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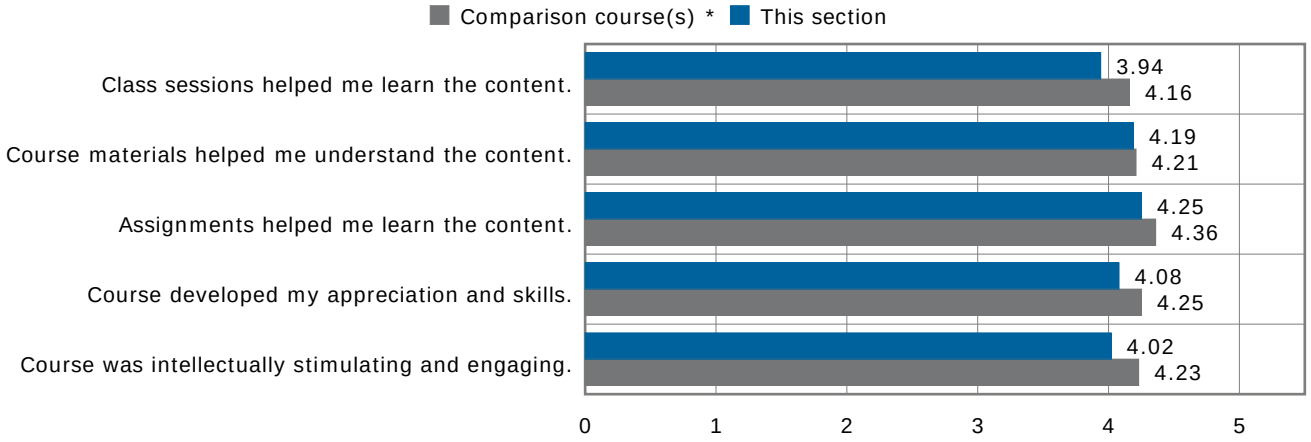
Student Evaluation of Teaching (SET) for Jun-Kun Wang

ECE 174 - Intro/Linear&Nonlinear Optimiz (Wang, Jun-Kun)
Fall 2025

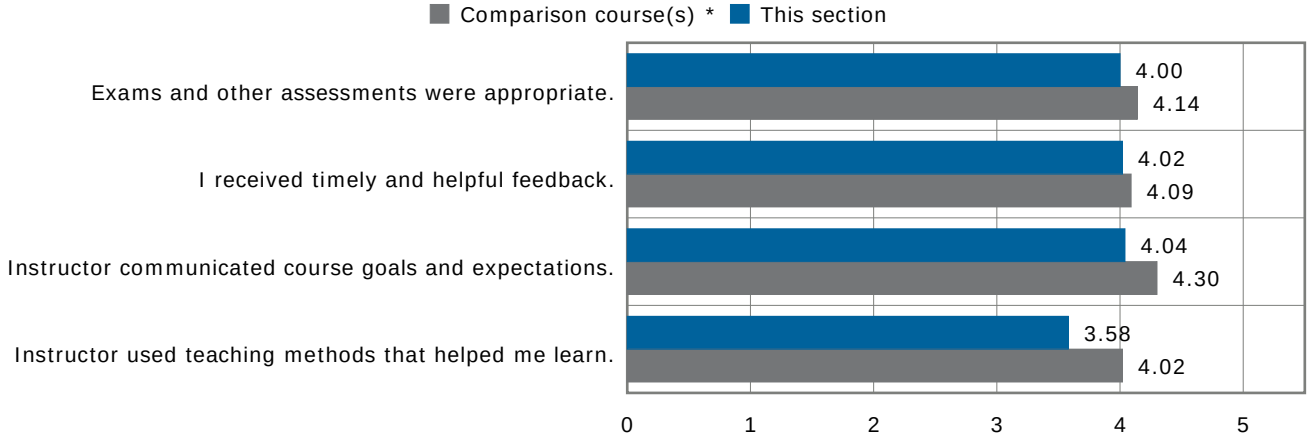
Number of Evaluations Submitted: 48
Number of Students Enrolled: 67

Summary Results

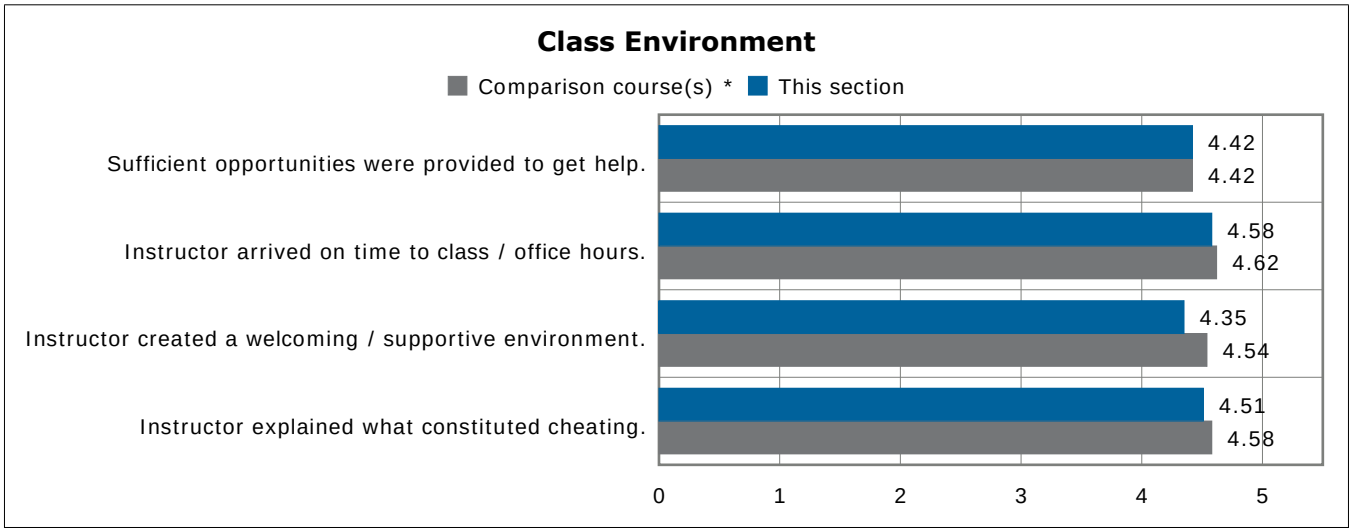
Student Learning

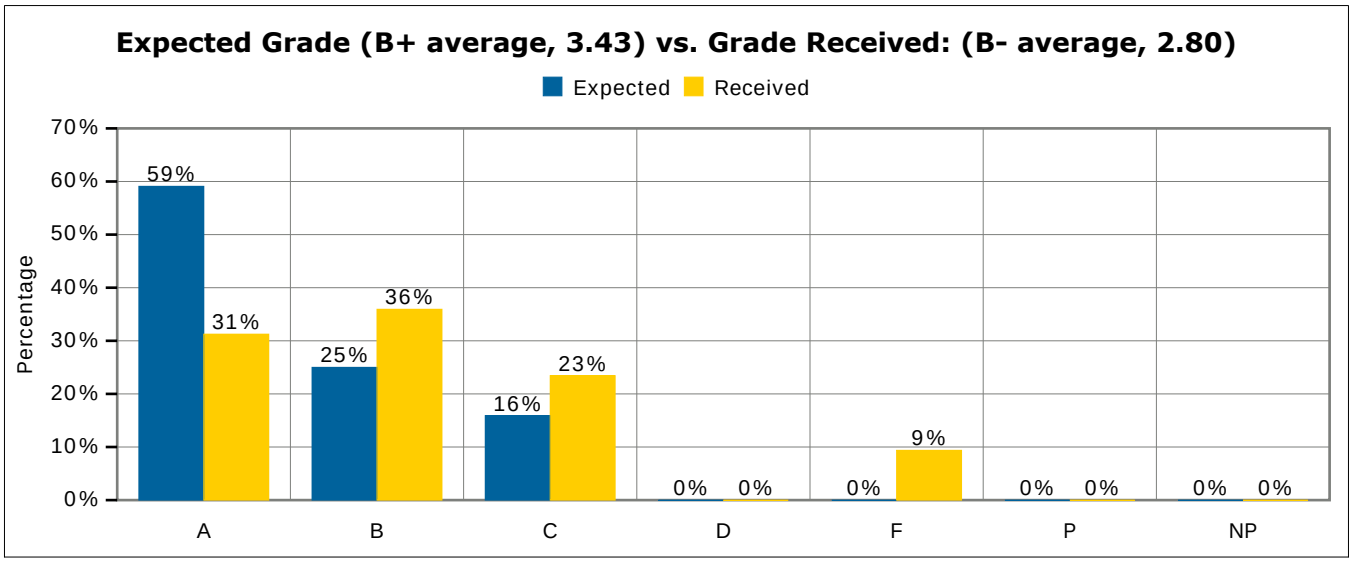


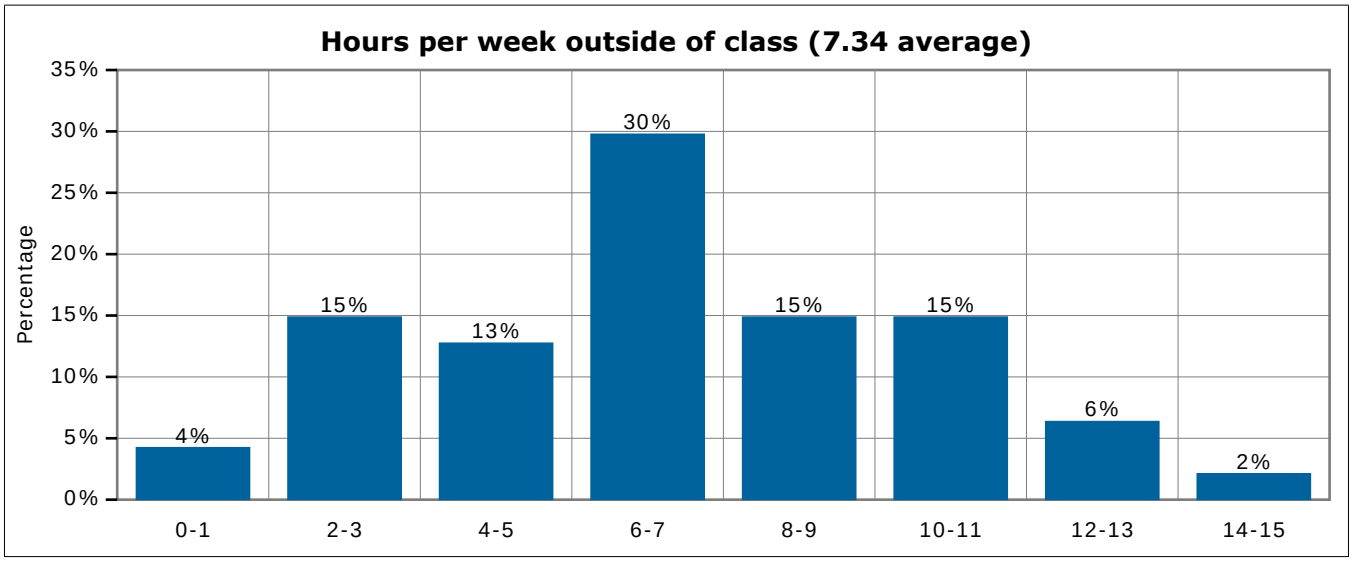
Course Structure



* Comparison courses used: All Electrical and Computer Engineering Fall 2025 UD courses


Class Environment
Comparison course(s) *
This section
Sufficient opportunities were provided to get help.
4.42
4.42
Instructor arrived on time to class / office hours.
4.58
4.62
Instructor created a welcoming / supportive environment.
4.35
4.54
Instructor explained what constituted cheating.
4.51
4.58
0
1
2
3
4
5


Expected Grade (B+ average, 3.43) vs. Grade Received: (B- average, 2.80)
Expected
Received
Percentage
70%
60%
50%
40%
30%
20%
10%
0%
59%
31%
25%
36%
16%
23%
0%
0%
0%
9%
0%
0%
0%
0%
A
B
C
D
F
P
NP


Hours per week outside of class (7.34 average)
Percentage
35%
30%
25%
20%
15%
10%
5%
0%
4%
15%
13%
30%
15%
15%
6%
2%
0-1
2-3
4-5
6-7
8-9
10-11
12-13
14-15

Full Results

Student Learning

1. **Class sessions** helped me learn the course content.

15 (31.3%): Strongly Agree
21 (43.8%): Agree
6 (12.5%): Neither Agree Nor Disagree
6 (12.5%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

2. **Course readings and other course materials** helped me learn course content.

