Bruno Benedetti

Syllabus for ``Topology I'', 531O and 631O, Fall 2016

Textbook: James R. Munkres, *Topology*, second edition, Prentice-Hall.

Content: The course will be based on chapters 2, 3, 4, 5, and 7. Paragraphs 1.1 – 1.5 (basic set theory and logic) are prerequisites, left for students to review. If needed, I will be happy to recall paragraphs 1.6 – 1.7 in the first week. Tentative outline:

- Finite, infinite, uncountable sets (1 week, if needed).
- Topological spaces; continuous functions; product and quotient topology (4 weeks)
- Connectedness and path-connectedness (1 week)
- Compactness, Tychonoff's theorem (2 weeks)
- Separations axioms, Urysohn's Lemma, Partition of Unity (3 weeks)
- If time permits: Completeness; Peano's curve; Classification of surfaces.

Grading policy: The grade will be determined by two midterms (equally weighted) and the final, which will be comprehensive. The homework, the participation, and the attention, will all play a key role in borderline cases. Homework will be assigned weekly, either as part of the lecture or through my teaching page, www.math.miami.edu/~bruno/teaching.html. There will be no homework in the weeks of tests. The homework will be collected on Fridays: all pages should be stapled together. Late homework will not be accepted. I strongly recommend doing the homework, as I find it the best way to prepare for the tests.

General rules: Cell phones and computers are not allowed. Makeups will be given only in case of documented medical excuse. The usual general rules of UM on honor code, behaviour etc. apply. I encourage cooperation *in the homework* (not in tests!), as long as you mention it explicitly (e.g. by writing on top "I solved exercises 1,2,5 with Mario, and exercises 3,4,6 with Luigi").

Office hours: I receive in Ungar 533 on Wednesdays, from 10:30 to 12:30; or by appointment. Coming to office hours is not compulsory, but recommended. Please do not wait the day before the exam to show up by the dozen. (I can only sit four.)

With this, I wish you a lovely Fall Semester at The U!

Bruno Benedetti
Assistant Professor