Student Evaluation of Teaching

Instructor: Christensen, Jens G. Course: Linear Algebra

17 surveys / 19 enrolled in MATH 214 A (MWF 0920

Student:1

Reason(s): Exploration of possible major or minor

Interest in the course material

Additional Reason(s):

<u>Effort:</u> The effort I put in this course mostly consists of the time I spent on the weekly assignments and reviews before tests. I also spent considerable time reviewing topics which were covered in classes I missed. Overall I think I spent about 2 hours per week outside of class time.

<u>Understanding & Appreciation:</u> I took this course to see if I would be interested in doing a mathematics minor, and I think I have decided to do so. It was especially interesting to see the applications of linear algebra such as economic models and image compression.

<u>Intellectual Growth:</u> I like how Prof. Christensen includes proofs in both assignments and tests. It helps with fully understanding the course material instead of just memorizing it, and I think it is a skill that translates to pretty much every subject.

Quality: Prof. Christensen is very lenient and understanding. I especially appreciate how all the assignments were non-graded because there have been times I couldn't submit them in time, but I still ended up doing them later for reviewing for tests. I also like how he provides information about subjects beyond the level of the course as I think it sparks curiosity. Overall I really enjoyed this course and I'm glad I took this section.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: SA	3: SA	8: A	5: SA	2: SA	13: N
7: A	10: SA	14: A	17: SA	4: SA	21: N
9: A	15: SA	20: N	19: A	6: SA	22: N
12: A				11: A	
18: SA				16: A	

Student:2

Reason(s): Major or minor requirement

Additional Reason(s):

<u>Effort:</u> While I didn't always do the weekly optional homework, I would always make sure I could answer the questions on my own each week in preparation for our exams.

<u>Understanding & Appreciation:</u> I never really got to properly work with matrices, but after this course, I feel that I have a good introductory understanding of them.

Intellectual Growth: This course helped with my time management skills.

Quality: Professor Christensen was always very thorough when explaining the course material, and was always ready to answer any questions we had in as much detail as necessary.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: SA	3: SA	8: SA	5: SA	2: SA	13: SA
7: SA	10: SA	14: SA	17: SA	4: SA	21: SA
9: SA	15: SA	20: SA	19: SA	6: SA	22: SA
12: SA				11: SA	
18: SA				16: SA	

Student:3

Reason(s): Exploration of possible major or minor

Interest in the course material

Additional Reason(s):

<u>Effort:</u> I put in a good deal of effort every week, competing all homework's before their due date and studying aptly for all exams. <u>Understanding & Appreciation:</u> This course really helped me to understand the subject and I feel that I have a good appreciation for the course because of the class and Professor.

<u>Intellectual Growth:</u> This class taught be how to solve difficult math equations but, more importantly, different problem solving strategies that I can use outside of the class.

<u>Quality:</u> I found Professor Christensen to be a great professor, he made everything easy for me to understand and there was enough practice to prepare for homeworks and exams. The grading was fair and exams were not too hard.

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1: SA	3: A	8: SA	5: A	2: A	13: SA
7: SA	10: A	14: SA	17: SA	4: SA	21: A
9: A	15: SA	20: A	19: A	6: SA	22: SA
12: SA				11: SA	
18: SA				16: SA	

Student:4

Reason(s): Major or minor requirement

Interest in the course material

Additional Reason(s):

Effort: I would say I put a good amount of effort in this course. I made sure to come prepared with the slides for class to take notes on and attended office hours when I thought I needed the help in understanding the material.

<u>Understanding & Appreciation:</u> This course helped contribute to my understanding and appreciation of the course subject by allowing me to explore different concepts and applications regarding math.

<u>Intellectual Growth:</u> This course helped contribute to my intellectual growth and education by providing me with material that challenged me and motivated me to change my study habits as well as changed the way I took notes in class to help me better understand it.

