

Math 338 - Topology

Final Exam

Fall 2012

1 The Final Exam

Each student will team up with his/her homework partner (or partners) to complete the final, which will have two parts. One part will be written, and the second part will be oral. The written part will be a course summary to be completed before the exam time and handed on or before Tuesday, December 18, at 12:00 noon. The oral part will be a short presentation about a topological topic that interests you. The presentation will be given during the scheduled final exam time (Tuesday, December 18, 12:00-3:00 pm) except for the two or three teams that choose to present on the last day of class.

1.1 Course Summary

The written portion of the final exam could be described as a course summary and should be fairly brief, somewhere between 1 to 10 pages, typed or typeset using LaTeX. This summary should include each of the items listed below. Somewhere in this summary you should include a brief explanation of what “topology” means to *you*, not necessarily a definition or rigorous explanation, but more of a “gut feeling”.

1. **Introduction:** Write a brief introduction.
2. **Outline:** Give a streamlined outline of the course. You should list the topics, definitions, and important theorems that we have learned throughout the semester. You do not have to list all of the theorems, but do your best to include the most important ones or most useful ones. You may (but this is not required) include any comments that you wish to make (either positive or negative) about any of these things.
3. **Special Topic:** Pick a topological topic that has piqued or peaked your interest, and write a brief blurb about it. This could be a topic we covered in class that you take to a much deeper level, a topic from the textbook that we did not cover in this course, or some other topic related to topology from an outside source. See more information below, as this is related to the oral portion of the exam. The written blurb should be brief, only a page or so, and should explain why this topic interests you.
4. **Conclusion:** Write a brief conclusion.

1.2 Oral Presentation

The oral portion of the final exam will be an in-class presentation (about 15-20 minutes in length, split evenly between each student and his partner. If there are three of you in a group, the presentation should be 25-30 minutes.) As part of the written portion, you picked a “special topic” that especially interests you. Again, this could be a topic we covered in class that you take to a much deeper level, a topic from the textbook that we did not cover in this course, or some other topic related to topology from an outside source. This presentation will be your chance to expound upon this topic.

I will leave it up to you to decide which topic to choose, but you will need to get my approval for the topic you choose. As for the presentation, you may want to give a general overview, you may want to find a specific detail to discuss, or you may want to discuss why the topic is important in the broader world of topology or mathematics in general. There are many approaches you can take. In any case, please explain why the topic interests you specifically.

After each presentation, your fellow students may want to ask you questions. Be prepared for this.

2 Great Job!

Good luck on this final exam! You have all done a lot of work this semester, and you have done extremely well. This final exam should be relatively stress-free. The written part should be easy, but I realize the oral part may cause some anxiety. I don’t want it to be some major project that causes pain and suffering. Instead, I want this to be fun for each of you. Have fun with it! If you have any questions or problems as you are preparing, please feel free to get some help from me or your classmates. Again, I want you to have fun with it.

You have all done well this semester. Keep up the good work, and don’t get stressed! It has been a great pleasure having each of you in class. Best of luck on the final!
