Math 500/460 - Geometry and Topology I
Fall 2012
Tuesday, Thursday 10:30 – 12:00pm, DRL 3C4

Instructor: Radmila Sazdanovic
Office: DRL 3C5
Office hours: Tuesday 1:00pm–2:00pm, Thursday 1:00pm–2:00pm and by appointment
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Text: *Topology*, J. Munkres, 2nd edition
Course web page: `http://www.math.upenn.edu/~radmilas/teaching`
Course Blackboard page: TBA

Course description: Topology focuses on qualitative rather than quantitative properties of (topological) spaces and how they change under continuous maps. The first part of the course is the point-set topology, containing notions and core techniques useful in many areas of mathematics.The second part is the introduction to algebraic topology, the window to most of modern topology and its applications. Formal prerequisites are Math 240/241, Math 360 or 508, but technically we will assume some familiarity with writing proofs. Some exposure to advanced calculus/real analysis would certainly be helpful. Some of the topics we plan to cover are: topological spaces, continuous functions, metric spaces, connectedness, compactness, quotients spaces, countability and separation axioms, Urysohn Theorem, manifolds, homotopy of maps, and the fundamental group.

Homework: Homework assignments will be distributed in class and/or on the course web page, typically once a week. They will be due as noted, usually on Tuesdays always at the beginning of class. You are responsible for being aware of the assignments and due dates. If you can not make it to class, put it in my mailbox before the due date.

Each homework will contain a reading assignment from the book, a list of exercises, and a list of problems. **You are expected to complete all the "exercises," but to turn in only the "problems."** Doing the full assignment is absolutely crucial! Late homework is not generally accepted.

You are welcome to work in groups, exchange ideas and help each other understand how to approach problems, but the work you turn in must be your own!You are can use other resources to solve the problems, but all of them must be cited in your homework (this includes Wikipedia and google as well as the names of other students you have work with on an assignment).

Homework must be legible, well-organized, and written in complete sentences. Handwritten work is fine, but you are encouraged to type up the problems in LaTeX.

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Exams: There will be two midterm exams and one final exam, according to the following tentative schedule:

- Midterm 1: in-class, October 11th

- Midterm 2: take-home,

- Final exam: December TBA

Please consult the schedule below, and let me know immediately if you have a conflict with these dates. If you miss a midterm for a legitimate reason you must provide documentation. All exams are to be taken under the University's Code of Academic Integrity (see below).

Grades: Your grade for the course will be determined based on the following factors:

Homework	40 %
Midterm exams (one take-home, one in-class)	15 % each
Final exam	30 %

Office hours: I will hold regular office hours at the times noted on the first page, unless I email or tell you otherwise in class. Alternatively, you may set up an appointment to meet with me.

Honor code: In this course, collaboration on homework assignments is allowed and encouraged, but the work you hand in must be entirely your own. You are not allowed to have any outside help (people, books, or notes) during exams, unless explicitly told otherwise.

Penn's Code of Academic Integrity will be strictly enforced.

ADA Compliance: The Office of Student Disabilities Service (SDS) is part of the Weingarten Learning Resources Center. It provides accommodated exams and assistive technology (along with many other services) to students that self-identify in compliance with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Please see their website `http://www.vpul.upenn.edu/lrc/sds/` for more information.