

Math 3341
Number Theory I

Spring 2018
Dr. Ryan C. Daileda

Course URL: <http://ramanujan.math.trinity.edu/rdaileda/numbers>

Office Hours and Contact Information: Consult the course web page.

Textbook: *Elementary Number Theory: Primes, Congruences, and Secrets* by William Stein

Course Content: Topics in elementary number theory including divisibility, greatest common divisors, primes and the fundamental theorem of arithmetic; modular arithmetic, the Chinese Remainder Theorem, Wilson's Theorem, Fermat's Little Theorem and Euler's Theorem; primitive roots; and quadratic reciprocity. Applications will include Public-key Cryptography. In addition we may also spend some time discussing the theories of continued fractions and elliptic curves.

Homework: Homework will be assigned daily and will consist of reading as well as problem solving. All assignments will be posted on the course homework web page. Reading assignments are to be completed daily while written work will typically be turned in Wednesday of the following week; due dates for written work will be clearly indicated. I reserve the right to penalize or refuse to accept late assignments.

Homework exercises are to be written neatly using *one side* of 8.5" × 11" paper, and multiple pages should be stapled or paper-clipped together. Do not use paper from a spiral notebook unless you remove the ragged edge. Failure to adhere to these guidelines will be penalized.

All written homework assignments will carry equal weight toward the homework component of each student's grade (see "Grades" below), with the exception that each student will have his or her lowest homework score dropped.

Collaboration on homework assignments is permitted and encouraged, and you are free to consult any individual or resource that you find helpful. However, simply copying the work of another is unacceptable. Attempting to pass off the work of others (regardless of the source) as your own will be considered a violation of the honor code.

Exams: There will be two evening midterm exams during the semester, as well as a cumulative final exam. The dates and times of the exams are shown below.

First Midterm Exam	Monday, February 12, 7–9 pm
Second Midterm Exam	Monday, March 26, 7–9 pm
Final Exam	Tuesday, May 8, 8:30–11:30 am

Although I may adjust the dates of the midterms to suit the needs of the class, please be aware that the date and time for the final exam have been set by the registrar and are non-negotiable.

Use of Previous Exams: Students are permitted to obtain and study exams given in previous semesters. However, previous exams should not be used to judge the content or difficulty of the exams that will be given in this course.

Attendance: Attendance is expected but is not mandatory. Roll will not be taken, but excessive absences should be explained to me.

Grades: Your course grade will be based upon the scores on the homework, midterm exams, and the final exam as follows:

Homework	30 %
Midterm Exams	20 % (each)
Final Exam	30 %

Expectations: Each student is expected to invest a significant amount of time and effort outside the classroom for every hour of lecture. Even though written work will not be collected daily, you are strongly encouraged to keep up with reading and problems as they are assigned. I have no sympathy for students who routinely save all of their work for the night before it is due.

Classroom Decorum: Please be respectful of your classmates and myself. Although I encourage everyone to ask me questions as needed, and would like to foster classroom discussion, talking or texting between students during a lecture can be extremely distracting and should be kept to a minimum.

Academic Integrity: All students are covered by the Trinity University Honor Code which prohibits dishonesty in academic work. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified. Students are required to pledge all written work that is submitted for a grade: “On my honor, I have neither given nor received any unauthorized assistance on this work” and their signature. The pledge may be abbreviated “pledged” with a signature.

The specifics of the Honor Code, its underlying philosophy, and the norms for sanctioning can all be found on the Academic Honor Council website, accessed through the Trinity Homepage:

<https://inside.trinity.edu/academics/academic-honor-code>

Special Needs: If you have a documented disability and will need accommodations in this class, please speak with me privately early in the semester so I may be prepared to meet your needs. If you have not already registered with Student Accessibility Services, contact the office at 999-7411 or SAS@trinity.edu. You must be registered with SAS before I can provide accommodations.