Department: Math

Course No: MATH 102Q

Title: Problem Solving

Credits: 3

Contact : David Gross

WQ: W

Catalog Copy: -MATH 102Q. Problem Solving. Either semester. Three credits. Recommended preparation: MATH 101 or the equivalent. Not eligible for course credit by examination. Not open for credit to students who have passed any mathematics course other than MATH 101, 103, 105, 107, 108, or 109. Vinsonhaler

An introduction to the techniques used by mathematicians to solve problems. Skills such as Externalization (pictures and charts), Visualization (associated mental images), Simplification, Trial and Error, and Lateral Thinking learned through the study of mathematical problems. Problems drawn from combinatorics, probability, optimization, cryptology, graph theory, and fractals. Students will be encouraged to work cooperatively and to think independently.

Course Information:

-a: The course goals will remain the same: to introduce college students to the process of problem solving.

b: The course format remains the same and is dependent on the instructor. It will have a heavy emphasis on group work and individual projects (both graded and nongraded). It will also include a couple of exams and a final exam.

c: Skills such as Externalization (pictures and charts), Visualization (associated mental images), Simplification, Trial and Error, and Lateral Thinking learned through the study of mathematical problems.

Q Criteria : -The course include mathematics at or above the basic algebra level as an integral part of the course which is used throughout the course.

The course included the use of basic algebraic concepts such as: formulas and functions, linear and quadratic equations and their graphs, systems of equations, polynomials, fractional expressions, exponents, powers and roots, problem solving and word problems.

The course require the student to understand and carry out actual mathematical manipulations and use them in order to draw conclusions.

Role of Grad Students: -This course is mainly taught by adjuncts and graduate teaching assistants under the supervision of a course coordinator.