8430

M W F Period 4 (10:40 am – 11:30 am), in **LIT 219**

James K. Strayer, Elementary Number Theory. Reissued edition (2001), Waveland Press.

MAC 2312 or MAC 2512 or MAC 3473; MAS 3300 recommended.

This course is designed as an introduction to elementary number theory and its applications for Mathematics and Computer Science majors. This course is theoretical in nature. Emphasis is placed on theory and proofs. We hope to cover most of Chapters 1-5 of Strayer. As well we hope to cover some additional topics. The basic topics include the greatest common divisor, the fundamental theorem of arithmetic, arithmetic functions, multiplicative functions, congruences, the Chinese remainder theorem, quadratic residues, quadratic reciprocity and primitive roots. We will cover some material on cryptography if time permits.

By the end of the semester, you should know:

1. how to communicate mathematical ideas effectively;
2. how to write a mathematical proof;
3. the basic theory and applications of elementary number theory.

Homework will be assigned regularly but not collected. However, doing all the homework is essential for success in this class as the exams test your conceptual understanding of the homework assignments. Many homework problems involve doing proofs. Students are encouraged to check their proofs with their instructor.

The course grade will be determined by three in-class exams (equally weighted), the first two of which will be announced a week in advance and the third one will be on the last day of classes. **No electronic devices (including calculators) are permitted during the exams.** The resulting score determines the letter grade according to the following table.

Letter Grade	A	A-	B+	B	B-	C+	C	C–	D+	D
Score	100 – 93	92 – 88	87 – 83	82 – 74	73 – 69	68 – 64	63 – 59	58 – 54	53 – 49	48 – 40

Attendance is mandatory. Also, please arrive to class before it starts; it is very disruptive when someone walks in late.

Make-up exams will not be administered unless it is supported by valid documentation.

Students are expected to abide by the Honor Code.

Students requesting classroom accommodations must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to their instructor when requesting accommodations.

I reserve the right to change the above policies if situations warrant.