MATH 6550: Advanced Geometry

A. COURSE DESCRIPTION
   Credits: 3
   Lecture Hours/Week: 0
   Lab Hours/Week: 0
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None
   Historical development and theorems of Euclidean and non-Euclidean geometry, properties of polygons and polyhedra, tessellations of the plane, measurement and strategies for teaching geometry.

B. COURSE EFFECTIVE DATES: 01/08/2021 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. Advanced Geometry

D. LEARNING OUTCOMES (General)
   1. be able to reason mathematically regarding shapes, dimension, orientation, and perspective of geometric figures in the plane and in space.
   2. write and communicate geometric ideas effectively at different levels of formality: using intuitive, informal exploration and formal proof methods.
   3. display understanding of geometry and measurement from both abstract and concrete perspectives, and be able to use the tools of geometry to solve abstract and real world-problems.
   4. analyze and compare systems of geometry, including Euclidean and non-Euclidean, coordinate, transformational and projective geometry.
   5. examine the foundations and philosophy of teaching geometry from current and historical and perspectives.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted