HONORS GEOMETRY
GRADES 9-10
(2 Semesters – Prerequisite: Algebra)

COURSE OVERVIEW:

Beginning with an acquisition of information about geometric figures in the plane, geometry develops an understanding of the inductive and deductive methods of thinking. throughout the year, problem solving is stressed in applying thinking skills and algebraic processes to mathematical situations. Geometry also includes work in space geometry, coordinate geometry, circles, areas and volumes. Concepts in geometry are pursued in greater depth. Participation in math contest is required.

UNITS OF INSTRUCTION:

Language of Geometry, Reasoning and Proof, Lines and Related Figures, Lines and Planes in Space, Congruent Triangles, Similarity, Right Triangles, Basic Trig, Cirdes, Polygons, Surface Area, Volume, Coordinate Geometry and Locus.

STUDENT OUTCOMES:

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| 1. | Write and speak the language of geometry. (9A, 9B, 9C, 9D) |
| 2. | Correctly interpret geometric diagrams. (9A) |
| 3. | Write two column proofs, simple and complex. (9C) |
| 4. | Understand the characteristics of theorems and the ways in which they can be used in proofs and problem solving situations. (9C) |
| 5. | Understand and apply the concept of congruent figures. (9C) |
| 6. | Identify and apply the properties of special types of quadrilaterals. (9C) |
| 7. | Recognize and apply proportions in similar triangles. (7C, 9C) |
| 8. | Understand concepts relating to planes. (9A) |
| 9. | Recognize and apply relationships within and among polygons. (9A, 9B) |
| 10. | Be able to use the properties of right triangles and the three basic trigonometric functions. (9D) |
| 11. | Recognize and apply theorems and definitions related to circles. (9B, 9C) |
| 12. | Understand and apply the concepts of area and volume. (9B) |
| 13. | Apply geometric concept to the coordinate plane. (9B) |
| | This course addresses the following state standards: 6A, 6C, 6D, 7A, 7B, 7C, 8A, 8C, 8D, 9A, 9B, 9C, 9D. |

MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

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| 1. | Keep an organized notebook. |
| 2. | Take notes. |
| 3. | Do homework problems. |
| 4. | Do semester projects. |
| 5. | Participate in class. |
| 6. | Explore mathematical concepts through individual, small group, and whole class investigations. |
| 7. | Summarize and apply learning to problem situations. |

ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

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| Rhoad. *Geometry for Enjoyment and Challenge*. McDougal Littell, 2000. (adopted 2001) |

(05/15/00)