18 (37.5%): Strongly Agree
22 (45.8%): Agree
5 (10.4%): Neither Agree Nor Disagree
2 (4.2%): Disagree
0 (0.0%): Strongly Disagree
1 (2.1%): No Opinion

3. **Assignments** (homework, projects, etc) helped me learn the course content.

17 (35.4%): Strongly Agree
27 (56.3%): Agree
3 (6.3%): Neither Agree Nor Disagree
1 (2.1%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

4. The course **developed** my **appreciation** of and **skills** for the subject.

17 (35.4%): Strongly Agree
22 (45.8%): Agree
5 (10.4%): Neither Agree Nor Disagree
4 (8.3%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

5. The course was **intellectually stimulating and engaging**.

17 (35.4%):	Strongly Agree
21 (43.8%):	Agree
4 (8.3%):	Neither Agree Nor Disagree
6 (12.5%):	Disagree
0 (0.0%):	Strongly Disagree
0 (0.0%):	No Opinion

Course Structure

6. The instructor effectively communicated **course goals** , learning **outcomes** , and **expectations**.

16 (33.3%): Strongly Agree
22 (45.8%): Agree
6 (12.5%): Neither Agree Nor Disagree
4 (8.3%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

7. **Exams and other assessments** (essays, projects, etc) were an appropriate measure of course learning outcomes.

16 (33.3%): Strongly Agree
19 (39.6%): Agree
8 (16.7%): Neither Agree Nor Disagree
4 (8.3%): Disagree
0 (0.0%): Strongly Disagree
1 (2.1%): No Opinion

8. I received **timely and helpful feedback** in this course.

16 (33.3%): Strongly Agree
19 (39.6%): Agree
9 (18.8%): Neither Agree Nor Disagree
3 (6.3%): Disagree
0 (0.0%): Strongly Disagree
1 (2.1%): No Opinion

9. The instructor incorporated **teaching methods** that helped me learn.

15 (31.3%): Strongly Agree
9 (18.8%): Agree
15 (31.3%): Neither Agree Nor Disagree
7 (14.6%): Disagree
2 (4.2%): Strongly Disagree
0 (0.0%): No Opinion

Class Environment

10. There were sufficient **opportunities offered for me to get help** when needed (e.g. established office hours, discussion section, discussion board, etc).

20 (41.7%): Strongly Agree
28 (58.3%): Agree
0 (0.0%): Neither Agree Nor Disagree
0 (0.0%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

11. The instructor **arrived on time** to class sessions and office hours.

28 (58.3%): Strongly Agree
20 (41.7%): Agree
0 (0.0%): Neither Agree Nor Disagree
0 (0.0%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

12. The instructor created a **welcoming and supportive learning environment** that valued and supported students from all backgrounds and identities.

23 (47.9%): Strongly Agree
21 (43.8%): Agree
2 (4.2%): Neither Agree Nor Disagree
2 (4.2%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion

13. The instructor explained what constituted cheating in this course and emphasized the importance of **academic integrity**.

24 (51.1%): Strongly Agree
23 (48.9%): Agree
0 (0.0%): Neither Agree Nor Disagree
0 (0.0%): Disagree
0 (0.0%): Strongly Disagree
0 (0.0%): No Opinion
1: [No Response]

Please describe any specific aspects of the course and/or teaching practices that your instructor used that...

14. Please describe any specific aspects of the course and/or teaching practices that your instructor used that particularly helped you to engage with the material, learn the material, and/or develop your own critical perspectives on the material.

- Coding assignments
- I thought the homeworks were really well written, and required piecing together multiple key concepts taught in class. This helped strengthen my understanding more than any other aspect of the class.
- Professor Wang was very patient in teaching the course material and used a variety of methods to clarify confusing concepts.
- Some real examples in class
- Struck a great balance between the theory and the practical applications.
- The asignments and class material were pretty good in helping understand what optimization really is, although there was a lot of material to cover, I think I understand the basics of the nature of AI and optimization in general
- The homework sets were great. They ensured that I kept myself up to date with the topics covered in the course.
- The homework was very similar to the exams.
- The homework's were great to keep me engaged with the material and on top of everything
- The python projects were particularly helpful in helping me understand how to implement the algorithms. It also got me used to using pytorch, which I've seen around on other academic/professional projects. Beginning the course with a linear algebra review is incredibly helpful for understanding the derivation of algorithms.
- Very good lectures, I loved how much detail the professor took to describe the content.
- Visual and Dynamic Lecture Format: The teaching style, where the instructor projected slides and wrote directly onto them with text and diagrams while explaining, was highly effective. In particular, the effective use of multiple colors to visually highlight key concepts deepened my understanding and increased my engagement with the material. Being able to follow the complex optimization process through real-time annotations helped me maintain focus.

