

SYLLABUS
PART I
EDISON COMMUNITY COLLEGE
MTH 127S MATHEMATICAL FOUNDATIONS II
3 Credit Hours

COURSE DESCRIPTION

Second of a two course sequence designed for elementary education majors. Topics covered include introduction to probability, statistics, plane geometry, and coordinate geometry; and concepts of measurement and problem solving. Prerequisite: MTH 126S.

COURSE GOALS

The student will:

1. Describe and demonstrate use of the basic methods of problem solving.
2. Communicate using proper geometric vocabulary and justify the importance of using it.
3. Establish and use a procedure to find geometric relationships.
4. Describe relationships that form the fundamental properties of geometry.
5. Develop criteria for classifications of geometric shapes and make judgments about the effectiveness of the criteria.
6. Develop multiple ways to complete basic geometric constructions. These should include paper folding, using a Mira, and traditional construction tools.
7. Compare the metric system to the American measurement system.
8. Demonstrate a working knowledge of the metric system.
9. Justify the formulas used for perimeter, area, and volumes of commonly used shapes.
10. Create and solve problems involving the area and volume of figures.
11. Use coordinate geometry to compare, contrast, and analyze the properties of transformational geometry including translation, rotations, and reflection.
12. Identify symmetry and tessellations in patterns.
13. Use knowledge of similarity and congruence to design methods of doing indirect measurements.
14. Demonstrate the proper construction of graphs and other methods to display data and critique the effectiveness of each.
15. Describe data using mean, mode, median, standard deviation, and z scores.
16. Solve problems requiring a basic understanding of probability.

CORE VALUES

The Core Values are a set of principles which guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will incorporate and reinforce these Core Values frequently.

TOPIC OUTLINE

1. Informal Geometry
2. Measuring systems including Metrics
3. Transformational Geometry
4. Probability
5. Statistics