MAT 661: Introduction to Topology — Fall 2017

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Office hours: Tu 11-12, We 10-11, Th 10-11 and by appointment. I have an open door policy for short to medium questions.
Lecture: MoWe 2:15-3:35, 100 Carnegie

Course description: Topological spaces, continuous mappings, compactness, connectedness, path connectedness, separation axioms, metric spaces, quotient spaces, CW complexes, the fundamental group, and the classification of 2-dimensional manifolds.

Prerequisites: MAT 512 or graduate standing in mathematical sciences.

Text: *Topology: A Geometric Approach* by Terry Lawson, Oxford University Press.

Blackboard: All assignment, handouts, or other information will be posted on blackboard. Grades will also be recorded in blackboard, please check that they are recorded correctly regularly.

Grading policy: Reading Quizzes (5%), Homework (35%), one midterm exam (30%), and one final exam (30%). The midterm will be given in class, tentatively scheduled for **October 11**. You may work together on the homework, but you are required to hand in your own work. You must work alone on exams. Homework will be assigned roughly once a week.

Good mathematical exposition is expected on all written assignments. *Copying homework or exam solutions from any source, including the Internet, is considered cheating.*

Reading Assignments and Quizzes: There will be reading assignments due on most class meetings where we are covering new material. At the beginning of class, I will ask if there are any questions about the reading or about the material covered in the last class. Then there will then be a very short quiz consisting of one question that is either about the reading or the material covered in the previous lecture. The idea is that these questions should be straight forward if you've done the reading and paid attention in class. (and asked questions if you don't understand!)

The quizzes will be graded out of 3 points according to the following rubric:
0 points - not present for the quiz.
1 point - present for quiz but completely incorrect solution.
2 points - correct answer with incorrect justification or partially correct answer.
3 points - correct answer with mostly complete and correct justification.

The purpose of the reading quizzes is to foster participation in the class and also to get in the habit of reading math texts. If you are taking this class you are probably interested in doing research in mathematics or using advanced mathematics in some other area of scholarship in the future. In practice, when doing research (or studying for qualifying exams!) you'll be required to read and comprehend math texts on your own. Reading comprehension is a skill that can be developed, but reading math texts is quite different from other kinds of reading.

How to succeed: Here are a few basic suggestions for how to succeed in this course.

1. It is absolutely essential that you understand how to solve the assigned homework problems and, more importantly, how and why the skills and techniques presented in the course are used in solving the assigned problems.

2. Ask questions.

3. Stay caught up. Mathematical concepts build on each other and you need to stay on top of the material at every stage. If you are having difficulty, don't expect that the problem will disappear. Contact me immediately and discuss the problem.

4. Form a study group. Many students benefit from a study group to work through challenging problems and to review for exams. You should attempt the problems ahead of time by yourself and then work through any difficulties with your study partners. Explaining your reasoning to another student can help to clarify your own understanding.

5. You should expect to work hard. Don't get discouraged if you find some of the material very difficult. Be persistent and patient!

Students with disabilities: If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), located in Room 309 of 804 University Avenue, visit the ODS website- http://disabilityservices.syr.edu, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting academic adjustments. ODS is responsible for coordinating disability-related academic adjustments and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since academic adjustments may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal is to create learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, I invite any student to meet with me to discuss additional strategies beyond academic adjustments that may be helpful to your success.

Religious observances policy: Syracuse University's Religious Observances Policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they **notify their instructors no later than the end of the second week of classes** for regular session classes and by the submission deadline for flexibly formatted classes. Student deadlines are posted in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification.

Academic integrity: Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use

of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the Universitys academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. http://academicintegrity.syr.edu.

The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level.

Copying homework solutions from any source, including the Internet, is plagiarism and is considered a violation.

Ally Statement: I have participated in the safer spaces training program through the LGBT center at Syracuse University. Please let me know if you use a different name than the one that shows up on my roster, and also let me know the pronouns that you use. I strive to use gender-neutral language in the classroom (e.g. your classmate, singular they), but I have old habits and I am not always successful. Feel free to correct me if I make a mistake.