Student Evaluation of Teaching

Instructor: Christensen, Jens

Course: Real Analysis I

13 surveys / 15 enrolled in MATH 323 B (MWF 1020)

Student: 1

Reason: Major or minor requirement

Effort: I put a lot efforts in this class, the class is very tough. Every week I use about five to six hours to do the homework and the revision.

<u>Understanding & Appreciation</u>: I know now how the theorems come from which is helpful to my further study in math major. Intellectual Growth: It is helpful to my math logic.

Quality: Sometimes it goes too fast during the class, so I often got lost even though the notes are helpful.

Student: 2

Reason: Major or minor requirement

Reason: Interest in the course material

Effort: I put a lot of effort into this class, I study for this class at least twice a week and I have a general understanding of the subject matter

<u>Understanding & Appreciation</u>: The material covered in class was very interesting and I put a lot of effort into it to make sure I understand what is going on in class. Overall if I had taken this course much earlier I feel like I would have considered being a math major

Intellectual Growth: This course continuation of calculus and I learned a lot of useful techniques that I believe have expanded my critical thinking capacity

<u>Quality</u>: I think the prof is doing his best to make himself available to all students but u wish he had put much effort to students who were struggling in this class. It is not a big class and from my own experience I have made reapedly mistakes in every test that I probably wasn't aware of.

Also another reason I took this class was the fact that Real Analysis is a requirement for Econ students who are considering to go to graduate school and I wish professor could have shown the relevance of the material, in different field other than mathematis.

Student: 3

Reason: Major or minor requirement

Reason: Reputation of the instructor

Reason: Interest in the course material

<u>Effort</u>: This class has inspired me to work hard independently to arrive at proofs and solve problems. I never feel as though I've put in a lot of effort solely because I enjoy doing the work so much.

<u>Understanding & Appreciation</u>: This course has made me appreciate much greater not only the real numbers but the ways in which mathematicians can take simple axioms and properties and expand them into vastly complex fields of study using logical steps. This was a very good course (much better than Number Theory) at outlining the process of proofs.

<u>Intellectual Growth</u>: The nature of the course is to foster critical thinking and analysis (appropriately) abilities. This is not at all a class on memorization and is much more a class on recognizing patterns and creatively arriving at solutions. As such, this class has definitely contributed to my ability to use logic and sound reasoning outside of math.

<u>Quality</u>: Professor Christensen is an incredible professor. Not only does he have a passion for mathematics and rigor, he also has a passion for making students engaged and making sure they are grasping the, at times, quite complex mathematics. He genuinely cares about his students, which is always a trait of an excellent teacher.

Student: 4

Reason: Major or minor requirement

Effort: I reviewed the class notes everytime

after classes and finish the textbook's sample questions.

<u>Understanding & Appreciation</u>: It helped me by giving some examples to show how to apply theories.

<u>Intellectual Growth</u>: It helped me to solve a problem in a strict manner with certain steps and order. It also helped me to put all the things I learned into full use and try to explore more use of each theory.

Quality: The quality is pretty good, but sometimes I am overwhelmed by the notes and don't have enough time to think about it.

Student: 5

Reason: Major or minor requirement

<u>Effort</u>: Did all the homeworks on time by first attempting all problems by myself, ten seeking help through office hours and peers when I didn't understand. Attending almost every class expect when I was sick twice. Regularly went to office hours, read the book in conjunction with the course and in general put all the effort I could into this course.

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<u>Understanding & Appreciation</u>: Overall, I do not feel that it really helped. I now have a pretty basic understanding of some proofs of calculus based theorems but nothing really lasting or important. I didn't really appreciate anything about this course and wish it wasn't required for the major.

Intellectual Growth: Sort of learned some new proofs but overall this course was just about making it through for the major. <u>Quality</u>: Mediocre. Consistently cancelled or changed office hours for personal reasons, and only became truly "accessible" near exams. Classes were usually an onslaught of proof after proof with nothing really new or helpful if you had read the book ahead, although he did consistently stop to ask for questions. Grading for the class was fair, but individual exams I felt that he was very closed minded and wouldn't accept answers that we're correct if they were a different kind of correct than what he had envisioned. Consistently used the class as a pitch for the higher level course which I thought inappropriate given the amour of struggling students.

Student: 6

Reason: Major or minor requirement

Effort: I put much effort in this course.

<u>Understanding & Appreciation</u>: This course taught me how to do mathematic proofs.

Intellectual Growth: This course has greatly improved my logical thinking and analytical skills.

<u>Quality</u>: The course has good quality overall. The instructor explain the concepts and materials clearly. The examples presented in class help us further understand the theorems.

Student: 7

Reason: Major or minor requirement

<u>Effort</u>: This course has taken up all of my time and energy. I am taking another class pass-fail so that way I have more time to devote to this class. Way too time consuming if we are expected to be enrolled in other courses as well.

<u>Understanding & Appreciation</u>: I have learned a great deal however my efforts are not reflected in my grades. Grading is too harsh and exam questions to not coincide with examples from class.

<u>Intellectual Growth</u>: this course has solidified by realization that I as a math major am far more interested and skilled in applied mathematics than in theoretical mathematics.

<u>Quality</u>: professor Christensen is very enthusiastic about the subject. The class seems to be divided with half of the students excelling and the other. Half struggling to get by. He does not account for this and therefore the lower half of the class, who are all doing relatively poorly, are never granted a curve. While this may seem like an unfair request, we need this course in order to graduate and he does that realize that some of us are seniors who have no other chance to pass 323 again. He is very accessible in office hours but has trouble "dumbing down" to our level to answer our questions in a way we will understand. I don't think he realizes that some of us are not as instrinsicly intelligent as he thinks we are. As flattering as that is, it is very difficult to understand an topic when everything in the explanation is too confusing to understand.

