Fall 2016 Course Evaluations - Arts and Sciences and Engineering

Fa16-MATH-0145-02-Abstract Algebra I

Robert J Lemke-Oliver

Results of survey

Started: December 5, 2016

Ended: December 14, 2016

Reply rate: 74% (20 / 27)

Fall 2016 Course Evaluations - Arts and Sciences and Engineering

Student Course Evaluations play an important role in the effort to assess and improve teaching at Tufts. Your honest, constructive, and detailed feedback not only is essential for evaluating the courses you are taking now, but also will benefit future students. Responses are confidential, and instructors will gain access to anonymous results only after final grades are posted. Thank you for your participation.

Course Items:

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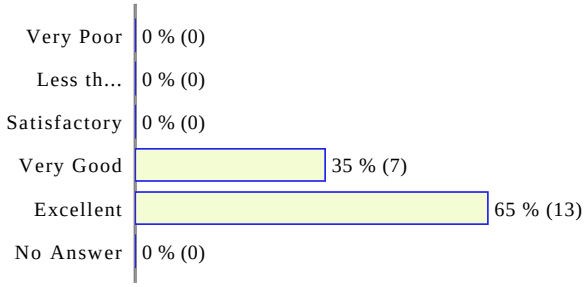
Course Questions

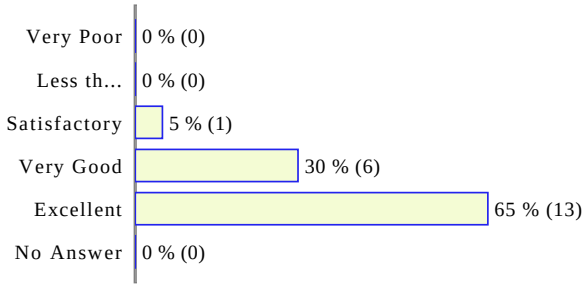
1. How would you rate the success of the course in accomplishing its objectives as stated on the course syllabus?

20 answers, mean = 4.65, std dev = 0.49



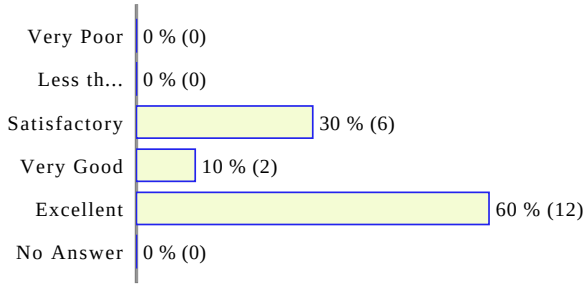
2. How would you rate the use of class time (lectures, discussions, demonstrations, labs, etc.) to promote your learning?

20 answers, mean = 4.60, std dev = 0.60



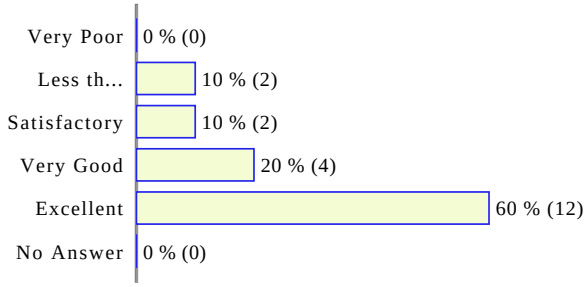
3. How would you rate the use of out-of-class activities (reading assignments, homework, papers, projects, etc.) to promote your learning?

20 answers, mean = 4.30, std dev = 0.92



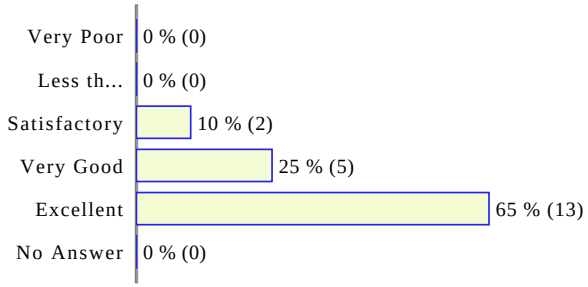
4. How would you rate the way the course engaged your interest?

20 answers, mean = 4.30, std dev = 1.03



5. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the course.

20 answers, mean = 4.55, std dev = 0.69



6. In what ways has this course made you think differently or more deeply? Please provide examples.

- Quotient groups are funky, and I have more tools.
  Ex: Uh…… my roommate was in the other section and he had the question "Prove that the summation through the divisors d of n of Eulers totient function of d=n". Over the summer, I did that problem using funky double counting, but it just gets slaughtered if you consider the cyclic group Zn with subgroups generated by phi d

- This course is an initial introduction to much more advanced mathematics. While it uses fundamentals built up in previous courses, it certainly looks at mathematics in a very different way. In order to answer problems, there is much more thought necessary, both for proofs and more "computational" problems.

- This was my first proof class, so it was a real struggle to do problems from even chapter 1 as it was the first time I was exposed to those things. My reasoning skills have definitely improved because of this class, and I am taking a lot away in terms of how my math abilities have improved.

- This course was my first exposure to very high-level, very

abstract mathematics. Though I had learned some of the material before, it's impossible to say that I didn't walk away with a much deeper understanding of mathematics than before. I've become more confident in my proof writing and my ability to reason through difficult concepts.

- Math and proofs and stuff. It's a deep subject. I dunno.
- made me think about different topics i had never explored before
- N/A
- This course has made me think of algebra differently.
- The derivation of i on the last day of class was pretty sweet. Wish I understood it a bit more!
- I have genuinely enjoyed the process of learning about Abstract Algebra. It's a tough class and the material is definitely tricky but I found it to be fascinating and unlike any math class I'd ever taken before.
- This course has helped me realize how similar seemingly distinct mathematical structures can be. In particular, I find it pretty fascinating that polynomials can essentially be treated like integers in many respects. I'm interested to continue to find more examples like this.

7. What aspects of this course worked best to facilitate your learning?

- The homework
- All aspects worked well. It was a very proof-driven course but there was also a good mix of more computational examples.
- The professor was excellent!
- Course was challenging, but at a good level that it forced me to work hard without being way over my head.
- Homeworks were decently tough and forced me to think through things, and Lemke Oliver was a great lecturer.
- The lecture style and weekly problem sets were extremely helpful. The problem sets are difficult enough to test deep understanding of the material, but easy enough to complete in a reasonable amount of time.
- Running through every result in class with a full proof has been important, since it helps me to remember and understand the results, and also provides examples of proof techniques, which is important.
- Robert is just the coolest, and explains things like a pro. He did very well for a first-timer.
- lecture and homework were helpful
- N/A
- I thought the organization was good, and how concrete properties related to numbers can be abstracted.
- I thought the lectures were quite good, and I liked that we sprinkled in examples in the lectures to understand the abstract structures we were building.
- Homework assignments were the most helpful, although they could have been more relevant to the exam material. Sometimes I felt like I couldn't connect my homework practice to the exams.
- I enjoyed the homework problem sets. They were challenging but engaging. Lectures were also high quality.

8. What suggestions do you have for improving this course?

- Give us harder homework. Not more, but more interesting problems. During the first bit of the course I felt like we had interesting problems, but the conceptual difficulty of them dropped.
- I wish the exams had been more aligned with what we discussed in class
- None.
- I would recommend dedicating more class time to solving problems rather than proving the theorems in the book, which have their own proofs in the text.
  It happened a few times that the professor didn't like the proof in the book, and wanted to supplement it with his own proof, and THAT was very helpful. But in most occasions, it's not worth going through the proof for a theorem in class, when it's written step-by-step in the book. If we are expected to read the textbook before coming to class, then we shouldn't need to reprove everything.
- The lectures were very similar to the textbook for the majority of the content, so there wasn't much of an added benefit to the lecture for those parts.

  Also, the homework and lectures were very focused on abstract concepts and proofs, but the tests were more focused on applications of those concepts with semi-computational problems. I think, to even it out, it would be more effective if problem-solving was more present in lecture and proofs were more present on the exams.
- Absolutely none. Everything has been perfect.
- The exams are very different from the homework, pretty much by necessity due to time limit--but a timed exam isn't a very good indicator of math learning. I'm not sure what would be better, though.
- Make it later.

  Just kidding, I know you don't have control over that.

  But seriously.

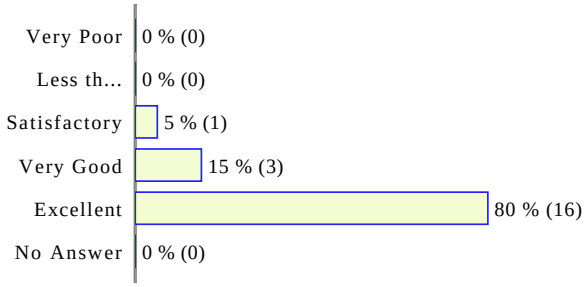
- Maybe more examples in class like those that show up on the homework and on exams.
  Please provide review materials/a study guide for the midterms because your exams are very different from the samples from other professors.
- provide more practice exams that will help us prepare for the midterms and finals and maybe shorten the exams.
- Thought the early focus on number theory wasn't as interesting as the later material. Wondering what amount of it could be cut in favor of having more / deeper content down the road. Thought there was a disconnect b/t the tests and homeworks; didn't enjoy the more computational test questions when I spent time studying more abstract concepts.
- just felt like we were moving really fast, would be helpful to do more examples in class
- N/A
- Maybe make it clearer how this could be applied to other subjects. Like maybe having an extra problem on the homework that make the students think of how to apply groups to solve the problem.
- The homeworks were mostly pretty good, but sometimes I felt that there were exam problems that were solidly harder than anything on the homework. I'm not saying the homeworks need to be way more work or anything, but maybe an extra challenge problem here or there to better prep for the exams would be helpful.
- I think that it would be helpful if the homework material was reflected the tests a little bit more. The tests are VERY challenging and long, and it would be nice if we had more preparation of what kinds of problems to expect (especially before the first exam).

Instructor/Evaluatee: Robert J Lemke-Oliver

Instructor Questions

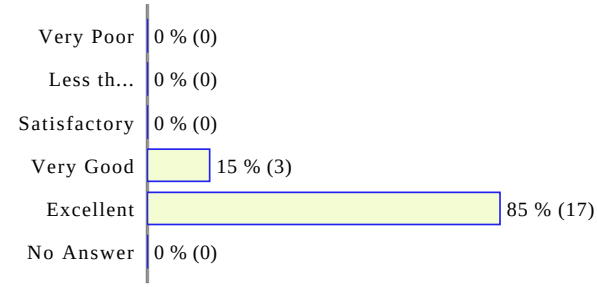
9. How would you rate the instructor’s organization of each class?

20 answers, mean = 4.75, std dev = 0.55



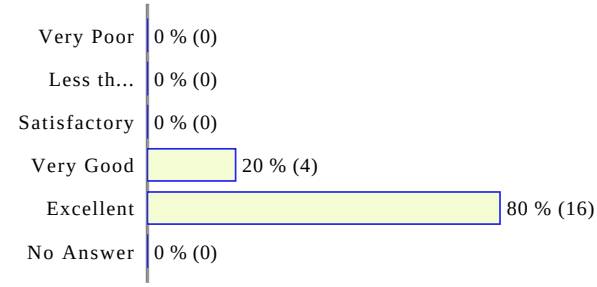
10. How would you rate the instructor’s success in explaining concepts and ideas?

20 answers, mean = 4.85, std dev = 0.37



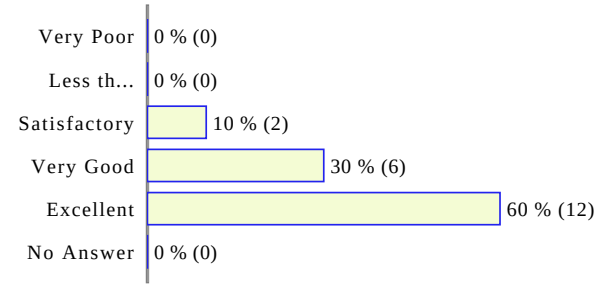
11. How would you rate the timeliness of the instructor’s feedback on assignments, exams, and other work?

20 answers, mean = 4.80, std dev = 0.41



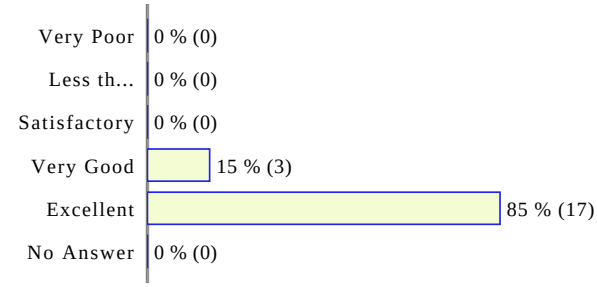
12. How would you rate the usefulness of the instructor’s feedback on assignments, exams, and other work?

20 answers, mean = 4.50, std dev = 0.69



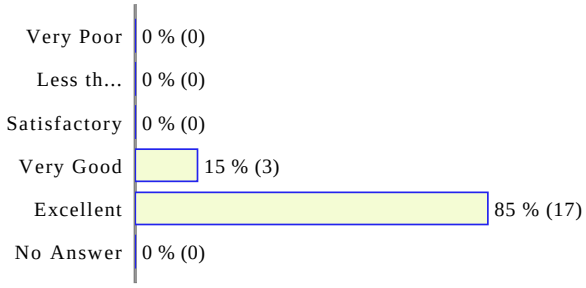
13. How would you rate the instructor’s success in creating and maintaining an inclusive class, respectful of all students?

20 answers, mean = 4.85, std dev = 0.37



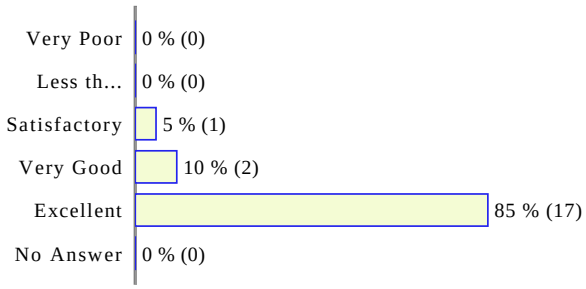
14. How would you rate the instructor’s communication with you outside of class?

20 answers, mean = 4.85, std dev = 0.37



15. Based on your answers above, and any other factors you consider important, please provide an overall evaluation of the instructor.

20 answers, mean = 4.80, std dev = 0.52



16. Please provide any additional comments regarding the instructor.

- Very good teacher
- Prof. Lemke-Oliver has done a fantastic job teaching this course. He is able to thoroughly and clearly explain fairly advanced topics without making them seem daunting. He comes very well prepared for each class or is just exceptionally knowledgeable on the material! I would very highly recommend him and any of his courses and I think his inclusion in the Math department is a big win for Tufts. Nice job!
- Great dude, would loved to have taken Abstract 2 with him next semester.
- Robert's been a great professor, and I'd love to take more courses with him in the future.
- A great class! Really appreciative
- You're the best, Bobby Lemke-Oliver but with no hyphen.
- Very clear lectures and explanations.
- Great prof. Made this lowly economist consider taking 146.
- Really enjoyed the class. I liked how you asked the class questions, and made the students think of the next step in the proof. It helped let the information sink in. You made it very easy to follow. The only thing I would suggests is that you could try to relate it to other subjects. I know with classes like this, things can get pretty complicated, and it is easy to lose sight of the big picture of what we are learning. So even a little nod to what this could be used for, or emailing the class an article about that involves the stuff we are learning could go a long way. Other than that though, you did a great job teaching the class.
- Very good. We fell behind sometimes which maybe is a flaw, but overall Professor Lemke Oliver was engaging and made me really enjoy the abstract material.
- I thought your teaching style was very clear and straightforward, and always felt that I knew what was expected on homework assignments. I think more in class examples could be good. We did a lot of proofs which were interesting but we never really had to replicate those or use them again on exams/homeworks, as we were allowed to use anything taught in class without proving it ourselves.
- Robert was an absolute pleasure. He demands a lot of critical thinking from his students and does not shy away from difficult tests. That said, he is more than fair and does everything he can to help his students achieve the most complete understanding possible.