Math 651: Topology II

Spring 2015
CB 343
MWF 10-10:50

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Office Hours: MW 1:30-2:30, T 1:00-2:00

Text: *Introduction to Topological Manifolds* by Lee, second edition.

Website: www.ms.uky.edu/~kate/teaching/s15_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.

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 25,
Wednesday, April 8.

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

Final Exam: The final exam for this course will be

Monday, May 4 at 10:30AM.

It will be cumulative.

Homework: Homework will usually be assigned each class and will be due **in class** weekly. Assignments and due dates will be posted on the course website.

Homework due dates are firm.

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) for information about plagiarism.

I am delighted to discuss homework. However, if you have questions please don't wait until the day before the homework is due to come talk to me.

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 texts may be helpful:

- *Topology* by Munkres, second edition.
- *Algebraic Topology* by Allen Hatcher. This book is available for **free** on the author's website.
- *Algebraic topology* by Edwin Spanier.
- *Algebraic topology* by Tammo tom Dieck.

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.