

**AMAT 840: TOPICS IN TOPOLOGY: GEOMETRIC GROUP THEORY
SYLLABUS - SPRING 2018**

Instructor: Prof. Matt Zaremsky

Course meets: MWF 12:35–1:30pm in ES-153

Course Website: <http://www.albany.edu/~mz498674/teaching.html>

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Office hours: MF 10:25–11:20am, W 11:30am–12:25pm and by appointment, in my office.

1. TEXTBOOK

We will roughly work out of John Meier, *Groups, Graphs, and Trees*, but the exact topics covered will depend on student interest.

2. COURSE DESCRIPTION

Geometric group theory is a rather broad field, originally viewed as the study of groups thought of as metric spaces via their Cayley graphs and now including most topics involving a group acting nicely on a space. We will cover a variety of topics within geometric group theory, focusing on some particularly important groups such as Baumslag–Solitar groups, lamplighter groups, Thompson’s groups, matrix groups, automorphism groups of free groups, and more. Depending on student interest we may cover some more advanced topics of great current interest like $CAT(0)$ groups, mapping class groups, and right-angled Artin groups.

3. PREREQUISITES

Permission of the instructor.

4. HOMEWORK/GRADING

There will be weekly homework assignments. No late work accepted.

5. POLICIES

See university policies here (medical excuse policy) and here (academic integrity).