

MATH 569

Advanced Topics in Geometric and Differential Topology: Hyperbolic Groups Fall 2015

Location: TH 304
Time: MWF 10:00-10:50
Instructor: Michael Hull
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Office Hours: TBD

Course Description:

We will cover the algebraic, geometric, and algorithmic structure of hyperbolic groups. Along the way, we will study a variety of topics and techniques in geometric group theory, including: van Kampen diagrams, Dehn functions, and the word problem; small cancellation theory and the Rips construction; dynamics of hyperbolic isometries, boundaries of hyperbolic spaces, and the ping-pong lemma.

Lecture notes

I will be writing lecture notes for the course which I will make available on my website. I will be updating, correcting and adding to these notes as the semester progresses.

Homework/Grading

Homework problems and exercises will be assigned during the lectures and will typically be recorded in the lecture notes. Students are expected to work on these problems and be prepared to either present solutions or at least discuss the problems intelligently by the following class period. As long as there is adequate in-class participation, written solutions will not be required and all grades will be based on presentations of solutions to homework problems and participation in classroom discussions.

DISABILITY ACCOMMODATION

The University of Illinois at Chicago is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at UIC. Students with disabilities who require accommodations for access to and/or participation in this course are welcome, but must be registered with the Disability Resource Center (DRC). You may contact DRC at 312-413-2183 (v) or 312-413-0123 (TTY) and consult the following:

http://www.uic.edu/depts/oa/disability_resources/faq/accommodations.html.