

Course: F25-OIT-676-01/F25-MS&E-311-01: OPTIMIZATION
Instructor: Dan Iancu * ,Madeleine Udell
Response Rate: 30/44 (68.18 %)

1 - How much did you learn from this course?					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
A Great Deal	(5)	11	37.93%		3.79
A Lot	(4)	6	20.69%		
A Moderate Amount	(3)	7	24.14%		
A Little	(2)	5	17.24%		
Nothing	(1)	0	0.00%		
				0 25 50 100	Question
Response Rate		Mean		STD	Median
29/44 (65.91%)		3.79		1.15	4.00

2 - How many hours per week on average did you spend on this course including class meetings (whole numbers only)?					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
8	(8)	3	10.00%		14.53
9	(9)	1	3.33%		
10	(10)	8	26.67%		
12	(12)	3	10.00%		
15	(15)	4	13.33%		
16	(16)	1	3.33%		
17	(17)	1	3.33%		
19	(19)	1	3.33%		
20	(20)	6	20.00%		
25	(25)	1	3.33%		
30	(30)	1	3.33%		
				0 25 50 100	
Response Rate		Mean		STD	Median
30/44 (68.18%)		14.53		5.57	13.50

3 - How would you rate the course content overall?					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	7	24.14%		3.48
Good	(4)	10	34.48%		
Fair	(3)	5	17.24%		
Poor	(2)	4	13.79%		
Very Poor	(1)	3	10.34%		
				0 25 50 100	Question
Response Rate		Mean		STD	Median
29/44 (65.91%)		3.48		1.30	4.00

4 - The course effectively incorporated content (e.g. examples, case studies, guest speakers, etc.) from a diverse set of identities, countries, and if applicable, industries.					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
Strongly Agree	(5)	7	24.14%		3.52
Agree	(4)	10	34.48%		
Unsure	(3)	5	17.24%		
Disagree	(2)	5	17.24%		
Strongly Disagree	(1)	2	6.90%		
				0 25 50 100	Question
Response Rate		Mean		STD	Median
29/44 (65.91%)		3.52		1.24	4.00

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5 - I would characterize the course as:						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Directly Related to My Career	(3)	17	58.62%		2.38	
Not Directly Related to My Career	(2)	6	20.69%			
Unsure	(1)	6	20.69%			
				0 25 50 100	Question	
Response Rate			Mean		STD	Median
29/44 (65.91%)			2.38		0.82	3.00

6 - My prior background in the subject is:						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Extensive	(3)	2	6.90%		1.62	
Moderate	(2)	14	48.28%			
Slight	(1)	13	44.83%			
				0 25 50 100	Question	
Response Rate			Mean		STD	Median
29/44 (65.91%)			1.62		0.62	2.00

7 - Overall, how would you describe the quality of the instruction in this course?						
Dan Iancu						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Excellent	(5)	14	46.67%		4.10	
Good	(4)	9	30.00%			
Fair	(3)	4	13.33%			
Poor	(2)	2	6.67%			
Very Poor	(1)	1	3.33%			
				0 25 50 100	Question	
Response Rate			Mean		STD	Median
30/44 (68.18%)			4.10		1.09	4.00

8 - The instructor encouraged diverse perspectives and fostered an environment where all students felt welcome to participate.						
Dan Iancu						
Response Option	Weight	Frequency	Percent	Percent Responses	Means	
Strongly Agree	(5)	14	48.28%		4.14	
Agree	(4)	9	31.03%			
Unsure	(3)	3	10.34%			
Disagree	(2)	2	6.90%			
Strongly Disagree	(1)	1	3.45%			
				0 25 50 100	Question	
Response Rate			Mean		STD	Median
29/44 (65.91%)			4.14		1.09	4.00

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9 - What would you like to say about this course to a student who is considering taking it in the future? All responses are subject to Stanford's Terms of Use for Sites and may be subject to independent review before posting.