  Provision of Lecture Recordings (Video): The fact that all lectures were recorded and made available for later review contributed most significantly to the retention of learning. Although the instructor occasionally advanced the slides immediately after finishing an annotation, the video access allowed me to check the content as many times as needed, ensuring I could review the material at my own pace without missing anything.

  Implementation of Unscheduled Quizzes: The unannounced, irregular Pop Quizzes created a healthy level of tension in the course. This served as a strong motivation to seriously engage with daily preparation and homework assignments, which resulted in the solid and reliable retention of knowledge.

15. Please describe any specific aspects of the course and/or teaching practices that your instructor used that were less helpful for your learning. Optionally you may offer constructive suggestions that might improve their effectiveness.

- At times, Professor Wang would teach material too quickly, and a question would be required to slow down the pace of the class.
- Considering that the homework assignments were helping me a lot in understanding the topics, I would have preferred more optional practice questions given to us regularly. We were provided with a few questions before the exams but I felt more optional questions would have been great.

  Secondly, I thought we could have spent more time to study the advanced topics like gauss-newton optimization method, and spent time implementing/solving it in code.
- Hard to follow lecture sometimes.
- I feel had the topics been more covered on a conceptual level, the math behind the ideas would’ve have been easier to follow. More so in regards to in class lectures.
- I feel that the extra credit for remembering your name is rather unreasonable, and probably made empty relationships.
- I think the quizzes should be exclusively for the lectures and not the discussions. I would be more prepared for the quizzes if there were set dates for them.
- In class you got extra credit, for "participation" so whenever a question was asked someone would always try and answer it as quick as possible. If there could be pauses for everyone to understand then ask people to raise their hand for the extra credit I think that would be better.
- Instructor went through the content very slowly, could've picked up the pace a bit. Also should probably get a microphone because he was very quiet (even though the class was very quiet).
- Midterm Exam Difficulty Level: Since the midterm exam questions were relatively easy, they served well for checking fundamental knowledge but felt insufficient as a measure to gauge the difference in proficiency among students. As the overall scores were high, it is possible that the efforts of particularly dedicated students were not fully reflected in their grades.

  ?Constructive Suggestions? Going forward, I propose incorporating not only questions testing basic knowledge, but also more challenging problems that require applying the course's theories to unfamiliar scenarios and integrating multiple concepts for resolution. This would encourage students to engage in deeper critical thinking, test their ability to apply knowledge and demonstrate true understanding, thereby increasing motivation and the desire to challenge themselves in their learning.
- One thing that I felt was redundant, was how much time was dedicated to talking about introductory linear algebra. MATH 18 is a prerequesite to the course, and it covers all of the necessary material covered in the first 3-4 weeks. An improvement in my opinion would be to condense the first three weeks into about 1, and focus more on the newer linear algebra concepts, and the regressions/etc.
- Quizzes could be served as more of a showing up grade rather than an assessment. It will be more open to learning and trial/error. Midterms and finals were enough for assessment in my opinion.
- Slideshows felt repetitive and hard to follow, feel like theorems are important but do not need to be re-proven more than once.

- Some parts of the course materials may go beyond the expectation of that in an undergraduate course. For example, when it comes to multiple variances of gradient descent, some properties and algorithms were mentioned but not proved rigorously, and I was always lost during the transitions from one variance to another. This could be caused by a lack of explanation on the relationship between two topics or the motivations before diving into the next topic. Sometimes I didn't get where we were and whether the current topic had something to do with what's mentioned just now.
- While the quality of his explanations were excellent, the instructor did speak a little quietly at times, making it sometimes hard to understand. I would just suggest speaking into the mic a bit more.

16. Please describe any specific aspects of the course and/or teaching practices that your instructor used that created or interfered with a welcoming learning environment that valued and supported students from all backgrounds and identities.

- I appreciated the professor's effort in remembering the names of the students.
- Loved the lectures.
- Maybe more visualisations if possible because all the math towards the later end of the course is hard to understand conceptually.
- Nothing I felt very welcomed and it was a good learning environment.
- Overall, I felt that a welcoming and open learning environment was provided.

  During class, the instructor consistently listened to the opinions and questions of individual students with a patient and fair demeanor.

  The course materials and examples did not contain any specific biases or inappropriate expressions, which contributed to a secure and comfortable environment for everyone.
- Professor Wang became much better at recognizing when students were confused and adjusting the class to accommodate harder topics.
- The instructor was always willing to answer questions during class, piazza, and office hours in a helpful and timely manner.

Department Custom Questions

17. Do you think that the knowledge and skills you gained in the prerequisite course(s) sufficiently prepared you to understand and engage with the content of this course? Why/Why not.

- I think that additional prerequisites should be added to the course, like the entire MATH 20 series. Also, I think Math 31A should be the only prerequisite for linear algebra and not Math 18 to properly prepare students for the mathematical rigor of the course.
- MATH 18 is important for being introduced to linear algebra concepts. I felt that ECE 15 is not as helpful for this course since python and, particularly, pytorch, is used differently than the C language in ECE 15.
- No, all important linear algebra content was reviewed in the class. I did not feel prepared to derive and prove mathematical relationships, as the linear algebra class I took at UCSD was computation-focused.
- No, as I came into this course with a very shaky background in linear algebra especially. However, the instructor did an excellent job building the concepts up from scratch, and I was always able to navigate the course content reasonably well regardless.
- Python experience was not very necessary for this class. Linear algebra was heavily used, so math 18 prepared me very well.
- The preparation was sufficient. More accurately, as the instructor himself stated, the course was designed to "start from scratch," meaning extensive prior knowledge was not strictly necessary. As long as one diligently attended and followed the lectures, it was possible to fully understand the content.
- Yes
- Yes it did
- Yes, but I didn’t have a good linear algebra foundation and struggled with proofs which made it hard for me
- Yes, Math18 is a must for this class.
- Yes, MATH18 was necessary prerequisite and very helpful.
- Yes.

18. If I had the chance, I would take another course with this instructor.

12 (27.3%):	Strongly Agree
12 (27.3%):	Agree
9 (20.5%):	Neither Agree Nor Disagree
10 (22.7%):	Disagree
1 (2.3%):	Strongly Disagree
4:	[No Response]

Instructor Custom Questions

19. What one concept did you take from this class that will likely shape your future?

- A much better understanding of basal underlying machine learning concepts.
- Algorithmic concepts will shape my future and I will see them in many of my career outlooks.
- For the first time I seem to understand the fundamentals of linear algebra.
- Gradient Descent
- Honestly, I don't know, this is my first upper div class, so I don't know how I will use these concepts in my future job.
- I believe after taking this course that mathematical thinking will be crucial to my success as an engineer (I have not been asked to give proofs before in my classes)
- I think I have a good understanding of the linear least squares loss function
- I think is optimization. We can imagine life is a trajectory. All we can do is to perform some optimization tricks to make life easier.
- I think that the optimizers we learned, GD, SGD, Adam, and Lion, along with the idea of Kernels, were extremely fascinating and useful topics that I look forward to using.
- I think the LMS and gradient descent algorithms will be key in my future. Coincidentally, when those algorithms were being covered in this course, my ECE 155 course also started teaching about LMS and gradient descent. If it weren't for this course, I would be more lost in my ECE 155 class since the derivations of the algorithm is condensed and assumes the student has an algorithm background.
- Linear regression
- The concept I took from this class that will likely shape my future is the systematic understanding of the evolution and structure of optimization methods.

  I gained a deep understanding of the historical and logical connections between these techniques—from fundamental methods like linear and nonlinear optimization, to how they are derived and developed into modern algorithms.

  As someone studying in a technical field, optimization techniques are certain to become an essential tool in my future work and research. The greatest asset I gained from this course is not just the ability to use these methods, but the capacity to understand the classical mathematical foundations behind them and to select the appropriate technique depending on the problem.
- The thought process behind approaching optimization problems for machine learning (e.g, checking for linear independence, optimality conditions, iterative methods).
- Understanding stochastic based optimization methods:- why do we need it and how they are different from each other? For example, I always knew that we can use SGD for neural network weights update, but I never knew why we could not use vanilla gradient descent? Things like that really helped me understand the essence of optimization techniques used in ML/DL.

20. General comments about the Instructor's performance. Please keep your comments constructive and professional, abiding by the Principles of Community.

- Good
- Good job, very good teaching, I loved how you clarified any questions.
- I feel like the pace of the course is all over the place. With linear algebra being a prerequisite, I think we should've spent a lot less time on the linear algebra part of the class, so we have more time to review the material later in the class, especially considering how much harder the concepts are.
- I think Professor Wang did a great job teaching the course and made the course content very interesting. However, I would recommend that the structure of the course content be altered, so that there would be less time reviewing linear algebra and more time allocated to understanding harder concepts like kernel ridge regression and nonlinear least squares.
- I was happy with the course content and structure. I think that less time could be spent on fundamental linear algebra and more time on learning how to construct proofs/building a foundation to better understand the probabilistic derivations we did in lecture for SGD.
- Methodical. Felt like there was good learning, but class sessions felt very slow and sometimes repetitive. Too much time spent reteaching linear algebra principles.
- Overall, the instructor delivered an excellent performance, demonstrating great enthusiasm and a deep understanding of the course material.

  Clarity of Knowledge Transfer: Despite the highly specialized content, key concepts were explained very clearly and in a logical sequence.

  Area for Improvement: I felt there was slight room for improvement concerning the instructor's English pronunciation and the neatness of the handwriting on the slides. However, these issues did not impede understanding and were sufficiently compensated for by the overall clarity of the content.
- Professor Wang was very patient while explaining all the topics. He ensured that all the doubts were properly clarified before we moved on to the next topic.
- The classes are not as engaging which makes it hard to keep on track, also homework is marked on one question only which harms the grade quite a lot
- The classroom is kind of big contrasting to the instructor's voice. Maybe a microphone could be used to make the instructor heard.
- The instructor clearly has an excellent understanding of the concepts taught in this course; his ability to clearly explain long proofs step-by-step was quite impressive. The course structure is also very good. I think he could just do a slightly better job of communicating these concepts (speaking louder and into the mic).
- The pace of the course could go a bit faster; I don't think you wanna start with detailing a linear optimizer on class 1 and then review linear algebra (should be the opposite in my opinion)
- The professor did a good job presenting the content first, and then keeps the class engaging with handwritten proofs. I could tell that the professor knows a lot about the content of the course and communicated the concepts well.

Student Participation

21. What was/were your reason(s) for taking this course?

38 (58.5%):	Major/Program Requirement
1 (1.5%):	Minor
0 (0.0%):	College General Education
10 (15.4%):	Elective
14 (21.5%):	Interest
0 (0.0%):	American History and Institutions (AHI) Requirement
0 (0.0%):	Undergraduate Diversity, Equity and Inclusion Requirement (DEI) Requirement
0 (0.0%):	Jane Teranes Climate Change Education Requirement (JTCCER)
2 (3.1%):	Graduate Program Requirement
0 (0.0%):	Other

22. How often did you attend class and/or engage with course materials?

25 (53.2%):	Always
17 (36.2%):	Usually
4 (8.5%):	Sometimes
1 (2.1%):	Seldom
0 (0.0%):	Never
1:	[No Response]

23. Hours per week of work outside of class

2 (4.3%):	0-1
7 (14.9%):	2-3
6 (12.8%):	4-5
14 (29.8%):	6-7
7 (14.9%):	8-9
7 (14.9%):	10-11
3 (6.4%):	12-13
1 (2.1%):	14-15
0 (0.0%):	16-17
0 (0.0%):	18-19
0 (0.0%):	20 or more
1:	[No Response]

24. Expected grade in the course

26 (59.1%):	A
11 (25.0%):	B
7 (15.9%):	C
0 (0.0%):	D
0 (0.0%):	F
0 (0.0%):	P
0 (0.0%):	NP
4:	[No Response]

Additional Feedback

25. Is there anything else you would like to share about your experience in the course?

- I found this course to be a lot of fun, but I think the prerequisites should be changed to prepare students for the mathematical rigor of the course.
- The final exam could weigh less in my view.
- The transition to the next page/slide immediately after the instructor finishes the board writing is sometimes too quick. This results in difficulty in capturing the very last portion of the notes. However, since the lecture content is accessible through recordings, this issue does not pose a serious obstacle.