Quality: I would say the quality of teaching was great. The slides helped keep material organized and made it easy to go back to when it came to studying for exams. Additionally, the homework feedback helped provide an understanding of what concepts I needed to focus on. Professor Christensen also made sure to become available during office hours for any questions which was helpful.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: SA	3: SA	8: SA	5: A	2: SA	13: SA
7: SA	10: SA	14: SA	17: SA	4: SA	21: NA
9: SA	15: SA	20: SA	19: A	6: SA	22: A
12: SA				11: SA	
18: A				16: SA	

Student:5

Reason(s): Major or minor requirement

Additional Reason(s):

Effort: I put my full effort into this course because I am interested in the material. If I didn't understand something I made sure to go to office hours to get extra help on the material.

<u>Understanding & Appreciation:</u> The course helped me appreciate the importance of using matrices and linear algebra. It showed me that linear algebra is used in almost everything which helped me appreciate the material.

<u>Intellectual Growth:</u> The course helped me learn how to prove concepts not just apply them. We went over many proofs in class and we had to make proofs on tests and homework which really helped me grow intellectually.

Quality: Professor Christensen did a great job of explaining hard concepts and held office hours 4 days a week which made him very accessible. The course material is hard, but his accessibility and presentation of the material made it easier to understand. He also did a great job of showing how concepts from class are used in the real world. This helped me stay engaged and excited about the material. Also, his humor in class made the class more interesting and it made me want to attend class.

Effectiveness Conveying Course Material	Teacher-Student Interaction and Rapport	Course Standards and Challenge	Grading and Evaluation	Student Self-Rated Learning	Other Aspects of Teaching
1: SA	3: SA	8: SA	5: SA	2: SA	13: A
7: SA	10: SA	14: SA	17: SA	4: SA	21: A
9: A	15: SA	20: SA	19: SA	6: A	22: SA
12: SA				11: A	
18: SA				16: SA	

Student:6

Reason(s): Major or minor requirement

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Additional Reason(s):

<u>Effort:</u> This class took not much time for homework, something that was very nice compared to most math classes. The major time sink of this class was the preparation for exams, which I would estimate taking around 10 hours per exam.

<u>Understanding & Appreciation:</u> This class did a moderately good job of help me understand the material, however I will say the class was a bit abstract at times. However this abstractness was helped by having Friday's be solely for example problems and questions. However I would say that my majority of learning from this class came from the Friday class days, as I'm not a very abstract learner. I will also say this class spent too much time on proving the math we were learning, instead of spending it going over the actual implementation of the math, or proofs that were more similar to the ones on our exams.

Intellectual Growth:

Quality: Professor Christensen did a great job this semester, with making a very hard subject fairly approachable. However I would say there were a few pieces of improvement for the class moving forward. Most of this is the way proofs are treated in this class. Many students got zeros on the section of each of the exam that was a proof, and I think this is an indication that the proofs on the exams need to be taught differently in class.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: A	3: A	8: SA	5: A	2: A	13: N
7: A	10: A	14: A	17: A	4: A	21: NA
9: A	15: A	20: A	19: SA	6: A	22: SA
12: A				11: A	
18: A				16: A	

Student:7

Reason(s): Major or minor requirement

Exploration of possible major or minor

Interest in the course material

Additional Reason(s): I love linear algebra.

<u>Effort:</u> I reviewed notes throughout the week and studied his lectures intensely to understand the proofs. I have put many many hours into teaching myself some of the course material because of how complex it could get.

<u>Understanding & Appreciation:</u> The professor was funny and approachable, so coming to class was educational and engaging.

<u>Intellectual Growth:</u> I was taught how to think critically about the material presented to me, and challenged to understand the complex relationships between the units. Overall I feel I've much improved in my studying abilities.

Quality: I feel that his lectures were too convoluted. I personally think spending class time working on problems and finding questions that arise from application examples would be more beneficial than walking through proofs for each new concept. It was hard to stay focused at times in class, and I ended up having to teach myself a lot of the application. Of course, going to office hours helped answer many of the practical questions I had, especially since he was very approachable. Still, I think making time for that in class would have been more beneficial to give students a better foundation of the material, before understanding the complexities of the proofs.

Also putting a test 2 days after thanksgiving break I feel was unfair and unnecessary. That causes a lot of stress during a break where we're expected to have some well-earned rest.

Effectiveness Conveying Course Material	Teacher-Student Interaction and Rapport	Course Standards and Challenge	Grading and Evaluation	Student Self-Rated Learning	Other Aspects of Teaching
1: N	3: A	8: SA	5: SA	2: A	13: D
7: N	10: A	14: SA	17: SA	4: A	21: NA
9: A	15: SA	20: SA	19: SA	6: A	22: SA
12: SA				11: SA	
18: SA				16: SA	

Student:8

Reason(s): Major or minor requirement

Additional Reason(s):

Effort: I would try to get the weekly homework done, but since it wasn't graded I often pushed it off.

<u>Understanding & Appreciation:</u> It made me realize how vectors are used in real life.

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Intellectual Growth: It helped my problem-solving skills

Quality: The lectures could be a little simpler, I did think the Friday classes where we went over practice problems were beneficial.

Е	ffectiveness Conveying Course Material	Teacher-Student Interaction and Rapport	Course Standards and Challenge	Grading and Evaluation	Student Self-Rated Learning	Other Aspects of Teaching
	1: A	3: A	8: SA	5: A	2: A	13: A
	7: A	10: A	14: SA	17: A	4: A	21: NA
	9: D	15: SA	20: A	19: A	6: A	22: D
	12: A				11: A	
	18: D				16: N	

Student:9

Reason(s): Major or minor requirement

Interest in the course material

Additional Reason(s):

<u>Effort:</u> I did the problem sets most weeks (ungraded) and studied for a few hours leading up to exams. This course probably required the least effort out out of my courses this semester.

<u>Understanding & Appreciation:</u> Course gave a great introduction to linear algebra. Areas of application (Markov chains, least squares regression in particular) were quite motivating in the framework of theory. Some of the more theory heavy topics also greatly increased my appreciation (abstract vector spaces).

<u>Intellectual Growth:</u> Proofs in lectures and the proofs on homework definitely increased my critical thinking skills beyond the course subject.

<u>Quality:</u> Great professor. Lectures were clear for the most part, and if a proof wasn't, Prof Christensen was great with getting feedback from thr class and handling questions. Fridays being dedicated to in-class hw questions also were particularly helpful (although it would sometimes make the lectures on Mon, Weds a bit dense). No weaknesses in teaching I can think of.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: SA	3: SA	8: N	5: SA	2: SA	13: A
7: SA	10: SA	14: N	17: SA	4: SA	21: NA
9: A	15: SA	20: D	19: SA	6: SA	22: SA
12: SA				11: SA	
18: SA				16: SA	

Student:10

Reason(s): Interest in the course material

Additional Reason(s):

Effort: I put a lot of effort into the course. I spent time studying for exams and tried my best on all assignments.

<u>Understanding & Appreciation:</u> The course made me see the applications of Linear Algebra. But there was definitely self-teaching involved because I would leave lectures confused about what was going on.

<u>Intellectual Growth:</u> I had to learn new skills through this course to prepare for exams and learn the topics.

Quality: The teaching in this class could be improved. Some strengths were the organization of slides and homework. There wasn't too much work given, but enough to practice what we learned. But the explanations could be improved because they were not clear and left me confused. When questions are asked, it doesn't help either.

Effectiveness Conveying Course Material	Teacher-Student Interaction and Rapport	Course Standards and Challenge	Grading and Evaluation	Student Self-Rated Learning	Other Aspects of Teaching
1: SD	3: SA	8: SA	5: A	2: A	13: D
7: SD	10: A	14: SA	17: A	4: A	21: SD
9: D	15: SA	20: SA	19: A	6: A	22: SA
12: A				11: D	
18: D				16: N	

Student:11

Reason(s): Major or minor requirement

Additional Reason(s):

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Effort: I put in a great deal of effort in this course, both in class and outside of class.

<u>Understanding & Appreciation:</u> I have never loved math, but I really enjoyed this class, particularly because of Prof Christensen's emphasis on applications and real-world examples of the theory we were learning.

Intellectual Growth: The interconnectivity of the theories has definitely taught me useful critical thinking and analytical skills. Quality: I think Prof Christensen was an effective instructor and was very personable and fun to have. Sometimes it seemed like we got bogged down in theory and proofs as opposed to numerical examples, but that is more of a subjective stylistic issue than an objective flaw.

Е	ffectiveness Conveying Course Material	Teacher-Student Interaction and Rapport	Course Standards and Challenge	Grading and Evaluation	Student Self-Rated Learning	Other Aspects of Teaching
	1: A	3: SA	8: SA	5: A	2: SA	13: A
	7: N	10: SA	14: A	17: A	4: SA	21: N
	9: A	15: SA	20: A	19: A	6: A	22: D
	12: SA				11: A	
	18: A				16: A	

Student:12

Reason(s): Major or minor requirement

Additional Reason(s):

Effort: I attended class and was attentive. During the first half of the semester, I completed the optional homework assignments each week, but did not do so in the second half. I studied for the tests by working through homework and practice problems given.

Understanding & Appreciation: This course has given me a good understanding of the material, as well as started to introduce some areas where this math is used in the real world.

Intellectual Growth: I do not think it did.

Quality: I think the quality of teaching was overall pretty good. I thought a strength was that the professor provided the notes digitally to print out before class. This made it much easier to follow along and try to learn the material, rather than rushing to keep up with writing down the math. I also thought a strength was the amount of practice problems that the professor both provided and did in class. Each Friday class was used for the professor to do problems in class, which were also given to the class a week before to do in advance. There were also numerous homework problems and extra problems provided each week. However, all of these problems were optional, as our only grade in this class is the four exams that we take. I would not necessarily call this a weakness of the teaching, as the problems are provided for anyone who wants to put in the effort, but probably made it so less people in the class used these, including myself.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: A	3: SA	8: SA	5: SA	2: N	13: D
7: N	10: SA	14: A	17: SA	4: N	21: NA
9: N	15: SA	20: A	19: SA	6: A	22: N
12: SA				11: A	
18: A				16: SA	

Student:13

Reason(s): Major or minor requirement

Additional Reason(s):

Effort: I put a lot of effort into this class. I showed up every day I could, went to office hours, and completed every homework assignment.

<u>Understanding & Appreciation:</u> This course helped me understand the subject by forcing me to think outside of the box when it came to answering questions that were asked. I appreciate this course more now due to my realization of how challenging the material is. <u>Intellectual Growth:</u> This course helped my intellectual growth by showing me things I can take outside of this class and into other classes.

Quality: The quality of teaching was okay. There was no textbook, and most of the PowerPoint slides were confusing without a detailed explanation, so I had to learn much from the internet. I think he could have integrated the students more by having us solve problems on our own instead of just showing us how he would solve them. I think those are two big things that need improvement to get people to understand the material more and do better in his class.

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1: D	3: SA	8: SA	5: A	2: A	13: N
7: D	10: N	14: SA	17: A	4: A	21: D
9: SD	15: A	20: SA	19: A	6: A	22: SA
12: N				11: A	
18: N				16: N	

Student:14

Reason(s): Major or minor requirement

Additional Reason(s):

Effort: There was a lot of effort put into this course because I felt like the subject itself is challenging especially when it came to proofs and more theoretical topics. However, I think the effort I put into this course was a fair amount and made me learn the material much better.

<u>Understanding & Appreciation:</u> The course taught me a lot about linear algebra and the fundamentals which gives me a baseline for later classes. I also think it was nice that the professor included some days where we learned about the application of the topics we were learning.

<u>Intellectual Growth:</u> Learning about the applications showed me just how much of technology uses linear algebra and how interconnected subjects like computer science and linear algebra are.

Quality: Overall, it was a very good quality course with high quality instruction. The strengths were definitely shown in the days where in class examples were given because those helped me learn the topics and how to do actual problems the most. Some of the lectures contained a lot of unhelpful information that was too theory heavy and we never ended up needing to know it. Also, the office hours probably could have been more spread out across the day as I had trouble attending more than 1 a week.

Effectiveness Conveying	Teacher-Student	Course Standards	Grading and	Student Self-Rated	Other Aspects
Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: A	3: D	8: SA	5:	2: N	13: SA
7: A	10: SA	14: SA	17: A	4: N	21: NA
9: SA	15: SA	20: SA	19: SA	6: A	22: N
12: SA				11: SA	
18: SA				16:	

Student:15

Reason(s): Major or minor requirement

Additional Reason(s):

<u>Effort:</u> This course was quite challenging for me. I put in a lot of work before each test re-reading and re-writing my notes, and I tried my best to understand the topics on a conceptual level. I attended every class and paid attention in the lectures.

<u>Understanding & Appreciation:</u> This course made it very difficult for me to understand the course material in a structured and coherent manner. I often found myself having to watch videos on the topics because I couldn't grasp the concepts enough in class and through my notes.

<u>Intellectual Growth:</u> This course made it very hard for me to apply the theory that we were learning to real world settings, as I was always confused about the specifics of the material itself.

Quality: I found that Professor Christensen had a good attitude and was somewhat structured in his method of teaching this class. Having said that, I very much disliked the use of powerpoint slides as our notes because I am someone who learns a lot better through writing all notes down on paper rather than simply adding to already given notes. The lectures were often confusing for me and I always found myself having to consult the internet for answers. I also disliked the grading criteria for the class, as there was no grade associated with completing the homeworks or showing up to class. I found that this completely disincentivized doing this and thus made it harder for students to get into a rhythm of having to submit evaluated work.

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1: D	3: A	8: SA	5: A	2: D	13: N
7: D	10: A	14: A	17: D	4: N	21: A
9: D	15: SA	20: SA	19: A	6: N	22: N
12: A				11: N	
18: A				16: D	

Student:16

Reason(s): Exploration of possible major or minor

Interest in the course material

Additional Reason(s):

<u>Effort:</u> This course required a lot of effort in terms of studying and reviewing. I spent a lot of time going over old homeworks and assignments in order to get a better understanding of the course material.

<u>Understanding & Appreciation:</u> This course contributed to my understanding and appreciation of the course subject as it dived into what linear algebra really is and how it is used in so many different real life things. For example, even photographs containing pixels will use linear algebra in order to increase their quality.

<u>Intellectual Growth:</u> Beyond the subject, my education was greatly improved by this course as I was able to explore math more in depth as it is the class I will most likely pursue for my major.

<u>Quality:</u> The quality of teaching in the course was good. Important strengths include being very available outside of class and providing good notes pre-written from moodle. Weaknesses include being very confusing when trying to explain some topics and not answering questions with the best explanation.

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Course Material	Interaction and Rapport	and Challenge	Evaluation	Learning	of Teaching
1: D	3: A	8: SA	5: A	2: A	13: N
7: N	10: A	14: SA	17: A	4: A	21: A
9: A	15: A	20: A	19: A	6: A	22: A
12: SA				11: A	
18: A				16: A	

Student:17

Reason(s): Major or minor requirement

Additional Reason(s):

<u>Effort:</u> I completed weekly homework assignments, went to office hours to ask about any questions I had, reviewed my notes, and completed the extra problems on each to gain a solid understanding on the concepts covered in class.

<u>Understanding & Appreciation:</u> I feel I have a good understanding of linear algebra. Coming into the course I did not know much about the subject so I found each lesson very interesting and insightful.

<u>Intellectual Growth:</u> Through learning how to write and present proofs I feel that now I have a better understanding of how to represent a mathematical argument and support it with evidence.

Quality: I thought the professor was very accessible and willing to help answer any questions. Sometimes his explanations during lectures and notes were a little confusing and I wish he provided answer keys to the homework. For me, I learn best when I can complete a problem and then check my solution. Because we didn't have keys my only option was to go to office hours which was helpful however, with many other students also there it was hard to ask all of my questions.

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1: N	3: SA	8: A	5: N	2: A	13: A
7: N	10: SA	14: A	17: A	4: A	21: SA
9: A	15: SA	20: SA	19: N	6: A	22: A
12: A				11: SA	
18: D				16: A	

Likert Key: SA=Strongly agree, A=Agree, N=Neither agree nor disagree, D=Disagree, SD=Strongly disagree, NA=Not applicable