Gannon University
Math 395, Section 01, Spring 2008
Topics in Algebra:
Number Theory
MWF 11:15am – 12:10pm
Zurn 209

Instructor:	Dr. Geoffrey D. Dietz
E-Mail:	dietz005@gannon.edu
Office:	Zurn 407
Office Phone:	871-7595
Office Hours:	MWF 10am–11am, Th 9:30am–11am, or by appointment
Text:	**Elementary Number Theory, 5th Edition.** Rosen, 2004.

1. **Web Site:** http://www.gannon.edu/faculty_staff/faculty/dietz005/teaching/S08-395.html.

2. **Course Content.** The primary text is listed above and should be obtained immediately. You are expected to read the assigned sections before every class and be prepared to answer questions. A secondary source of course material will be **Elementary Number Theory** by **William Stein**. This text is freely available as a PDF download from http://wstein.org/ent/ent.pdf. We will cover portions of Chapters 1, 3–9, 11, and 13 of Rosen as well as Chapter 6 of Stein, which include the following topics: the integers; primes numbers and the Euclidean algorithm; congruences and the Chinese Remainder Theorem; Fermat's Little Theorem; multiplicative functions; cryptography; primitive roots; quadratic reciprocity; Diophantine equations; and elliptic curves.

3. **Course Outcomes.** You will learn the concepts and techniques of number theory. You will also learn how these concepts can be applied to problem solving in various scientific fields. This course meets the following objectives: organize and consolidate mathematical thinking; express mathematical ideas precisely; know ways of representing numbers, relationships among numbers and number systems; know meanings of operations and how they relate to one another; represent functions numerically, symbolically, graphically, and verbally; use algebraic properties in the study of number systems; make and investigate mathematical conjectures; and develop and evaluate mathematical arguments.

4. **Evaluation.** Two exams will be held during regular class time, and the dates may be subject to change. Homework problems will be collected regularly throughout the semester. Additional practice problems will also be assigned in class. Although practice problems will not be collected or graded, correctly solving these additional problems will be an excellent way to prepare for the exams.

5. **Grading.** Final grades will be based on

   A: 90–100 B+: 85–89 B: 80–84 C+: 75–79 C: 70–74 D: 60–69 F: 0–59.

   The ranges may be widened at my discretion. The grades are weighted as follows:

Exam 1 (Fri. 2/29):	20%
Exam 2 (Wed. 4/23):	20%
Final Exam (Fri. 5/9, 11:00am–1:00pm):	30%
Homework:	30%

6. **Attendance.** Attendance at every class is expected in order to maximize your success in this course. Regular attendance of scheduled office hours is also recommended if you have additional questions or concerns about any aspect of the course. You are responsible for obtaining any information missed due to absence.

7. **Excused Absences.** An excused absence from an exam will only be given when the absence is truly unavoidable and beyond your control. If you have advanced warning of a situation that will cause you to miss an exam, you must arrange a make-up exam before your absence. An exam missed due to illness must be made up the following day unless excused by a doctor.

8. **Academic Integrity.** Students are assumed to be familiar with the Academic Integrity Policy found in the current edition of the student handbook. Cheating or dishonesty may result in a failing course grade or even expulsion from the University.

9. **Student Disabilities.** Gannon University is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with me as early in the semester as possible. You must also be registered with The Program for Students with Learning Disabilities prior to receiving accommodations in this course.

10. **Homework Guidelines.**
    - Graded homework in this course must consist of complete, neatly written solutions to the assigned problems. I am more interested in seeing the method of solution than the final answer. If a final answer is given without a sufficient amount of work, then you may receive little or no credit for the problem.
    - If a problem submission ends with an answer (possibly from the back of the text) that does not match the work for the problem, a score of **zero** will be assigned for that problem.
    - Assignments are due at the beginning of class.
    - Print your name and "Math 395" at the top of the first page.
    - Staple all pages of your homework before submission.
    - Label each problem by section and number. The problems should be written out in the proper order when submitted.
    - Start each problem with a *brief* summary.
    - Discussing the solutions to problems with others is permitted and encouraged. You must, however, turn in your own copy of the homework with your own written solutions unless told otherwise. Photocopying or writing word-for-word copies constitutes academic misconduct.
    - Failure to follow these guidelines may result in the loss of points on assignments.