

MATH 133 - Geometry

Prerequisites: MATH 031 (Applied Linear Algebra)

Textbook: “The Four Pillars of Geometry” by John Stillwell.

This course discusses various approaches to geometry, including Euclidean geometry, Cartesian geometry, linear algebra, projective geometry and groups of transformations. The instructor will cover a selection of the following topics.

- **Chapter 1.** Straightedge and compass
- **Chapter 2.** Euclid’s approach to geometry
- **Chapter 3.** Coordinates
- **Chapter 4.** Vectors and Euclidean spaces
- **Chapter 5.** Perspective
- **Chapter 6.** Projective planes
- **Chapter 7.** Transformations
- **Chapter 8.** Non-euclidean geometry

(The textbook is meant for a one-semester course, so it may be necessary to skip some topics).