Response Rate	13/44 (29.55%)
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- You will be at a better position if you have previously taken any optimization class. You must have strong background in linear algebra.
- This course is intensive if you had limited optimization background like me. I think it would be a good refresher if I had some exposure beforehand, but since I didn't, it felt overwhelming at times. Dan and Madeleine were very engaging lecturers so that made it much better. My only comment is that I wish the homeworks were structured a bit differently. The problems tended to be few and time consuming, but I think I would have preferred for the problems to be many and have each one take less time. This is because the course was very expansive and I feel like I didn't get to "work" on a problem for each unit we covered. I think I would have liked it more if the homeworks reflected the lectures more.
- Its a phenomenal class! I believe it is extremely useful for anyone who uses optimization in their research or which wants to understand more about the topic. My favorite part has been the more theoretical parts of the course: Professor Iancu is one of the best lecturers I've experience. The numerical methods have also been super useful and funs and you can tell that Professor Udell is at the forefront of this topic and shares valuable knowledge about new and frontier methods.
- The homework feels like a descent into a chaotic algorithmic abyss, and the professors are masters of cryptic instructions. It's truly impressive how they managed to craft an entire course that operates on the same principles as a poorly designed game of Minesweeper—lots of explosions and very little guidance. It's almost as if they purposefully set out to cultivate a garden of confusion, where every assignment blooms like a wildflower in a storm, leaving us wondering if we accidentally wandered into a different class. The TAs must be training for a career in mime, as their ability to provide support is astonishingly silent; clearly, they've mastered the art of nonverbal communication, which we desperately need translated into actual help. Each assignment seems like a treasure map drawn by a blindfolded pirate, leading us to the lost ruins of "Optimal Understanding." Honestly, if knowledge were wealth, this class would be a generous donation to the 'Poorly Educated Students Fund', and they'd be handing out tax receipts for the privilege. Here's hoping we find our way out of this optimization maze before we become the algorithm's next casualty—snatched up by the vast void of confusion that somehow constitutes a syllabus. In the meantime, let's just pray our GPAs don't require optimization to survive this disaster!
- You have to understand too much information in a short amount of time, but the explanations are insufficient and difficult.
- The course covers too much content and oftentimes topics seem only tangentially related to each other diminishing the cohesiveness of the course. The lectures go through slides at break-neck speed and skip over important proofs. Would not recommend especially for someone new to optimization.
- I would recommend this course to anyone interested in optimization (no prior background needed) and looking to explore as many topics as possible in 10 weeks. The course focuses more on breadth than depth; you will gain a surface-level understanding of many topics. I found the class to be very well-organized with an excellent teaching team, though it was extremely intense. While the majority of the content focuses on theory, it can be leveraged to tackle real-world problems.
- This is a very broad course which covers a lot. The focus is more on width than depth. Although the first few weeks have practical components to them (including the use of optimization software), the course quickly becomes quite theoretical with a heavy focus on proofs and linear algebra.
- Stay on top of the readings!
- This course covers an enormous amount of material in a very short time, making it difficult to follow. Every single homework assignment contained errors in the problem statements, resulting in my spending countless hours attempting to prove statements that were unprovable because they were false. Very little guidance was given as to what we could expect on the final exam, and the review problems provided for the midterm were much easier than the actual midterm. That being said, I do think the course provides a good overview of the many types of optimization problems and the various methods for solving them.
- trying to teach the whole universe in 10weeks - way too much content, no time to let material sink in at all. >1000slides, rushing over everything, never being able to finish a single concept explanation properly. something seriously wrong with this course. this is not learning this is dumping material on students like a tsunami hoping students will somehow now drown - especially students with no prior experience in optimization.
- This course threw a lot of content at us that was very difficult to digest and was rather disorganized. A lot of concepts that came up on the homework were never mentioned in class; I would not recommend this course if you haven't taken any analysis or numerical linear algebra. Overall, I think I would have been able to learn and internalize more from EE364a than from this class. A lot of the material seems to be based on that course anyway.
- I highly recommend coming into this course already having fully mastered all course content. The communicated intention behind this course was light exposure to many different areas of optimization (linear programming, convex analysis, integer programming, robust optimization, etc.); instead, the level of understanding expected of students on homework assignments and exams was completely incommensurate with the amount of time spent developing each topic and the listed prerequisites were woefully insufficient for the level of fluency expected in this course. It was assumed that real analysis (particularly inf/sup manipulation) and linear algebra were completely second-nature to students, and we were expected to pick up Python libraries on-the-fly. These expectations by themselves are not a deal-breaker; some degree of comfort in linear algebra and analysis is, of course, necessary to give optimization a proper treatment. Unfortunately, the course materials for this class were snippets from four different textbooks, hundreds of slides, and lecture notes which meant that consolidating information from these sources into a coherent narrative was nigh impossible without understanding in advance the motivations for each development. This incurred significant overhead in studying for these topics; while the materials might be passable as reference material for one who is already well-versed in these topics, the amount of additional energy required to deconflict differences (or in many cases, complete omission) in notation and infer context detracted considerably from the scant time available to digest course material. Further complicating this was the fact that at least one question (typically 2-3) from every single assignment was either incorrectly stated or missing information. While such errors can be forgiven when one already understands the material, these mistakes served only to needlessly consume even more of the little time we had available for each assignment. Office hours therefore became a choice: do we deliberately focus on solving the assigned problems without sufficient understanding of the problem domain, or do we instead ask for help developing intuition for the topics that was glossed over in class? To succeed in this class is to hit a bullseye with a shotgun: you either get extraordinarily lucky in what you happen to choose to focus on among the vast spread of presented content, or you are already exceedingly close to the course material in advance. I do not recommend taking this course as a first introduction to this material, and as someone who had already taken a graduate-level optimization course prior to this one, I found it to be unnecessarily intractable. Normally, I'd refrain from posting course feedback since the deadline for this review lies right at the beginning of finals week. In this case, I feel that feedback for future iterations of this course is important enough to take time away from preparing for the remainder of finals week.

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10 - Would you like to provide any other comments about this course? Will only be seen by the instructor.

Dan Iancu

Response Rate	11/44 (25%)
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- Great handout and slides. The main concepts are well explained. The last two classes are more like an overview of robust optimization for students who have slight background in the subject.
- Dan is a wonderfully articulate and clear lecturer. I enjoyed it when he taught and his typed notes were incredibly helpful to my learning. He had great office hours too and I wish him the best!
- Professor, the time and passion you have put into the class is very much appreciated. I came in with high expectations and its been even better. Its been a privilege, thankyou!
- Very eager to help and not judgemental if you are behind in course material
- The pace of the lecture was a bit fast, so it was hard to keep up during class, but the full lecture notes provided afterward were very helpful. Dan was supportive during office hours.
- All the lectures were good, but I found Dan's lectures particularly relevant to my work. Dan is an extraordinary professor who teaches with great passion. He is dedicated to his students' success and is always willing to help, both in the classroom/office hours and beyond. I learned a great deal from his lectures and wish there had been more of them throughout the quarter.
- Thank you very much for this course, I feel like I learnt a lot about optimization. I particularly enjoyed the final week on robust optimization (both from a personal interest and utilitarian point of view). I wished we would have spent more time on it, for example with some programming assignments using robust optimization, although I understand this might be a challenge seeing as the course is already quite dense.
- The summary notes were very helpful!
- Please please please proofread the homework assignments! I ended up spending a lot of time trying to solve homework problems that contained errors. As a PhD student, I really could have used that time for research instead, which I felt I didn't get to do enough of given the heavy workload of CME 307 (as well as CME 302).
- Dan, I appreciated your teaching, you're very enthusiastic about the subject and I love it but it's wayyy too much material. better do like 40% less but properly.
- Note: Since I am unsure as to the level of collaboration between instructors, I am providing identical feedback for both instructors. Based on conversations with other students, I imagine that you will have quite a bit of negative feedback from frustrated students about what they felt went poorly; I suspect more feedback along those lines will be unhelpful, so I will focus on what I would have found to be most helpful in this course as somebody who came into the class having already taken a semester-long graduate course in optimization and a few years of basic analysis (metric spaces, measure theory, and functional analysis). 1) A consistent primary source (or maybe two). I found the lecture notes to be the most valuable out of all the course materials, since they included context for the development of ideas. To understand a subject is to internalize it; without context, extrapolating results to new scenarios is little more than guessing. Since optimization is deeply intertwined with application, context is particularly necessary. 2) Less material. This is not because I feel that students cannot keep up with a fast-paced course; rather, because so many ideas in optimization build on each other, an intuition for how to think about optimization is vital. I feel that this requires time, and it requires a focused and intentional treatment of the material with many elementary examples. We encountered many different kinds of common optimization problems, but the application domains were different enough that extracting a common thread of understanding was exceedingly difficult. 3) Clear exam expectations and meaningful review problems. Realistic insight into the difficulty of exams would have been very helpful. For the first exam, we received a set of practice problems which was greatly appreciated. Unfortunately, the study guide was considerably more elementary than the exam, which felt more like a problem set than an exam. We did not receive a study guide for the second exam, and the provided feedback boiled down to a recommendation to study all the course material. 4) Clear course prerequisite expectations. Specifically, a week or so spent on the analysis and linear algebra concepts required for the course would prove most helpful, as that helps guide student thinking for homework and exams and provides exposures to the most common tools used in optimization. This in turn builds intuition for the subject domain.

11 - Overall, how would you describe the quality of the course assistant's teaching in this course?

Response Option	Weight	Frequency	Percent	Percent Responses	Means
Excellent	(5)	0	0.00%		0.00
Good	(4)	0	0.00%		
Fair	(3)	0	0.00%		
Poor	(2)	0	0.00%		
Very Poor	(1)	0	0.00%		
N/A	(0)	0	0.00%		
				0 25 50 100	Question
Response Rate			Mean	STD	Median
0/44 (0.00%)			0.00	0.00	0.00

12 - Please comment on the course assistant with regards to effectiveness and attitude toward students. What are their strengths as an instructor? What suggestions do you have for improvement?

Response Rate	0/44 (0%)
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