By now you've had time to get a feeling that there is more, lots more, to geometry than what you saw in high school. Your project is an opportunity to explore an avenue of geometry. You've had a chance to think a bit about project ideas. If you're still hunting for an idea, here's some places to look.

- Each chapter in our text has a section at the back titled Projects. Some of these offer a chance for exploration and would be suitable for course projects.
- David Henderson's text *Exploring Geometry* is on reserve in the library. Many of the later chapters have interesting topics to explore that would be suitable projects.
- There is enough material on fractal geometry to split into a few projects. Two famous books on fractals are on reserve.
- Historical projects are fine. Marvin Greenberg's text *Euclidean and Non-Euclidean Geometries* is on reserve and has nice historical notes. It could be a good place to start. It also has some other major project ideas in it that could be starting points.
- There are a few course ideas that we've had to pass by quickly to get to other things. Maybe you find error correcting codes, or other applications of finite geometry to be interesting. Or maybe taxicab geometry sparked your interest. Etc.

You will give a short presentation (10 minutes) during the last four class meetings (April 28, May 1, May 3, and May 5). The presentation is worth 1/4 of you project. In the presentation, your job is to share with the group the big picture of what you explored and what the highlights are. There isn't a lot of time in 10 minutes to present, so you will want to carefully plan in advance what you want to say. I can help provide any presentation needs (overheads, computer projector) if you desire (though this is not necessary).

The component to be handed in (worth 3/4 of the project) will consist of the equivalent of a paper of at least four and no more than 6 double spaced 12pt font pages. In it you will present what you learned about your topic. Think of it as a chance to encapsulate what you learned or discovered. Your paper should state at least one relevant theorem, though you need not prove it. (Even the historic papers should have no trouble finding an association with a clear mathematical statement). You must also give a separate list of references at the end of the paper. If your project has a significant non-written component (physical models, software, etc) it may be possible with my approval to modestly reduce the paper length.

Project ideas need to be approved by March 24. Please make an appointment (or drop by my office hours) by then.