching; his lectures are always very engaging, fun and interesting. Furthermore, Ross is super approachable (as a senior I can say that not all instructors are), and always happy to help out and explain things a second time in office hours. I also just want to praise Ross for his flexibility when transitioning to remote learning. E.g. for me who is in a different time zone than the US, it was a bit difficult to attend the office hours because most of them were so late in the day EST. When I asked about it, Ross was willing to add another extra hour of office hours earlier in the day just so I would have more time to ask questions on the course materials and homeworks. I think this illustrates how helpful and accommodating Ross has been.

• Ross used a myriad of teaching methods from proofs to computer simulations which helped students with a variety of learning styles understand the material. He also broke the information down into logical steps that led to larger conclusions so that students where able to see why something occured and how. The stylistic variety along with the content break-down made his teaching comprehensive and logical to follow. Ross also brought a level of excitement about the material that made all of the students interested in everything we learned. He made the seemless transition to online learning and really made the effort to maintain extremely high learning standards in the second half of the semester. He is hands down one of the best educators in terms of communicating information that I have ever had. For all of the students in his class returning to Brown next year, our only regret is that we will not be able to take another class with him.

• Ross was a fantastic professor! His lectures were always brilliantly thought out and structured; he came to each lecture excited about the material which made the lectures very engaging; his homework assignments always served as a stepping stone between old and new material; and, the final project was very well organized and served as a great capstone to the course!

• He puts in a lot of effort and is very accommodating for his students

• He gave many real world examples of how the material can be applied. His lectures were very clear and he published his notes online which were helpful to review and look back on. The homework assignments were difficult but also just the right amount of challenging - they took time but were doable and helped me gain an understanding of the material.

• Ross is the best professor I have had at Brown for a math class. He is passionate, knowledgeable, and personable, and he designed the best homeworks I've ever had -- challenging, but always doable in a reasonable amount of time and they helped solidify the material so effectively. Ross was always more than willing to help in and outside of office hours. His lectures were clear and fascinating, and he made a huge effort to teach us about applications we were specifically interested in (he sent out a form asking us what we wanted to learn about). I learned SO much in the class and I was always excited to go, which is something I have never experienced in a math class in my college experience -- this class made me love math again. I am deeply saddened that Ross won't be teaching here in the future.

• Honestly, everything. Ross was clearly very certain as to what he wanted to teach, and how he wanted to teach it. It felt like each lecture was rehearsed as much as many TED talks I watch, yet he engaged with the class all the time, and answered questions just as effectively as he taught material he had prepared ahead of time.

• Ross explained the concepts very clearly. He drew plenty of graphs and this really facilitated understanding. He also used plenty of examples and focused on the real-life applications.

• He was a very thorough instructor and did a great job at explaining concepts, especially the intuition behind the math that we are learning (something that I think a lot of math professors fail to do). He also did a lot of real-world examples so that we could see how the math we were learning could be and is applied to real world models.

• The course was structured in a very logical order. Ross was a clear and effective lecturer with well-organized notes. Ross was also extremely available outside of class, holding an average of 5 individual hours of office hours outside of class, with extra office hours during exam weeks. Ross was helpful in office hours, providing guidance but not answers.

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Thinking about the overall course and its content, what specific recommendations would you have for Ross Parker about changes that would enhance your learning?

- Some of the connections, while I could see how they arose afterwards were hard to understand in the moment. Specifically getting from 3d systems to discrete systems, I'm not sure why we went the way we did.
- Nothing
- Some of the content lacked mathematical rigor; I would have preferred to see more rigorous proofs of some of the deeper theorems (such as the proof of existence of the Hopf bifurcation).
- Could go a bit more in depth, but that'd make it too challenging for some people I guess.
- Potentially explain more difficult concepts a little slower! It took me a couple weeks to really get the hang of bifurcation diagrams and how to make them.
- Keep being awesome!
- Nothing!! This class was challenging in its content, especially the homeworks I found a challenge, but really interesting and I felt like I truly developed my knowledge in the area.
- Perhaps the final project could have had more clear expectations.
- Nothing at this time—Ross did a wonderful job with the course.
- Maybe extra practice problems that are not assigned but are optional to gain to practice before the midterms.
- Nothing Ross is the BEST!!
- Honestly, the only thing would be to move it to a smaller, seminar style room to match with the general ethos of the class.
- Everything is great.
- There really aren't any changes, the course was awesome.

In what ways did Ross Parker communicate the expectations for academic integrity (e.g. sufficient citations of source material; clarity on collaboration policy; clarity on what constitutes plagiarism)? What additional steps could this instructor have taken to communicate these expectations?

- Good communication about this
- He told us in class and emailed us. It was pretty clear.
- The professor made these expectations very clear at the beginning of the course, but did not really bring them up again. After the transition to online classes, he expected us to hold to an honor-system.
- Good.
- Expectations for academic integrity were always clear.
- All clearly stated at the beginning of the course.
- He included the epectations for academic integretiy in his introduction on the first day of class, in the sylabus, and on the canvas page. There were also academic guidlines on the front of each exam.
- Expectations were clear. No additional comments.
- Syllabus
- Everything was clear.
- He was very good about providing sources for his lectures (beyond just the textbook), and we took that example to heart in our final papers.
- Ross explained his expectations for academic integrity clearly.
- Ross communicated it clearly, no further communication needed.

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Did Ross Parker foster an environment where all students - including yourself - were treated with respect and their questions and perspectives welcomed? How did the instructor accomplish this?

- Yes this was very well fostered, in my opinion. Ross did this by being attentive to everyone and having many office hours to accommodate all sorts of questions.
- Yes
- Yes. Always open and transparent when communicating expectations.
- The professor did so my making it clear the the beginning of the course that his class was a safe space, and that he would not tolerate discrimination. He was always open to discussion if students had any problems or concerns.
- Yes.
- Ross is easily the best math professor that I have had to-date at Brown. He genuinely cares about his students and puts in so much effort outside of the classroom to help when needed. The environment that he fostered should be adopted by every professor. It is incredibly difficult to find a good math professor, but Ross is one of those select few. His teaching style and gentle approach with students welcomed questions, discussion, and fostered learning.
- 100%. Lots of positive feedback, encouraging class participating, never being dismissive of questions, hosting tons of office hours, etc.
- Hell yes!! On the syllabus he even added a section discussing the preconceived notions of mathematics and the people who excel in it; addressing stereotypes etc. which I've never seen in a STEM class before. I personally don't care too much about that stuff, but I know for some people it's more personal and I thought it was extremely thoughtful and respectful.
- Yes, absolutely. Ross not only would stop during class to listen to anyone's comments and or questions, he was also so perceptive to the students reactions that if anyone looked lost or confused he would ask if they would like something explained again or take the time to repeat what he had just said.
- Yes. Ross was always incredibly welcoming of questions, which were always met with a respectful answer and discussion.
- Yes it was a very respectful environment. The professor constantly asked for feedback and tried to accommodate the student with when to meets. He also encouraged us to apply the material to topics that we found interesting.
- Yes!! My first answer sort of speaks for itself, but Ross is super personable, always encouraged questions, and made a pointed effort to teach us the things we wanted to learn.
- Absolutely! He was actively inclusive to everyone in the class.
- Ross is amazing! Very friendly to us. He explained all the concepts and examples very clearly during class and office hours.
- Yes, he was very receptive to all questions.
- Ross welcomed feedback by sending out two feedback forms during the semester to make sure he was meeting student needs. He was always willing to pause to answer any and all questions asked by students.

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

- Shop the instructor. Chances are it won't be Ross again and I could imagine this course not being fun with a poor lecturer
- Definitely take it. It's very interesting and has very practical applications in the real world.
- Take it! Dynamical Systems is incredible.
- Would definitely recommend as an introduction to dynamical systems. The professor made the class worth it. If one is looking for a rigorous introduction, this may not be the best class, however.
- It's tremendously sad that you won't be taking it with Ross Parker.
- Take it !
- Do it!
- TAKE IT! I was a bit scared at first since it "Applied dynamical systems" and "chaos theory" sound a bit intimidating, but it's a challenging class where you get to see really cool things in mathematics, deepen your knowledge vastly and also have a bit of fun with it with the final project!
- This class is amazing. It is one of the most practical and applicable courses I have taken at Brown and for students who loved taking apma 350 with Bjorn, I could not reccomend this class more. Ross and Bjorn really bring to life their own excitement for ODEs and Dynamical systems and taking their courses have been the highlight of my applied math studies.
- A must-take course!
- It is an excellent course and you will actually walk away with useful knowledge. This class is what I think about when I hear the term "applied math" -- you get to work with equations that have clearly visible real world connections. It makes the number tangible.
- The material is super interesting, and it is one of the only true APPLIED apma courses. It's so cool to see how math can actually be used in real life. Obviously a big part of why I loved the class so much was Ross, so it's hard to say how it would be with a different professor, but definitely worth shopping.
- Just take it! I would take any class that Ross teaches, if only he was staying at Brown....
- This is a very interesting class. We covered plenty of interesting topics in dynamical system.
- I really enjoyed this course, but largely because of the instructor. While I do think the topic is interesting, so much of one's enrichment and engagement with a course depends on the instructor, so while I wholeheartedly recommend Ross Parker (though unfortunately, he's leaving after this year), I am less enthusiastic in my recommendation for this course by itself.
- This is a very interesting extension to Introduction to ODEs. I would recommend it to anyone looking for a visual and application-based approach to ODEs.
- Interesting topics in ODE's.