MTH 313 – Number Theory and Its Applications

MTH 313, Fall 2024, TR: 12:30—13:45, Nab 08, Ayman Badawi.

Office Hours: Nab 262, from 13 to 14:15 (MW) and 14:30 to 15:30 (T); others are available by appointment. Email me at abadawi@aus.edu.

Three Exams: Exam one (23%, September 26, in class). Exam 2(23%, October 24, in class). Exam 3 (23%, November 26, in class) and Final (31%, TBA): no make-up exams.

 Covers the Euclidean algorithm, linear congruences, the Chinese Remainder Theorem, Fermat's Little Theorem, quadratic residues and quadratic reciprocity, Pythagorean triples and sums of squares, includes applications in communication, public key cryptography, computer arithmetic and random number generator.

 Required Class notes are crucial; material on I---Learn

(optional) Kenneth Rosen, Elementary Number Theory, Any Version

A>=91, 88 <= A- < 91, 84<= B+ < 88, 80 <= B < 84, 75<= B- <80, 71<= C+ <75,

66 <= C <75, 61<= C- <66, 45 <= D < 61, F < 45.

It is considered an academic integrity violation to represent the output of a generative artificial intelligence tool as your work.