**Math-551, Euclidean and Non-Euclidean Geometries**  Fall 2019

T,Th 11:00am-12:15pm, PH-381

**Instructor**: Richard Rimanyi

CP-429 (no phone in my office)

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**Course website:** [https://rimanyi.web.unc.edu/**math-551-geometry-2019-fall**/](https://rimanyi.web.unc.edu/math-551-geometry-2019-fall/)

**Office Hours**: Tu 12:15, Fr 2:00, or by appointment. Office hours are intended to help you get unstuck — not started — on homework problems. Good office hours questions tend to take the form “I tried X, but it doesn’t seem to work because of Y ; what can I do?”

**Prerequisite**: Math 381.

**Text**: online notes are available on the course website.

**Final** (according to UNC exam schedule): Thursday, December 12, 12:00-3:00.

**Goals.** In this course we will explore Euclidean geometry, spherical geometry, and hyperbolic geometry. We will study incidence and metric properties of each of these geometries. The philosophical aspects of the existence of multiple geometries will be discussed.

**About the course.** I will lecture on the key points and difficult concepts, but you will *need to read the lecture notes* for more details and *review your class notes* regularly. Questions in class are encouraged.

**Homework**: Weekly homework will be assigned on the course website. Your score on each problem will be based upon correctness and the quality of your presentation. No late HW will be graded.

**Group study** is encouraged. Collaboration on homework, or consulting a tutor or MHC is permitted. These rights, though, come with two responsibilities:

1. Write up your final solution independently from your collaborators. Copied work is unacceptable.
2. Acknowledge all collaborators and tutors by listing their names at the start of your solution.

Failure to shoulder these responsibilities constitutes an Honor Principle violation and will be dealt with accordingly.

**Midterms**: The tentative dates of the two midterms are October 3, November 14. There will be no make-up midterms.

**Grades** will be based on a total of 500 points.

Written Homework 100

Midterms (2) 200

Final 200

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Total 500

I expect that 60% would suffice for a D, 70% for a C, 80% for a B, and 90% for an A.

**No electronic devices** allowed in class.

It is expected that each student will conduct him or herself within the guidelines of the **Honor System**. All academic work should be done with the complete honesty and integrity that this University demands.