F, N, P

Revised:
Date of Previous Revision: September 2004
Date of Current Revision: May 24, 2005

C: MATHTHM

le Semester Credits

he study of informal geometry including curves, angles, area and volume, symmetry, congruence and motion geometry. Students are advised that this course requires a considerable time commitment.

G: Allocation of Contact Hours to Type of Instruction / Learning Settings

Primary Methods of I

Number of Weeks per Semester:

15

H: Course Prerequisites:

BC Principles of Math 11 (C or better)
or equivalent

I: Course Corequisites:

None

J: Course for which this Course is a Prerequisite

None

K: Maximum Class Size:

35

L: PLEASE INDICATE**:**

- [ ] Non-Credit
- [ ] College Credit Non-Transfer
- [X] College Credit Transfe

M: Course Objectives / Learning Outcomes

At the end of the course, the successful student should be able to:

-employ pattern recognition, Polya's method and other critical thinking strategies to solve word problems

-understand and apply the concepts of set union, intersection and the Cartesian product

- use Venn diagrams to solve problems

-demonstrate addition, subtraction, multiplication and division of integers using a variety of appropriate models (e.g. sets, the real number line, tree diagrams, arrays)
-explain and apply the properties of the real numbers (e.g. commutative law, associative law, etc.)

-explain and apply the rules required to evaluate expressions involving integer exponents

-explain and use the Fundamental Theorem of Arithmetic and the Sieve of Eratosthenes

-demonstrate equivalence, addition, subtraction, multiplication, and division of fractions and decimals using a variety of appropriate models

-find and explain how to find greatest common factors and least common multiples

-convert and explain how to convert numbers from decimal to fractional or percentage form and vice versa

-solve problems involving applications of percent

-define and solve problems using commonly used terms of informal geometry: collinear, parallel, perpendicular, skew, triangle, circle, polygon, parallelogram, trapezoid, rectangle, rhombus, square

-define and solve problems using terms used in the description of angles: supplementary, complementary, adjacent, vertical, alternate, acute, obtuse

-explain and apply the basic properties of measurement to determine length, area and volume (i.e. the covering property, the congruence property, the additive property, the comparison property)

-convert between different units of measurement

-explain how geometric constructs separate the plane or space

-prove simple statements of geometry using deductive reasoning

-solve problems that require applying the concepts of symmetry, reflection and translation

-determine and explain how to determine if given triangles are similar, congruent or neither

-define terms and solve problems related to the geometry of triangles: equilateral, isosceles, scalene, acute, obtuse

N: Course Content:

1. Critical Thinking and Inductive Reasoning
2. Strategies for Problem Solving
3. Sets
4. Whole Number Operations
5. Properties of Operations on Sets
6. Integers and Operations
7. Divisibility, Primes, Composites and Factorization
8. Rational Numbers and Operations
9. Decimals and Percent
10. Integer Exponents
11. Points, Lines and Planes
12.