Bemidji State University

MATH 6062: Number Theory For Teachers

A. COURSE DESCRIPTION

   Credits: 3
   Lecture Hours/Week: 0
   Lab Hours/Week: 0
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None

   Analysis of activities and mathematical games to understand the underlying mathematics. Students also study the division algorithm, prime and composite numbers, greatest common divisor, least common multiple, the Euclidean algorithm, mathematical induction, linear Diophantine equations, famous number theory conjectures, and additional elementary number theory topics. Prerequisite: Teaching license or teaching position.

B. COURSE EFFECTIVE DATES: 08/21/2017 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Properties of even an odd numbers
   2. Mathematical induction
   3. Rational and irrational number
   4. Prime and composite numbers

D. LEARNING OUTCOMES (General)

   1. explore through problem solving ideas related to prime and composite numbers, greatest common divisor, least common multiple, the Euclidean algorithm, the division algorithm.
   2. gain an understanding mathematical induction.
   3. work abstractly with the properties of even and odd numbers in our number system.
   4. apply problem solving strategies to look at problems from multiple points of view and judge the appropriateness of various models and techniques in each problem situation.
   5. investigate famous number theory conjectures.
   6. construct logical mathematical arguments in order to communicate problems and solutions effectively both orally and in writing.
   7. gain an understanding and appreciation of the structure and beauty of mathematics, the economy and power of its notation and its applications in the world around us.
   8. synthesize a unit to develop student number sense in their classroom coordinating with Math 6061
   9. develop an understanding of the basic concepts, methods, and content of number sense.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

   None
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted