

**Math 3341**  
**Number Theory**

**Fall 2020**  
**Dr. Ryan C. Daileda**

**Course URL:** [ramanujan.math.trinity.edu/rdaileda/numbers](http://ramanujan.math.trinity.edu/rdaileda/numbers)

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

**Textbook:** *Elementary Number Theory* (7<sup>th</sup> ed.) by David M. Burton

**Course Content:** Divisibility theory, 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 indices; quadratic congruences and the law of quadratic reciprocity. Applications include public-key cryptography. Additional topics may include Diophantine equations, 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 weekly; due dates for written work will be clearly indicated. I reserve the right to penalize or refuse to accept late assignments.

All homework assignments must be typeset in L<sup>A</sup>T<sub>E</sub>X and submitted electronically. Handwritten homework will not be accepted.

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 midterm exams during the semester, as well as a cumulative final exam. Midterm dates will be announced in class and posted on the course web page.

**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:

<b>Homework</b>	30 %
<b>Midterm Exams</b>	20 % (each)
<b>Final Exam</b>	30 %

**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:

[inside.trinity.edu/academics/academic-honor-code](http://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](mailto:SAS@trinity.edu). You must be registered with SAS before I can provide accommodations.

**Academic Support Resources:** Trinity faculty hold students to the highest academic standards, but we also know that the very best students seek out help when necessary. You can learn more at Trinity’s Academic Support Homepage:

[gotu.us/success](http://gotu.us/success)

## University Policies

**Title IX/Sexual Misconduct Reporting:** As a Responsible Employee who is committed to creating an environment where every member of our community can thrive, I want to let you know that I am a Mandatory Reporter. What that means is that I am required to report any instances of sexual misconduct, including sexual harassment, non-consensual sexual intercourse, non-consensual sexual contact, sexual exploitation, intimate partner violence, stalking, and related retaliation that I am aware of to the Title IX Coordinator. So, if you share information with me about any incidents that implicate the Sexual Misconduct or Anti-Harassment Policies, I am required to report all information to the Title IX Coordinator to make sure you have information about support resources and complaint resolution options. My report does not initiate the complaint process, and you are in control over how you choose to engage with our Title IX Coordinator. If you or someone you know has experienced sexual misconduct, including sexual harassment, I encourage you to share this information directly with the Title IX Coordinator or one of the individuals who has been designated as a confidential resource on campus. Information about reporting is available here:

[inside.trinity.edu/human-resources/equal-opportunity-services/sexual-misconduct/reporting](https://inside.trinity.edu/human-resources/equal-opportunity-services/sexual-misconduct/reporting)

**Excused Absences:** For the duration of the COVID-19 pandemic, the following exception to the Excused Absences from Class policy has been approved: Students who are ill will be excused from classes.

To protect community health, we urge students to request an excused absence by informing instructors of the illness via email. Students must adhere to University health and wellness procedures for self-evaluation, follow-up, and quarantine as necessary. Please note: Untruthful student claims about illness may be regarded as a violation of the Academic Honor Code, which prohibits “falsification of academic records.”

Students who experience a family emergency that interferes with academic performance are encouraged to contact Dr. Michael Soto, Associate Vice President for Academic Affairs, and David Tuttle, Dean of Students.

**University Health Protocols:** To ensure that all members of the University community work in tandem to create a safe learning environment, the University Policy on Protective Behavior requires that the following health and safety protocols be observed on campus at all times:

- Six feet of social distancing must be maintained.
- Students must wear an appropriate face covering in classrooms and in areas where other students, staff, or faculty may be present.
- Personal hygiene and proper cough/sneeze etiquette must be followed.

Failure to observe University health protocols will be considered a disruption of orderly conduct. In accordance with the Policy Regarding Disruption of Class, the instructor will issue a warning to the student; if the student continues to disrupt the class by failing to observe University health protocols, the instructor may drop the student from the class roster.