MTHT 467 **Number Theory**

Introduction to Number Theory with Application **17600**

Instructor: Bonnie Saunders, 622 SEO, saunders@math.uic.edu, (312) 413-1417

Class times and location: Monday 3:00 PM - 4:50 PM 600 SEO
Wednesday, Friday 3:00 PM - 3:50 PM 600 SEO

Office Hours: WF 4:00 or by appointment

Description:
This problem-based course presents classical topics of elementary number theory and how they pertain to teaching elementary and junior high school mathematics. Topics include prime numbers, GCF, LCM, division algorithm, Euclidean algorithm and the extended Euclidean algorithm. Several applications, including cryptography, will be presented using middle grade materials. The course prepares the future teacher for using the CryptoCLub materials with middle grade students.

Required:
The Cryptoclub: Using Mathematics to Make and Break Secret Codes by Janet Beissinger and Vera Pless.

Workbook for The Cryptoclub: Using Mathematics to Make and Break Secret Codes by Janet Beissinger and Vera Pless. You may download this for free from the A.K. Peters website.

TI-83/84 or TI-83/84 Plus or equivalent graphing calculator.

Grades:
Grades are based on three aspects of your work:

30% Homework and quizzes and participation

20% Problem solving project

10% Prime number teaching project

40% Midterm and Final Exams

Class Attendance:
Class attendance is required. Absences will result in grade reduction.