

Math 470: Topology

Fall 2012

Course Procedures

Professor: Josh Laison

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Office Hours:

Monday 10:30–11:30

Tuesday 10:00–11:30, at the Bistro

Wednesday 10:30–11:30

Thursday 3:00–4:00

or anytime by appointment or by catching me in my office. You can see my schedule and available times at <http://www.willamette.edu/~jlaison>

Class Meetings: Ford 301, 12:40–1:40, Monday, Wednesday, Friday

Textbook: Introduction to Topology: Pure and Applied, Adams and Franzosa

Course Web Page: <http://www.willamette.edu/~jlaison/topology.html>

Grading:

Homework assignments (approx. 10)	30%
Quizzes (approx. 7)	30%
Take-home exams (2)	30%
Class participation	10%
Total	100%

Goals of the Course:

- Gain knowledge of a variety of topological topics, including traditional introductory topology and more modern advanced topics.
- Provide a background for first-year graduate courses in topology.
- Improve problem-solving, logical, and analytic skills.
- Gain mathematical sophistication in thinking about problems more abstractly, and within a larger theoretical framework.
- Have fun.

Topics Covered: Point-set topology (Chapters 1–4) will comprise the first 1/3 to 1/2 of the course. We'll then branch out into a variety of topics, possibly including Analytic Topology (Chapters 5–7), Algebraic Topology (Chapter 9), Dynamical Systems (Chapter 8), the Jordan Curve Theorem (Chapter 11), and manifolds and the Classification of Compact Surfaces (Chapter 14). We will largely skip the applied sections of the text.

Homework assignments: These assignments will be due about once every week and a half. You are encouraged to work together on these problems and form homework groups. However, please write your solutions to these problems in your own words. You are expected to use L^AT_EX to write your solutions to these assignments. Please use the `\usepackage{setspace}` `\doublespacing` options in your preamble to give me enough room for comments. You may use the `\vspace*{2in}` command to leave space and draw in pictures by hand.

Please use the math hearth and my office hours often to work together and ask questions.

Quizzes: We will have an in-class quiz about once every two weeks. They should take about 30 minutes each. The quizzes will test your understanding of the more basic ideas of the course, including definitions, examples, and short proofs.

Attendance at the Math Department Colloquium: According to math department policy, since you are enrolled in a 400-level mathematics course, you are required to attend at least 4 mathematics department colloquium talks. The goal of this requirement is to expose you to a wider range of mathematics, and to make you want to go to more than 4 talks! I hope you will decide by the end of the semester, as I have, that math talks are a lot of fun. If you miss this requirement, points will be deducted from your final grade.

Disabilities: If you have a documented disability for which accommodations may be required in this class, please contact me to discuss your needs. Additionally, you will need to register with Disability and Learning Services in the Bishop Wellness Center within the first two weeks of class. All such discussions will be confidential.

Academic Honesty: Cheating and plagiarism are serious offenses and will be treated severely, in accordance with college policy. In addition, I am personally insulted by such behavior. So please don't do it. These are the practices I expect you to follow in each of the components of the course:

- **on the homework problems:** You may, and are encouraged to, discuss the homework with anyone, get help from your textbook, notes, computer algebra systems, etc. However, your submitted written work should be your own.
- **on the quizzes:** You may not use any sources, written, living or electronic, other than your professor.
- **on the take-home exams:** You may consult your text and notes. You may not discuss the exams with anyone other than me. Asking for assistance, or providing assistance to others, is cheating.