

MATHEMATICS 410
GEOMETRY (3)
(EFFECTIVE SPRING 2006)

PREREQUISITE: Math 314

CATALOG DESCRIPTION: Euclidean geometry (Birkhoff's and Hilbert's Postulates), non-Euclidean geometries (hyperbolic and elliptic), finite geometries, transformational geometry, theory of area.

OBJECTIVES: The student will:

1. Work with finite geometries and their models.
2. Understand Hilbert's and Birkhoff's characterizations of Euclidean geometry.
3. Distinguish between neutral and Euclidean theorems.
4. Prove and use results in Euclidean geometry.
5. Use transformations to prove theorems in Euclidean geometry.
6. Write analytic equations for Euclidean transformations.
7. Understand models for hyperbolic geometry.
8. Perform basic computations in hyperbolic geometry.

TEXT: The Foundation of Geometry, Gerard A. Venema, 2006 ed. ISBN: 0-13-143700-3

OUTLINE:

CHAPTERS	TITLE	PERIODS
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