

Course Description

Prerequisite: consent of department. May not be repeated for credit.

Course Objectives

Students will:

1. Study in depth, important topics in mathematics in which the student has a special interest and in which the instructor deems appropriate.
2. Use creativity and inquiry to examine a specific body of knowledge representing a mathematical strand, theme, or topic.

Procedures to Evaluate these Objectives

1. Student must meet with the instructor periodically throughout the semester to report on progress in the course and to discuss any information in which the student is experiencing difficulty in understanding.
2. Assigned problems, projects, and/or tests.
3. Topics used and student response are evaluated for appropriateness and value for encouraging creativity and inquiry.

Use of Results of Evaluation to Improve the Course

1. The meetings between the student and the instructor will be used to gauge progress toward achieving the goals established at the beginning of the semester. They will also be used to gauge the amount of material to be covered during the remaining time available in the semester.
2. All graded assignments are evaluated for fairness, difficulty level, and student response.
3. Topics used and student response are evaluated for appropriateness and value in interpreting course of study and experiences.
4. All evaluation methods will be constantly monitored to determine if there is a more effective method of presenting the material.

Detailed Topical Outline

Because of the individual nature of this course, the outline may vary every time it is taught. In lieu of an outline for specific offering, the following list of possible topics for exploration is included:

1. History of Mathematics (or a particular strand of mathematics)
2. National Council of Teachers of Mathematics Standards
3. Geometry and Measurement in Grades 3-8 Mathematics
4. Solving Discrete Problems
5. Introduction to Mathematical Proofs
6. Applied Algebra

7. Combinatorics
8. Introduction to Contemporary Mathematics
9. Probability