

# Math 651: Topology II

CB 343

MWF 2-2:50

Kate Ponto

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*Office:* 827 Patterson Office Tower

*Office Hours:* TBA

*Text:* *Topology* by Munkres, second edition

*Website:* [www.ms.uky.edu/~kate/651.html](http://www.ms.uky.edu/~kate/651.html).

Many fundamental questions in topology are very difficult to answer. For example, it can be difficult to determine if two topological spaces are homeomorphic. The idea of algebraic topology is to transform these questions to questions in algebra that may be easier to answer.

There are many ways to convert questions in topology to questions in algebra. This semester we will focus on the fundamental group and its applications. The main topics for this semester are:

- the fundamental group,
- covering spaces,
- the van Kampen theorem,
- the classification of surfaces.

These topics correspond to chapters 9 and 11-13 in the text.

*Exams and Assignments:* All exams and assignments should be neat, legible, and written in complete sentences.

Exams: There will be two exams during the semester. They are tentatively scheduled for:

Wednesday, February 23,

Monday, April 4.

If these dates change, an announcement will be made in class at least a week before.

Final Exam: The final exam for this course will be

Monday, May 2 at 1:00PM.

It will be cumulative.

Homework: Homework will usually be assigned each class and will be due weekly. Assignments and due dates will be posted on the course website. I will grade selected problems from each assignment and I will give partial credit. The lowest homework score will be dropped at the end of the semester.

I **strongly** encourage you to discuss assignments with other students, but your solutions must be written up independently. *Copying a written solution from another student and submitting it as your own will be considered cheating.* Please see the UK office of Academic Ombud Services website ([www.uky.edu/Ombud](http://www.uky.edu/Ombud)) for information about plagiarism.

Grades: Final grades will be determined using the following distribution:

	Percentage of course grade
Final exam	30
Exam 1	20
Exam 2	20
Homework	30

I will use the standard scale for assigning final grades.

*Alternative Texts:* If you are interested in additional references the following two standard texts may be helpful:

- *Algebraic Topology* by Allen Hatcher. This book is available on the author's website.
- *Algebraic topology* by Edwin Spanier.

*Academic Integrity:* All students are expected to follow the academic integrity standards as explained in the University Senate Rules.

*Attendance:* Class attendance is expected of all students.

*Classroom Demeanor:* Turn off all cell phones or other electronic devices prior to entering the classroom. An attitude of respect for and civility towards other students in the class and the instructor is expected at all times.

*Academic Accommodations:* If you have a documented disability that requires academic accommodations, please see me as soon as possible. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resources Center (Room 2, Alumni Gym, 257-2754, jkarnes@uky.edu) for coordination of campus disability services available to students with disabilities. We can then collaborate on the best solution.