

MATH 499V
Section: 001

Geometric Group Theory
MWF 3:05 – 3:55
SCEN 322

Fall 2015
Prof. Matthew Clay

Office: SCEN 337

Email: mattclay@uark.edu

Phone: 575–5195

Course Website: <http://comp.uark.edu/~mattclay/Teaching>

Office Hours: Monday: 9:30 – 10:30, Tuesday: 3:00 – 4:00 and Friday: 9:30 – 10:30

If you are unable to use any of the above times, please make an appointment to see me.

Text: *Groups, Graphs and Trees*, by John Meier

Prerequisites: MATH 3113 or instructor’s permission

Goals: Geometric group theory is an exciting, relatively new field of mathematics that explores groups using tools and techniques from geometry and topology. A common theme throughout the field is:

Algebraic properties of a group are reflected in the geometry of spaces on which the group acts.

While the notion of a group forms a key component of an undergraduate education in mathematics, the above viewpoint is rarely taken. The typical undergraduate algebra curriculum focuses mainly on finite groups and students can graduate without being exposed to the vast and interesting world of infinite groups. The goal of this course is to invite students to explore this world by means of considering examples central to geometric group theory. We will cover most of chapters 1–5, 8–11 of the text.

Academic Honesty Policy: As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail. Each University of Arkansas student is required to be familiar with and abide by the University’s “Academic Integrity Policy” which may be found at <http://honesty.uark.edu>. Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

Class Conduct: Attendance (both physical and mental) in lecture is *mandatory*. Using a mobile device inappropriately counts as an absence and *you will be asked to leave the classroom*.

Exams: There will be two take home exams due on Friday, October 16 and Wednesday, December 16 respectively. You will be expected to do your own work without using any outside sources or assistance.

Homework: Homework is assigned weekly. Exercises will be selected from the text and other sources. *Homework assignments are very important to the learning process. Math is not a spectator sport, the only way to get better is to practice.*

Presentation: You will give a 20 minute presentation in the final week of the course. The presentation topic will be selected in consultation with me.

Course Grade:

- Participation - 10%
- Homework (weekly) - 30%
- Midterm Exam (Friday, October 16) - 20%
- Presentation - 20%
- Final Exam (Wednesday, December 16, 1:00 – 3:00 PM) - 20%

Letter grades: *A* : 100 – 90; *B* : 89 – 80; *C* : 79 – 70; *D* : 69 – 60; *F* : 59 – 0

Important Dates

Monday, August 24	Classes Start
Friday, September 4	Last day to drop without W
Monday, September 7	Labor Day
Friday, October 16	Midterm Exam
Monday, October 19 – Tuesday, October 20	Fall Break
Friday, November 21	Last day to drop with W
Wednesday, November 25 – Friday, November 27	Thanksgiving Break
Thursday, December 10	Last day of classes
Wednesday, December 16	Final Exam (1:00 – 3:00 PM)

See <http://calendars.uark.edu> for the complete academic calendar and final exam schedule.

Special Accommodation: Students who are registered with the Center for Educational Access must notify the instructor in writing by the end of the first week of class, or within one week of registering with CEA.

Inclement Weather Policy: Class will be held if the University is officially open. Allowances will be made if you are unable to safely reach the campus, but, bravely, class will go on! Do not call the Math office for inclement weather information. Instead, you should call the following telephone number: 575-7000.

Disclaimer: Information on this syllabus is subject to change. Any change will be announced in lecture.