

#ret #hw

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## 1 | Self Eval time.

*hey, we made it! :)*

### 1.1 | modern phys

What units or aspects of the class did you find most challenging this semester? What study habits or activities helped you cope with those challenges, and/or what did not work as well? - With Modern Physics, going deeper into concepts increases in complexity incredibly quickly. This increase in complexity made it hard for me to go about learning the way I normally do – trying to understand concepts at a deeper level and then relate them. To deal with this, I had to focus more on rigor when studying and taking notes, jotting down information with finer granularity. Making this shift was one of the more challenging things this semester.

What units or aspects did you find most interesting or engaging? Why were you drawn to this particular material? What do you envision doing with it in the future? - I thought that transistors and logic gates were super super cool. It's still amazing to me how these small properties and systems stack together to create impossibly complicated machines and tools. Looking first at how an individual transistor works, then how logic gates work, then how memory works was a super cool progression in layers of abstraction. As a programmer, going down to this incredibly low level was fascinating. This understanding of how layers of abstraction and complexity stack is something I'm quite confident will be useful when designing systems or doing research in the future.

### 1.2 | mathmod

TOPIC 1: Changing how you see the world 1A. I hope that this class has helped you to see math problems in new parts of the world where you might not have previously noticed them. On a scale of 1 (not successful) to 5 (very successful), how successful has this class been in achieving this goal? - 4

1B. What would have to change to move this number closer to 5? - Perhaps a brainstorm at the beginning of the year for finding math problems in unusual places, and another at the end of the year. - Can be short - I personally have a lot of fun brainstorming about cool problems that I don't need to worry about solving

TOPIC 2: Giving you confidence to attack problems without explicit instructions 2A. I hope that this class has helped you to try solving applied math problems that you might have previously assumed were beyond you.. On a scale of 1 (not successful) to 5 (very successful), how successful has this class been in achieving this goal? - 5

2B. What would have to change to move this number closer to 5? - N/A

TOPIC 3: COMAP Contest 3A. What were the pros of participating in this contest? - Learned ALOT. For our team, our lives were consumed by COMAP for around two weeks straight. - As well as learning a lot about problem solving and math itself, I learned a lot about tackling gargantuan tasks over longer time spans and optimal teamwork strategies

3B. What were the cons of participating in this contest? - While the grind was super fun, it was also decently stressful on both my teams bodies and minds. - Due to some last minute events, the end of the competition got very very crunched.

3C. Given the choice to do that part of the semester over, with an option to work on a teacher-guided problem instead, would you choose to participate in the contest, or to work on the teacher-guided problem?

- I would most likely choose to participate in the contest. While it led to a difficult few weeks, it also led to an immensely valuable few weeks.

TOPIC 4: How the class went 4A. If you could do this class over again, what would you do differently? What would you keep the same? - I would focus more on frontloading math and then expanding as opposed to doing as much research prior to the problem. - For COMAP, there is a plethora of minor things I would do differently to try and achieve greater success in the competition. - I would keep trying to work with people who I can learn a lot from

4B. If you were teaching this class, what would you do differently? What would you keep the same? - This class was absolutely wonderful and perhaps one of the most fun classes I have taken. If I were to teach it, I would avoid grouping the same people together repeatedly, and perhaps I would add around 10 minutes of optional reflection time after each problem in class. - The pacing of the problems felt really right.

4C. Tell me about one topic or math problem that you now enjoy thinking about as a result of this class. - Whenever I see a lake, I always start to think about what the bottom of it looks like..

### 1.3 | japanese

- One of the highlights this semester for me was the role play assignment. I really enjoyed coming up with the story and writing the script, being able to use all the new forms we just learned. I think I improved most with my cohesion of speech this semester, at the end being able to actually formulate sentences on to spot to communicate what I wanted too.
- Some of the more challenging tasks for me this semester were the kanji quizzes, as I spend a long time studying all the kanji. Next semester, I want to spread out my studying for the quizzes across a longer time so I can study more effectively.
- My goal for this semester was to expand the amount of different sentence structures I can use to express what I want to say. I definitely did do this!
- For next semester, I want to focus on improving the fluidity of my sentences.

### 1.4 | som

Write 3-5 sentences each answering the following questions: - Describe one surprising connection that you were able to make between your research and personal practices this semester? - Connecting to our learning about sleep, I noticed that I felt better even with the same amount of sleep when the sleep took place over a more consistent segment. I track my sleep with my watch, and often over the weekends when I get more sleep but shifted later in the day, I would still be quite tired and not function as well. Over the break, I am going to try to work on shifting my sleep to become more consistent regardless of the time of week.

- Describe the emotion practice that was most meaningful, helpful or useful for you. What did you learn about yourself by using this practice?
- My dad meditates every day after he wakes up and before he goes to bed, never missing a day. During the emotion practices, I decided to join him in this practice, however only before bed. I noticed that over the two weeks I did this, my sleep improved (as measured by the amount of times I woke up during the night) and my average heart rate dropped by ~20bpm! I struggled to meditate every night, but I'm going to try to figure out a way to do it consistently over the break.
- How do you plan on incorporating what you learned this semester into your life moving forward?
- I want to focus on sleeping more consistently, and meditating. Over the weekend I'm often up late as I don't have the deadline of an early wakeup the next day, so I just keep working until late in the

night. I think I'm going to try setting a hard deadline at night, where after that time, I don't start any new work. I've also started doing a lot more data tracking about myself, including sleep, heart rate, and also rigorous time tracking. This data has helped me see what is helpful, and when I can use it.

