

# Bemidji State University

## MATH 3560: Classical and Modern Geometry

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Euclidean and non-Euclidean geometry, axiomatic systems, the geometry of solids, transformations, measurement, and fractal geometry. Prerequisite: MATH 2210.

**B. COURSE EFFECTIVE DATES:** 12/31/2003 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Development of geometry in the ancient world
2. Synthetic development of Euclidean geometry
3. Tessellations and polyhedra
4. Measurement
5. Axiomatic systems
6. Non-Euclidean geometry
7. Analytic and fractal geometry

### D. LEARNING OUTCOMES (General)

1. Appreciate the beauty and centrality of geometry within the mathematical sciences.
2. Understand the fundamental concepts and methods of geometry.
3. Analyze problems, discern structure and pattern and make conjectures in geometric contexts.
4. Apply creative and analytic thinking to develop clear and valid geometric proofs.
5. Communicate mathematical ideas and understanding effectively.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted