

MATH 1080: TEACHER PROGRAM PREPARATION AND CAREER DEVELOPMENT- MATH

Course Title: TEACHER PROGRAM PREPARATION AND CAREER DEVELOPMENT- MATH

Credit hours: 1 credit hour

Prerequisites:

- **MATH 0099 or Math Accuplacer Grid 2**
- **Completion of, or concurrent enrollment in, ENGL 0850 earning a C or better; or placement into ENGL 1002 or higher**

Course Description

This one-credit course provides an overview and review of required mathematics content and skills for admission into teacher certification programs and builds basic skills necessary for success in the field of teaching. This course provides an approach to career concerns, portfolio building, skill identification, self-awareness, and current trends in education today and is aligned with the Common Core State Standards for Mathematics. Topics include numbers and quantity, algebra and functions, geometry and measurement, and probability and statistics.

Course Objectives

1. Prepare students for the field of education as well as to help prepare students for admittance into a formal teacher certification program.
2. Understand the context of teaching and testing and current standards being used.
3. Further develop basic competencies in mathematics.

Learning Outcomes

1. Develop a deeper mathematical knowledge required for a career in teaching in grades K-12.
2. Apply critical thinking and problem-solving strategies in various mathematical scenarios.
3. Solve problems involving concepts of numbers and operations, algebra and functions, geometry and measurement, and probability and statistics.
4. Interpret mathematical models such as formulas, graphs, tables, and schematics, and to draw inferences from them.
5. Expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.

Course Topics

- I. NUMBERS AND QUANTITY
 - a. The Real Number System
 - b. Ratios and Proportional Relationships
 - c. Quantities
- II. ALGEBRA AND FUNCTIONS
 - a. Seeing Structure in Expressions
 - b. Reasoning with Equations and Inequalities
 - c. Functions

III. GEOMETRY

- a. Congruence and Similarity
- b. Right Triangles
- c. Circles
- d. Geometric Measurement and Dimension
- e. Modeling with Geometry

IV. STATISTICS AND PROBABILITY

- a. Basic Statistics and Probability
- b. Interpreting Categorical and Quantitative Data
- c. Making Inferences and Justifying Conclusions
- d. Using Probability to Make Decisions