## 1.5 | english

1. In considering recent assignments, what are you proud of? (aspects of your writing process, your argumentation, growth in meeting a particular learning outcome, working with a partner, orally communicating your ideas, etc.) Knowing what I need to specify and how to specify effectively is a skill I've been working on throughout this semester. Especially in my recent assignments, I've gotten quite a lot better at this specification. This growth in both ability to specify and also knowing where to specify is something I am quite proud of.
2. What are your areas of strength in terms of *literary analysis* as we close the semester? Coming into this class, my areas of strength in terms of literary analysis were being able to grasp and create big picture connections. Throughout the semester, I have gained the strength of being able to clearly support these ideas from precise analysis of specific elements in the text. I have improved the most on clearly communicating the connections between different levels of abstraction, most commonly from the level of abstraction used when close reading to the level of abstraction of topic sentences.
3. What are your continued goals as a writer/reader/speaker for next semester? I want to work on improving my communication. Fundamentally, communication is what writing, reading, and speaking is all about. More specifically, I want to focus on tailoring my communication to fit my audience, as meaning not understood is worth as much as no meaning at all.

## 1.6 | compsec

Please write 1-2 sentences per question, or as much as you need to answer the question. Do not write your answers in the school website! If you reload the page by accident, your work is gone. Write them in Docs or Word or your favorite text editor and then copy them in.

Share an example of something that made you proud (for instance, a difficult problem you solved in one of your projects or an improvement you made to your work). - Though it wasn't my most successful assignment, I was quite proud of my Forensics submission. It was really nice to be able to clearly see the fruits of my perseverance once I finally solved the problem. I went in completely new to the field, and managed to come out with an answer! I also thought my NN hash was pretty interesting.

Of the concepts we discussed, which one(s) did you find most interesting or surprising, and why? - I found encryption and signing to be quite fascinating. It was super cool to think about ways that we can make data conditionally viewed with clever algorithms – PGP still amazes me.

What concepts did you find most challenging, and why? - Forensics was the hardest for me to feel like I understood how to do – in fact, I still don't feel like I understand how to do it. To me, forensics feels like a lot of guessing without a logical progression of steps. It's not just that the steps aren't clear, it's that the actual jumps between them don't make any sense. Perhaps this is the nature of constructed problems like these.

What are some ways that you displayed good habits of mind or contributed to a good learning environment in the class? - One of the things I love about classes like these is that I have the freedom to try things that I know I could fail at, and as a result, I learn a lot more. I utilized this freedom quite a bit, consistently trying things with no assurance of success. I also engage in these types of projects with my friends, like during the long block where Nick and I decided to try and build a secure chat application from scratch in two hours.

What was the most useful or memorable piece of feedback you received this semester, and how did you act on it? - I enjoyed thinking about and responding to the feedback on my Legal/Ethical Reflection assignment. By engaging with the feedback, I was able to deepen my understanding quite a bit.

## 1.7 | linalg

Please answer these questions thoughtfully and thoroughly- they are very interesting and helpful for me to read, AND reflection counts on your template, just saying. Then submit your responses on the Nueva webpage.

What was most challenging for you this semester? How did you respond to that challenge? - Linear Algebra is a very different type of math than what I'm used to. Thinking about it more, I think that what makes it feel so different is the granularity of importance when it comes to concepts. As in, small details and ideas hold much more importance than expected. Shifting to this level of granularity was one of the more challenging tasks this semester. I responded to this challenge by intentionally trying to be more rigorous when doing the exercises from the book, whether it be for proof presentations or just for practice. I also focused on linking concepts together, allowing me to find out what I was missing about a concept more easily if I needed to.

What are you proudest of from your semester in Linear Algebra - I felt like I really understood the content by the end of the semester, past just memorizing the definitions. While studying for the final and reviewing some of the older content from the beginning of the semester, I started finding all kinds of cool connections. Being able to achieve this type of understanding is one of the things I'm proudest of doing this semester in Linear Algebra.

How did you grow as a student this semester? - The nature of Linear Algebra forced me to be more rigorous than I am used to. Learning how to operate in an environment that required this, whether it be in class, while doing homework, studying, or note-taking, forced me to grow.

What role did collaboration and communication play in your learning process? - Linear Algebra dominates my friend-groups lunch conversations. I also started and maintain the Linear Algebra Discord Server, where people commonly ask for and give help to each other, or just share cool things relating to Linear Algebra. Collaboration and communication were vital to my process of learning Linear Algebra – not only is learning alone less effective, but much less fun.

What worked best or least best for you about the class structure? - I really liked the flow of how we went through the chapters in class. I also really liked splitting up into halves to do proof presentations. For future classes, I think it would be much better for the tests on Thursdays to be strictly at the beginning of the class if at all. I know that the point of having the possibilities of a test on Thursdays is meant to encourage people to thoroughly review the content, however not knowing whether we have a test or not during class just leads to more stress and less focused classwork. No one should be trying to cram studying in during class anyways. That being said, I thought that the possible tests on Thursdays did work well for checking understanding and giving clear direction for what needed review.

## 1.8 | hist

1. What is something that you are proud of about your work this semester? In this history class, we have the freedom to explore things we are genuinely interested in. While this may often leave us a little behind schedule in class, I find that it makes for an environment where I learn a lot more, and have much more fun while doing so. Of course, utilizing this freedom does require more work and more thought. This extra thought was something I consistently put into my work.
2. Looking forward, what goals or areas of improvement do you have for next semester? I want to do more with historiography and the concept of how context changes how our view of historical events evolve. I also want to work on dealing with multiple different levels of abstraction elegantly in my writing.