

Individual Report for Rachael Norton (MATH_230-0_41: Differential Cal Multivariable)

Course and Teacher Evaluations CTEC Winter 2018

Project Audience 29

Responses Received 25

Response Ratio 86.2%

Report Comments

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-2-

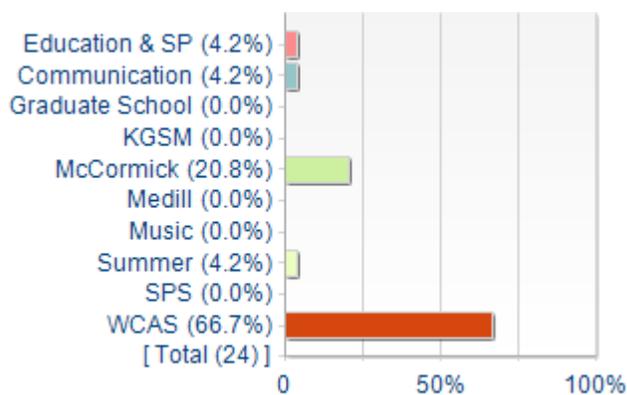
Northwestern University

Course Evaluations

Instructor	Course
Rachael Norton	MATH_230-0_41: Differential Cal Multivariable

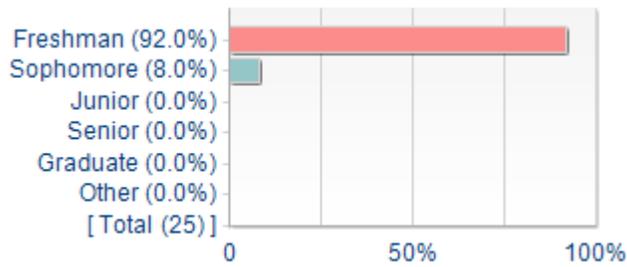
DEMOGRAPHICS

Your School



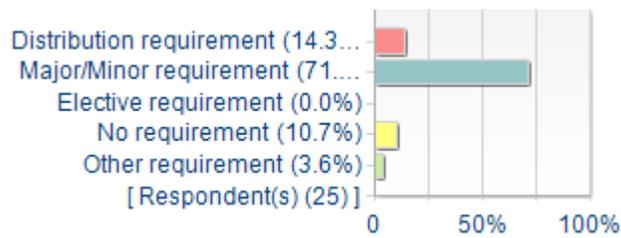
Options	Count	Percentage
Education & SP	1	4.2%
Communication	1	4.2%
Graduate School	0	0.0%
KGSM	0	0.0%
McCormick	5	20.8%
Medill	0	0.0%
Music	0	0.0%
Summer	1	4.2%
SPS	0	0.0%
WCAS	16	66.7%

Your Class



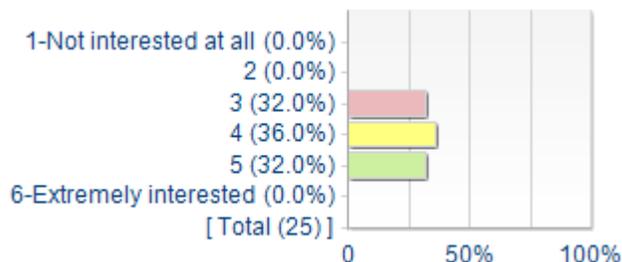
Options	Count	Percentage
Freshman	23	92.0%
Sophomore	2	8.0%
Junior	0	0.0%
Senior	0	0.0%
Graduate	0	0.0%
Other	0	0.0%

What is your reason for taking the course? (mark all that apply)



Options	Count	Percentage
Distribution requirement	4	14.3%
Major/Minor requirement	20	71.4%
Elective requirement	0	0.0%
No requirement	3	10.7%
Other requirement	1	3.6%
Respondent(s)	25	

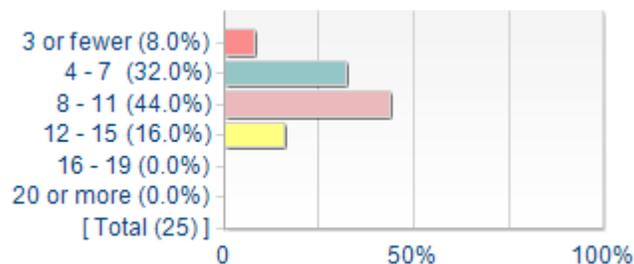
What was your Interest in this subject before taking the course?



Options	Count	Percentage
1-Not interested at all	0	0.0%
2	0	0.0%
3	8	32.0%
4	9	36.0%
5	8	32.0%
6-Extremely interested	0	0.0%

TIME-SURVEY QUESTION

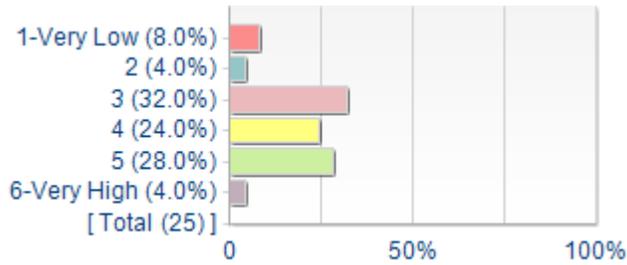
Estimate the average number of hours per week you spent on this course outside of class and lab time.



Options	Count	Percentage
3 or fewer	2	8.0%
4 - 7	8	32.0%
8 - 11	11	44.0%
12 - 15	4	16.0%
16 - 19	0	0.0%
20 or more	0	0.0%

COURSE QUESTIONS

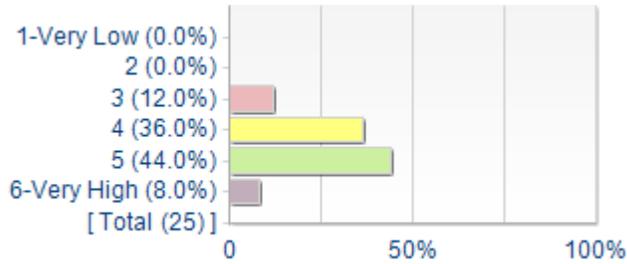
Provide an overall rating of the course.



Options	Score	Count	Percentage
1-Very Low	1	2	8.0%
2	2	1	4.0%
3	3	8	32.0%
4	4	6	24.0%
5	5	7	28.0%
6-Very High	6	1	4.0%

Statistics	Value
Response Count	25
Mean	3.72
Median	4.00
Standard Deviation	1.28

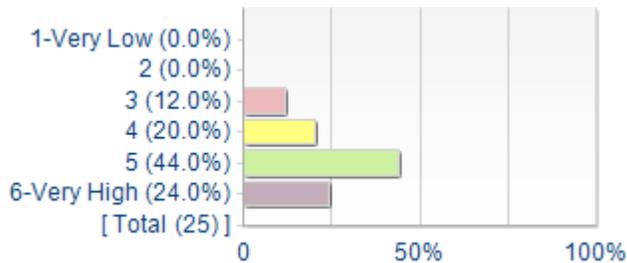
Estimate how much you learned in the course.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	3	12.0%
4	4	9	36.0%
5	5	11	44.0%
6-Very High	6	2	8.0%

Statistics	Value
Response Count	25
Mean	4.48
Median	5.00
Standard Deviation	0.82

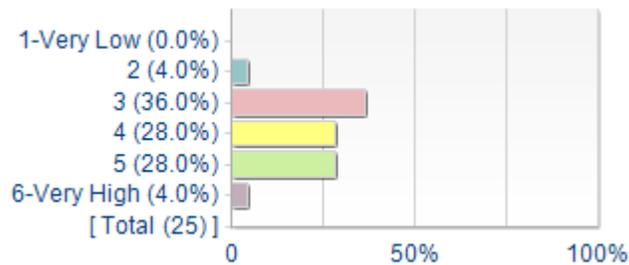
Rate the effectiveness of the course in challenging you intellectually.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	3	12.0%
4	4	5	20.0%
5	5	11	44.0%
6-Very High	6	6	24.0%

Statistics	Value
Response Count	25
Mean	4.80
Median	5.00
Standard Deviation	0.96

Rate the instructional materials (texts, audiovisual materials, etc.) used in this course.

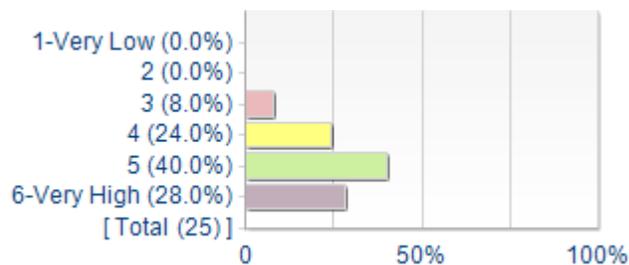


Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	1	4.0%
3	3	9	36.0%
4	4	7	28.0%
5	5	7	28.0%
6-Very High	6	1	4.0%

Statistics	Value
Response Count	25
Mean	3.92
Median	4.00
Standard Deviation	1.00

INSTRUCTOR QUESTIONS

Provide an overall rating of the instruction.

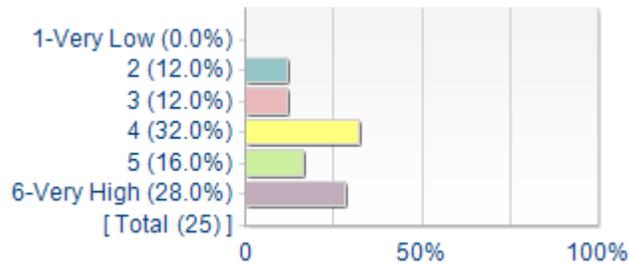


Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	2	8.0%

Options	Score	Count	Percentage
4	4	6	24.0%
5	5	10	40.0%
6-Very High	6	7	28.0%

Statistics	Value
Response Count	25
Mean	4.88
Median	5.00
Standard Deviation	0.93

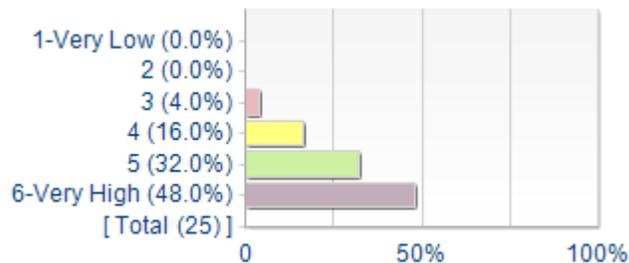
Rate the effectiveness of the instructor in stimulating your interest in the subject.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	3	12.0%
3	3	3	12.0%
4	4	8	32.0%
5	5	4	16.0%
6-Very High	6	7	28.0%

Statistics	Value
Response Count	25
Mean	4.36
Median	4.00
Standard Deviation	1.35

Rate how well prepared the instructor was for the class.

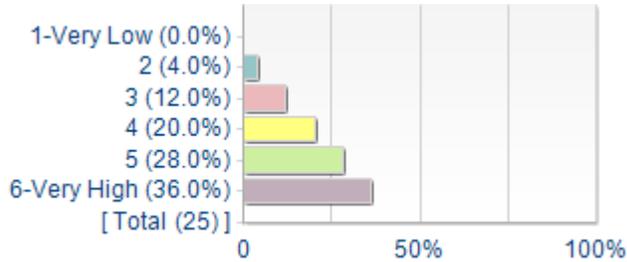


Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	1	4.0%
4	4	4	16.0%
5	5	8	32.0%
6-Very High	6	12	48.0%

Statistics	Value
Response Count	25

Statistics	Value
Mean	5.24
Median	5.00
Standard Deviation	0.88

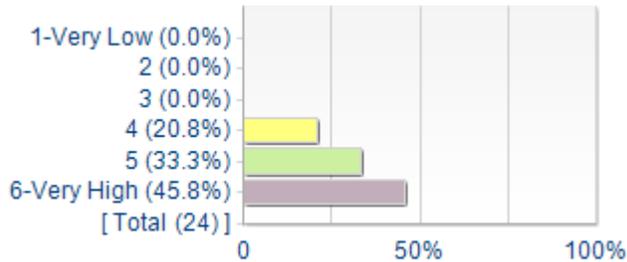
Rate the effectiveness with which the instructor communicated course content and ideas.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	1	4.0%
3	3	3	12.0%
4	4	5	20.0%
5	5	7	28.0%
6-Very High	6	9	36.0%

Statistics	Value
Response Count	25
Mean	4.80
Median	5.00
Standard Deviation	1.19

Rate the instructor's enthusiasm in teaching this class.



Options	Score	Count	Percentage
1-Very Low	1	0	0.0%
2	2	0	0.0%
3	3	0	0.0%
4	4	5	20.8%
5	5	8	33.3%
6-Very High	6	11	45.8%

Statistics	Value
Response Count	24
Mean	5.25
Median	5.00
Standard Deviation	0.79

OPEN-ENDED QUESTIONS

Did the course help you learn? Why or why not?

Comments

Yes but it was primarily self learning.

The course was a little fast-paced, and at times I wished we had not learned as much material as we did given the short amount of time; however, I did learn a lot, but only after dedicating a lot of time outside of class to go through the concepts. The teacher was also very helpful during office hours.

The discussions did not help AT ALL, the worksheets were too difficult and nobody learned from them (I talked to people in other discussion sections and this seemed like every universally agreed that they were unhelpful and quite frankly a waste of time). Webassign took way too long to do. Also the written homeworks were also way too hard for no reason and took forever. On top of all this, the entire class STILL messed up the midterms. Says a lot about the quality of the math department here at Northwestern.

The webassigns reinforced the material. Professor Norton was by far the best math teacher I have had at Northwestern. The problems were fun

This course did not particularly help me learn. I found the class to be relatively disjointed - lectures, written homework, WebAssign, and exams all seemed to have different emphases.

Yes, it was all new material for me.

It was nice to be able to build off of single variable calculus in a lot of topics. The webassigns helped as well as the written homework. This is a subject where you do much better if you do all the assignments, because mastering topics in this class takes practice.

Good course material, but the department is not good.

The course helped me learn as both the professor and the textbook were useful and good at explaining concepts.

Yes, entirely through throwing material at me.

Yes

Yes, this course taught me new theorems, problems, and concepts I had never seen before.

Not particularly. The material is very difficult, but the professors did not adequately teach that difficult material.

This course helped me learn somewhat, albeit not very well. The homework didn't really help me practice the new material because half of the time I had no idea what was going on.

Course taught me how to memorize equations

It helped me learn. I learned the concepts and feel I have a decent grasp. But holy cow, it could've been approached so differently.

I had already taken this class in high school so it did not help me learn much.

Please summarize your reaction to this course focusing on the aspects that were most important to you.

Comments

This is not an easy math class. The exams are quite challenging, and most of the learning that you will do will be done by yourself. The webassign is extremely complicated, and the written hw is far more complicated. This class will take up time, and it primarily focuses on multiple dimensions (3d and 4d).

The course was difficult but was still manageable. It does demand quite a lot of time outside of class. Class time is mostly used to introduce the topics and (at least for me) was not enough time for me to fully understand everything. Only until going through it after class or going through office hours did I really get it. This being said, the textbook was actually pretty good at giving practice problems so I definitely recommend looking through it to keep on top of things.

The discussions did not help AT ALL, the worksheets were too difficult and nobody learned from them (I talked to people in other discussion sections and this seemed like every universally agreed that they were unhelpful and quite frankly a waste of time). Webassign took way too long to do. Also the written homeworks were also way too hard for no reason and took forever. On top of all this, the entire class STILL messed up the midterms. Says a lot about the quality of the math department here at Northwestern.

I just feel that some midterm elements were unfairly hard. And Webassign lost the practice another version, which is usually how I learn the material. Please put it back! But, professor Norton lectured well and was very accessible outside of class. Final was fair and doable. Written homework helped emphasize concepts. Discussion was unnecessary in the face of the conceptual practice that the hw provided.

This course was fine. Professor Norton was kind and willing to help students but was not very engaging. Homework, lectures, and exams often did not seem to emphasize the same material.

Comments

I was surprised that there were no quizzes (I liked that a lot) and instead during discussion section you worked on a worksheet the whole time. It made the class less stressful and more helpful

Barely any work since all the hw can be found online, but exams are challenging

While the class itself is manageable and moves at a good pace, the exams are a whole other thing. While the first midterm was ok, the second midterm and final were terrible. In general, I felt like the material we learned in class was at a much simpler level than the questions on the homework and exams. Basically, a lot of self study/ review is required if you don't want to fail completely.

I went to class, took some notes and did some practice problems, and then went to my dorm and did some more practice problems.

This is a very straightforward calculus class. If you stay on top of the discussions and assignments, the material shouldn't be too hard. However, the exams were extremely difficult even for those who were prepared, a problem the math department acknowledged. Do not take this class unless you are required.

This was professor Norton's first time teaching this class, so maybe the course material could have been taught more effectively, but for the most part the core information was taught well. And she does seem responsive to feedback also. The Webassigns can be irritating sometimes because they can range from being somewhat easy to tackle to way too difficult for the scope of this class and what you need to know for the midterms and final. This quarter the math department also introduced weekly written homeworks so that was an extra thing to think about. Discussion section wasn't particularly engaging and for the most part just felt like something to get over with to get the attendance credit.

Hard course, so take advantage of office hours and your peers to help you

This course has a very quick pace, but it sometimes spends time on pre-calculus and single variable calculus concepts as review before introducing new multivariable concepts. This class is definitely possible if you make an effort to keep up with the homework and look in the book when you are confused.

This course is extremely difficult. The tests are much, much harder than the examples done in class and even the WebAssign.

Rachael is LOVELY. whatever logical or silly question you have, she helps in any way she can. she's understanding and also teaches the class material well.

I definitely learned new material. However, I'm not sure it was worth going to lecture because the midterms were pretty difficult and attending class didn't seem to improve my score any. Also, the new written homework was rather time-consuming and the difficulty of the questions were sometimes beyond most of the people enrolled in the class. Overall, I wouldn't recommend taking this class unless you have to because you'll just unnecessarily stress yourself out.

The written homework and WebAssigns are so unhelpful. They are so complex and tedious and unnecessary that they do not even enforce learning. All of my learning from this class was truly a combination of lecture and preparing for the exams using old exams. Again, the WebAssigns are too difficult to learn from. The written homeworks were unrealistically challenging and honestly hurt my mathematical confidence. Also, who makes a WebAssign, written homework, AND an exam due at the same time? Just, wow, I could not believe it was happening. The WebAssigns are so annoying, pointless, and time-consuming that everyone just looks for answers on Chegg. I think this university is capable of realizing that there are much much much better way of enforcing mathematical knowledge in our brains rather than difficult-to-a-point-of-not-learning homework.

It was an interesting class, but I am a fan of math and I did already take this course in high school

What are the primary teaching strengths of the instructor?**Comments**

–She gives many examples of problems that will show up on webassign.

-Overall well structured lectures

She is very friendly and helpful during her office hours. I really recommend going to them if you find yourself struggling in the class or if you just want her to go over concepts that were covered in class. For the most part, I found that she lectured well and I especially liked that she went through step by step a lot of different practice problems.

Answered questions well.

Enthusiastic, approachable, caters to the visual learner, can explain complex concepts in such a way that a preschooler could learn them.

She takes time to address student's questions and presents only relevant information.

She is a fun instructor with a great attitude and will make your attitude about learning the material better in the process.

She did a lot of examples during lecture which helped a lot. Her style of teaching reminded me of middle school, but I liked that because I get so lost when the professor wizzes by everything without making sure everyone understands.

Great professor. Loved her classes!

Also is very helpful during office hours. She just wants you to succeed.

She speaks very straightforwardly and communicates the concepts in an easily understandable manner.

Comments

Standard teaching tactics.

She is very enthusiastic and tries to get class participation even at an early hour.

Prepared for teaching core class materials, determined to teach her best

Was prepared everyday

Professor Norton is very clear and quick with describing concepts, often doing a good job of relating what you learn back to concepts from lower-level courses to make everything easier to digest.

Professor Norton knows a lot about math and what she teaches.

it feels like she's improving and even learning more herself while teaching the students, and thus it feels like she's a student herself too, making it easier to ask every logical or illogical question to her.

Her enthusiasm for the class and knowledge of the subject.

Very good at explaining the problems and teaching us how to do everything taught

She is extremely nice and is very interested in making sure everybody participates.

What are the primary weaknesses, if any, of the instruction?**Comments**

-I felt that some things that showed up on the class was not properly emphasized on the class.

-Identifying level curves was super hard, please pay attention to this more next time.

-It was also hard to visualize 3D objects and understand conceptually many of the concepts. Next time, it would be helpful if you can just spend more time on how level curves relate to 3d graphs, how can you match level curves with the equation, etc.

Nothing really except that sometimes we would be in the middle of doing a practice problem in class and we wouldn't be able to finish because class was over. It sometimes is a little difficult to remember where we left off the next class.

None

Sometimes moved a bit slowly in the beginning of class and rushed a complex concept in the last five minutes of class.

She is not a very engaging lecturer, which makes it hard to sustain interest and focus.

Maybe do one less example and take a little more time on the other examples to make sure everyone understands concepts. At times I felt like I was just copying down work for 50 minutes.

She would randomly call on people to answer questions which I didn't think was very good and put people on the spot if they didn't understand the question.

The material covered in class was no where near the difficulty on exams and homework. I feel like the instruction needs to go into more depth/ cover more applications and practice problems.

Dwells for far too long on basic things that don't need to be dwelled on. Examples in class are way easier than homework, which is not helpful.

She can sometimes be confusing while explaining topics, and make small errors that complicate one's understanding.

This was her first quarter teaching this class

Sometimes went too fast

Though this is probably not her fault, she has to cover a lot of material very quickly, so sometimes lectures on difficult concepts seem very rushed.

Granted, this is not a very interesting course, so it is hard to engage students, so it is understandable that Professor Norton had a difficult time engaging students.

She sometimes couldn't explain certain topics effectively.

Some explanations were somewhat vague

She seems like she almost cares too much of what the students think of her, which makes it a little hard to learn the important things.

Can you offer suggestions for improvement?**Comments**

-Focus more on level curves and relationship with 3d graphs (min/max, saddle points, gradient, etc)

More review sessions and maybe even assign certain practice problems in the textbook that we should pay attention to and try out.

none

Spend a little less time with the warm up and get to the hard material faster so that you may spend more time on it

Comments

If she wouldn't wait indefinitely for students to answer questions, the class would move more quickly and be more engaging.

See weakness.

Nope

It would help a lot if the concepts in class were taught in a more application based manner (more practice problems like the web assign in class).

Don't waste class time asking basic questions about basic algebra. No one enjoys answering those, even if they know the answer. If it's something we should definitely know, just say it and move on. One gripe I've had is that the difficulty of class problems and homework do not correlate, and I feel it would be extremely helpful if we could cover more challenging problems as a class before having to figure it out alone for homework.

Don't call on people who do not volunteer.

Be more prepared in answering student questions

Give more examples not from the textbook

none

Nothing in particular: this is a hard course to teach because most students only take it for a requirement.

please use all the three boards in class. sometimes it's hard to catch up with you and write the questions down as fast as you can.

N^o

increase the difficulty of the practice problems