

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY  
MTH 150 - TOPICS IN GEOMETRY (3 CR.)**

**Course Description**

Presents the fundamentals of plane and solid geometry and introduces non-Euclidean geometries and current topics. Lecture 3 hours per week.

**General Course Purpose**

This course is designed primarily to provide the student with a review of the fundamentals of plane and spherical geometry, and to give the student an appreciation for the uses of geometry. It is designed to strengthen the geometry background of elementary and middle school teachers and to enrich the materials and presentations that would be used in their classrooms.

**Course Prerequisites/Corequisites**

Prerequisites: Competency in Math Essentials Units MTE 1-5 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE units or equivalent. A student who provides official evidence of a minimum mathematics score of 520 on the SAT or a minimum score of 22 on the ACT taken within the last two years may register for these courses without taking the math placement test

**Course Objectives**

As a result of the learning experiences provided in this course, the student should be able to:

- present geometric definitions
- use visualization as a first step in solving a geometric problem
- recognize the fundamental properties basic to any geometry including those relating to parallelism, similarity, congruence, and measure
- utilize a scientific calculator and appropriate computer software in solving geometric problems
- understand measurement in a non-Euclidean system

**Major Topics to be Included**

- a. Van Hiele method as it relates to teaching geometry.
- b. Measurement
- c. Perimeter
- d. Area/surface area
- e. Volume
- f. Parallel lines
- g. Cross section visualizations
- h. Constructions including compass/straightedge and dynamic geometry software
- i. Transformations, rotations and symmetry
- j. Spherical geometry/Non-Euclidean geometry

**Optional Topics**

- o Tessellations