
Rutgers University Student Instructional Rating

Fall 2023

Frolov, Lawrence - LAF230

Differential Equations For Engineering And Physics -
01:640:244:10, 11, 12

Survey Form: *Standard SIRS

Enrollment: 81

University-wide Instructor Questions

Weight of responses: 1=SD (Strongly Disagree), 2=D (Disagree), 3=N (Neutral), 4=A (Agree), 5=SA (Strongly Agree), Resp=Number of Student Responses

Weighted Means: Section, Course, Level, Department

	SD	D	N	A	SA	Resp	Section	Course	Level	Dept
The instructor Lawrence Frolov was prepared for class and presented the material in an organized manner.	0	2	2	10	20	35	4.41	4.58	4.36	4.28
The instructor Lawrence Frolov responded effectively to student comments and questions.	0	0	2	3	28	34	4.79	4.68	4.33	4.24
The instructor Lawrence Frolov generated interest in the course material.	0	0	3	4	26	34	4.70	4.58	4.18	4.13
The instructor Lawrence Frolov had a positive attitude toward assisting all students in understanding course material.	0	0	0	4	29	34	4.88	4.71	4.45	4.37
The instructor Lawrence Frolov assigned grades fairly.	1	2	3	9	17	34	4.22	4.37	4.35	4.29
The instructional methods of Lawrence Frolov encouraged student learning.	0	1	1	8	23	34	4.61	4.54	4.20	4.13

Teaching Effectiveness

Weight of responses: 1=P (Poor), 2=F (Fair), 3=A (Average), 4=G (Good), 5=E (Excellent), Resp=Number of Student Responses

Weighted Means: Section, Course, Level, Department

	P	F	A	G	E	Resp	Section	Course	Level	Dept
I rate the teaching effectiveness of the instructor Lawrence Frolov as:	0	0	4	9	21	35	4.50	4.55	4.19	4.08

University-wide Course Questions

Weight of responses: 1=SD (Strongly Disagree), 2=D (Disagree), 3=N (Neutral), 4=A (Agree), 5=SA (Strongly Agree),
Resp=Number of Student Responses

Weighted Means: Section, Course, Level, Department

	SD	D	N	A	SA	Resp	Section	Course	Level	Dept
I learned a great deal in this course.	0	0	1	5	27	33	4.79	4.70	4.31	4.11
I had a strong prior interest in the subject matter and wanted to take this course.	1	5	7	12	8	33	3.64	3.87	3.72	3.49

Course Quality

Weight of responses: 1=P (Poor), 2=F (Fair), 3=A (Average), 4=G (Good), 5=E (Excellent), Resp=Number of Student Responses

Weighted Means: Section, Course, Level, Department

	P	F	A	G	E	Resp	Section	Course	Level	Dept
I rate the overall quality of the course as:	0	1	1	7	26	35	4.66	4.53	4.05	3.88

What do you like best about this course?

These comments are intended for all instructors.

Comments
I liked the grading scheme the best in this class and the ability to resubmit assignments.
The grading system was unique and promoted student learning. It wasn't easy, but I like how it pushes the student to learn and consistently try their best.
It did not give me a lot of stress.
I really like the mastery objective format for this class, it is such a new way of learning in college that I think really helps with understanding the material.
Professor Charnley's approach to teaching is extremely organized and a well thought out alternative to the standard learning procedures most educational institutions are accustomed to. His grading system is an appropriate response to lower exam averages and just a lackluster education that many students in the STEM field can testify to. I felt I learned significantly more in this course than any other, just simply due to how the class was setup, and the accountability for student mistakes. Canvas was very well organized as well which was a sort of rare thing to see in some of my classes, so that was also very helpful.
I really liked the grading system for this course, it prioritizes topics that will be more applicable to other class but still covers other parts of diff eqs.
mastery based grading system is AMAZING and should be the college standard for grading. I've never learned so much in a single semester math class before. It forces you to learn the topics because you have multiple tries throughout the semester.

Comments
The grading system and course material
discussing modeling of differential equations in different ways
Your grading system was so forgiving it was so nice.
I enjoyed the grading structure of this course and felt that I was constantly encouraged to do better. The content was fairly easy as well.
I like the fact that we get multiple opportunities to try each topic, and a bad performance early on in the semester doesn't ruin one's grade for the course.
I liked the fact that everything was so well-organized and easy to understand. He is a really good teacher!
See previous response.
I love the format of this course. It is very forgiving of mistakes and really allows me to fully understand every topic.
Professor and Teaching Assistant
I just liked the focusedness of this course, everything that is taught actually feels like it's about the same topic.
I like how there is an emphasis on student learning and genuine understanding of concepts. The organization of the course is great and it is relatively easy to focus on the subjects that you need to work more on.
Grading system
The flexibility compared to the other calc courses
Mastery Grading System
Prelecture videos, recorded lectures.
I love the grading system, the way things are taught, the way that I have multiple tries to learn an objective. I also love that all the lectures are recorded and I can go over them whenever I want! Overall, it is the best course I have taken at Rutgers!

If you were teaching this course, what would you do differently?

These comments are intended for all instructors.

Comments
For recitation, I would put more emphasis on practicing the material in our groups. Larry often came to class and lectured on the material for too long and then we had very little time to practice before taking our quiz. Also, Larry's lectures caused confusion for me. Rather than discussing the material in a straightforward way, he discussed some theory behind the material and provided unusual examples which weren't too helpful in my learning process. I found that if I really listened and tried to understand his lecture, I would do more poorly on the quiz right after on the same topic. If I ignored his lecture, I would do better on the quiz, because I would have already practiced in the way I learned from Dr. Charnley's lectures, which were far more methodical and clear.
I like how the course is! But, I would probably alter the time on the quizzes. With sometimes 3 objectives to complete in 20 minutes, I found myself not able to finish. I understood each objective, I just did not have enough time.

Comments

I understand that there was an issue with having too many A's in the course. However, having the idea of completing the objectives is too stressful. Especially when you have to complete it twice. There will be some times where I was like I got the exam objective but struggling on the quizzes because I run out of time and can't resubmit to get a Master level.

n/a

I think allowing more time for recitation quizzes, especially when there were three objectives in one quiz section.

Perhaps some of the heavier quizzes could use some more in class time to be completed. Maybe 10 minutes per quiz question is a fair amount. Other than that the course as a whole was very well paced out and balanced.

I would emphasize students to focus on the non-core topics more than the core topics during the quizzes. Since students still have to attempt the core 11 problems, they should focus on completing as many non-core objectives during the semester so that they don't have to attempt as many problems on the final. During the in class quiz reattempts, I would have a stack of the problem sheets at the front of the classroom and students can take as many sheets as they are quiz attempting. This theoretically cuts down on paper usage since students are only taking as many sheets as they need and this is beneficial to the students as they don't have to waste time asking for more sheets than given in the packet. I found that I wanted to complete more problems than number of sheets given but I couldn't because of the time it would take to get another sheet. I would also upload the quizzes into gradescope even if the student did not attempt the quiz during recitation. I missed some recitation classes and looking at previous quizzes would be helpful when studying for exams and the final.

make the recitation quizzes longer. it's not fair when you get 3 learning objectives on one quiz and have only 15 minutes to complete it. Forcing students to pick and choose which objectives they get the first time they see them is weird, you should have enough time to get all of them if you know how to do them. Other than that this class is perfect!

The grading system is good, however it is a bit confusing as it is not explained in enough depth at the start of the course.

i think that d3b wasn't explained as clearly as it could have been, and a lot of the things asked about were not clearly discussed in lecture, at least from what i remember. additionally i think that the TA spent a bit too much time discussing conceptualls and not enough time discussing the material to be presented on the quiz, but what he discussed was appreciated either way.

Nothing, I think the course was structured very well and encouraged student learning!

I would split the objectives into multiple components. As it stands, some of the objectives in the course feature a lot of different concepts, and with the grading scheme, getting one part of an objective's problem wrong means getting the entire objective wrong. This is especially an issue with objectives that have problems which are four or more parts. If a student completely understands one part of that objective but not the other, then they are treated as if they have not mastered any part of that objective and have to tackle the entire objective another time. In addition, due to the size of the objectives, each quiz feels incredibly rushed and does not feel like its properly gauging a student's mastery on objectives. I would allot more time for the quizzes.

Nothing.

The only thing I would change about this course is changing the length of the quizzes. I feel like it does not need to be standard across every quiz. Some topics are more lengthy than others, and may require more time. For harder quizzes, like D3a and D3b, more time per question should be allowed, but for easier quizzes where its not necessary like D1, the standard 15 minutes will suffice.

Honestly nothing.

I would make cutoffs for final letters grades less strict, or at least give another exam opportunity. It was stressful if you did not do so well on the first two exams as others and had only 2 more opportunities to get it right on an exam or else you could not master the subject.

It would be nice if there was a document describing the grading system because every class makes some time to clarify the grading system.

Also for the resubmitting, it takes too long to get grades back. Maybe learning assistant grades it.

Change the way the linear algebra chapter is integrated.

Comments

Nothing really. (Except it'd probably be a good idea for linear algebra to be mandatory – the situation as it currently stands is pretty goofy)

Nothing!!

In what ways, if any, has this course or the instructor Lawrence Frolov encouraged your intellectual growth and progress?

These comments are unique to the instructor Lawrence Frolov.

Comments

Larry came to class every day with a positive energy you only see in kids movies. He was super enthusiastic about the material and could make the class laugh without going off topic. He responded to emails quickly and had grades returned even faster.

He is a great TA. Every workshop the material was presented clearly and he made real-life analogies which helped our learning.

He teaches important applications that related to concepts.

Larry is very understanding in how confusing differential equations can be and tries his best to not only clarify it, but also mention the applications with this class.

Office hours were always extremely helpful with Larry. Working 1 on 1 or in a small group with Larry helped answer burning questions that helped me on the spot with the course material. He provided invaluable assistance when I needed.

He would tell about history and how mathematics have been used to prove or disprove things in the past, he showed us the importance of this class beyond the classroom. Overall, Mr Frolov made this class much more fun and interesting.

Larry used real world examples when explaining concepts which helped me visualize the concept better. He was also very relaxed in his teaching style which was welcoming and fun.

Larry led interesting mini-lectures that were very funny and easy to follow while also covering difficult topics/and or topics that the prof was not able to cover. Larry's humor made this class the first math class i've actually enjoyed and was interested in.

he delves into the conceptual side of things which is otherwise not discussed in lecture

Lawrence Frolov shows great enthusiasm for the topics in the class and makes sure to instill that enthusiasm in us students. Not only does he make learning about differential equations exciting, but he also connects everything to real-world examples, making it much easier to understand how everything works conceptually.

Comments

The TA's I've had so far as a student at Rutgers were all extremely knowledgeable, but no one was as empathetic, relatable, and, above all else, pedagogically focused as Larry Frolov. To begin, Larry opens each of his recitations with an insightful sermon on the real-world applications of differential equations for engineers. His talks are unique, both in content and in delivery, and have, nearly always, opened my eyes to a new and wonderful application of the material I will be learning today in the recitation. Larry's enthusiastic delivery and sheer passion for the material demonstrate themselves through his delivery of the sermon and instill a sense of importance and excitement for the material in his students, and, I believe, himself as well. Larry, in all sense of his character, is an exemplary communicator, speaker, and person, and someone who has enriched my intellectual growth and progress by presenting himself as someone I deeply look up to. I strive to learn from Larry's good-natured character as a person, and from his mastery and delivery of differential equations in my duties as a learning assistant.

To speak further about Larry's pedagogical toolbox, there is no doubt in my mind that Larry's toolbox is both vast and well-worn. As a learning assistant, I am trained to recognize pedagogical techniques like metacognition, mental models, and more. As a result, I often notice the techniques, or lack thereof, my TA's use. Larry is unique in that, by intuition or hard-earned skill, he can quickly single out which pedagogical tool best suits a particular student's comprehension. In my case, I once needed help with understanding the existence and uniqueness of theorems, an abstract concept for me and something that I had trouble with just with the lecture material alone. To help with my understanding of the material, he jumped towards the most effective approach: edge-case exercises. By ensuring that I knew how to handle the most abstract problems dealing with the existence and uniqueness theorems, Larry ensured my comprehension was optimal and gave me the confidence I needed to succeed. Larry's ability to effectively and efficiently rectify students' shortcomings is, to say the least, preternatural. Larry's pedagogical ability presents itself as a prime example of how TA instruction at an undergraduate level should be done nationwide.

In short, Larry Frolov is one of the best, if not the best, teaching assistant I have ever had. This conclusion was made after considering the humanistic, academic, and pedagogical perspectives available to me. Through his efforts, Larry has encouraged my intellectual growth and progress by emphasizing learning above grades, cultivating my passion for engineering, and reigniting my love for mathematics. Larry Frolov presents himself as a Ph.D. student by day and a good-natured master of pedagogy and differential equations also by day.

He's very interesting to listen to during recitation.

Lawrence Frolov always presented the material in an interesting way and was a great person to learn from. I always looked forward to going to recitation because his teaching methods were great.

makes the class engaging to his students by being relatable and really down to earth. Sometimes offers a different approach to problem solving than what the professor does.

explained very thoroughly.

Throughout my academic career, I have skipped many recitations. However, in math 244 with professor Frolov, I never once missed class. I never even really felt the inclination to. Larry was knowledgeable, engaging, funny, thorough, and always well prepared. Love that goofball.

Other comments or suggestions:

These comments are intended for all instructors.

Comments
Quiz times need to be altered! (Depending on the number/difficulty of objectives)
n/a
I recommend your class to others, especially meteorology majors.
I really enjoyed this course and think the grading system, although confusing at first it was the best I have ever seen and should definitely be adopted more. I also feel as though I thoroughly know the material in this course and that I won't forget this in a couple months which is what usually happens!
It's just that the grading system caused me a lot of anxiety
See previous response.
Professor Charnley and Larry are so nice!
I think some more connection between the TA and the professor would be better, I appreciate the detail that Larry goes into but it feels like he wants to be the one teaching the course, we spend more time in recitation listening to him re-explain the material and much less doing the practice worksheet with our groups. I'm sure the detail that he goes into with reteaching the material is helpful for some, but personally I would prefer to use more classtime as work time.
Allow more time on the quizzes that have 3 questions. Even 15 minutes for quizzes with 2 questions was difficult.
Thanks a lot to professors Charnley and Frolov! They are the best.
I wish more courses were taught in this manner, I believe I would learn so much and would love to attend my classes! Overall, it is the best course I have taken at Rutgers!