Student: 8

Reason: Major or minor requirement

Effort: I spend the most time on this course of all my courses.

I spend multiple hours on multiple days doing the homework for this class.

I spend even more time studying for the tests.

<u>Understanding & Appreciation</u>: Honestly, I would not have taken this course if it wasn't required. I hate the material but it has been a little useful for other classes.

Intellectual Growth: I know more about math because of this course.

Quality: I believe that Jens makes a conscious effort to be available to his students, especially anytime near a test.

Jens makes the class as interesting as possible, but the material is so boring.

I think his grading is a little questionable sometimes; there is not a clear reason why points are taken off and why that amount of points are taken off.

With that said, Jens is very reasonable to talk with if there are any questions about grades.

Student: 9

Reason: Major or minor requirement

Reason: Interest in the course material

Additional Reason(s): None. Was requirement for major and I had interest in the subject.

Effort: Very considerable. The class I put the most time into this semester easily.

Understanding & Appreciation: It provided a new way of looking at and appreciating old information.

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<u>Intellectual Growth</u>: It allowed me to learn new methods of approaching problems and the basis on which many mathematical equations exist.

<u>Quality</u>: Professor Christenson cares a ton about his students and the material at hand. He understands it well but definetly could take more time providing examples and going through the signifigance of the proofs, as sometimes the class gets very mundane and frustrating as it is proof after proof and sometimes the context is lost. Overall, I've still learned a lot from the class and admire professor Christenson for his love of the subject and compassion for his students.

Student: 10

Reason: Major or minor requirement

Reason: Interest in the course material

<u>Effort</u>: I put a solid amount of effort into this class. The homework's due each week or every other week took on average around 4-5 hours and studying for tests took a long time.

<u>Understanding & Appreciation</u>: I had no idea what real number analysis was coming into this class and now I have a better grasp of the material.

<u>Intellectual Growth</u>: This class taught me how to study in a different way. While there is no way to study critical thinking skills independently, I learned the best way to study for this class, and things like this class is to go over the book and make sure I know exactly what the steps are.

<u>Quality</u>: The grading is extremely hard, but I can understand that if there are students getting 100's on tests. I think there should be a larger emphasis on the large picture, which is hard for a math class, but I find myself studying individual lines of individual proofs that I feel I will need to get good grades on tests and quizzes, and I don't feel like memorizing every single line of proofs is the best way to learn.

Student: 11

Reason: Major or minor requirement

Effort: I completed all the assignments and put a lot of effort in to studying for exams. This was probably the class that I put the most effort into.

<u>Understanding & Appreciation</u>: I definitely have a better understanding of Real Analysis now and see it's connection to calculus. While I'm not sure if I 'appreciate' the material, I see how it is relevant in the field of mathematics.

<u>Intellectual Growth</u>: Beyond just learning Real Analysis, this course helped me develop mathematical arguments and proofs. I think that this will help me in future courses, especially theoretical math courses.

<u>Quality</u>: Professor Christensen had a very good understanding of the material and how to teach it clearly. For the most part, he made himself very accessible during office hours, especially before tests and assignment due dates. The roughly biweekly assignments were very challenging, but were definitely fair and helped me understand the material. I have felt in previous classes that professors were assigning too much work that wasn't relevant to understanding the material, but that was not the case in Real Analysis. It sometimes felt that his grading was arbitrary or that he took off many points for small mistakes, but overall his grading scheme for the course was clear and I appreciated that he used two different grading schemes and gives you the higher final grade. Tests were also challenging but he made very clear which proofs and theorems we would have to know, which I appreciated as there are way too many to remember and understand them all. For the most part, I have understood the material in the way Professor Christensen has presented it, which is great because I expected to be really lost in this class at the beginning of the semester based on how other theoretical math classes have gone.

Student: 12

Reason: Major or minor requirement

Effort: I spent at least 2 hours on each homework assignment and studied for at least 15 hours for each test

<u>Understanding & Appreciation</u>: I personally have no interest in theoretical math, but had to take this for my math major. Jens however did show that some of the proofs were cunning and interesting.

Intellectual Growth: I learned a great deal about the reasoning behind the math that I have been using for years, which was valuable to me.

<u>Quality</u>: I feel that sometimes Jens was unfair in his grading and deducted points where it weren't necessarily needed. However, overall I felt that Jens did a great job explaining the information and presenting it clearly.

Student: 13

<u>Reason:</u> Major or minor requirement Reason: Elective within major or minor

Reason: Interest in the course material

Student Evaluation of Teaching

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<u>Effort</u>: I sometimes go to class unprepared (I did not review notes from last class beforehand), so I do not fully understand my Prof. teaching in that class. I take careful notes for classes where I have to put more efforts in catching up and learning independently, sometimes I am slower than the normal class base-->I do not fully understand & not fully engage in the class is rather my fault, not absolutely my Prof's fault.

<u>Understanding & Appreciation</u>: I like the materials. I think if I had put more efforts then this course would be awesome. Right now, am trying my best to finish this course, then I will self-study some of the materials again and in a more advanced level during the winter.

<u>Intellectual Growth</u>: It helps me understand the reasoning after all formula I have been applying in calculus. I learnt to manage my time and be less messy, be prepared in my lifestyle after this course. I also learnt to prioritize things.

<u>Quality</u>: Prof. Christensen is such a nice & warm hearted person who really cares about his students. However, some materials covered by him could have been done in a clearer way (or maybe the course material itself is hard). He gave me proofs, but I hoped he had explained beforehand the structure of the proofs, or helped (illegible) do some draft-thinking.