

Class Meetings: Monday, Wednesday, Friday 2:30–3:20 PM, in Ekeley E1B75.

Instructor: Eric Stade (email: eric.stade@colorado.edu)

Office Hours: Tuesdays 2–3 PM and Wednesdays 11 AM–12 PM, in MATH 305

Prerequisites: MATH 6110 and MATH 6350 or the equivalents

Course Canvas page: <https://canvas.colorado.edu/courses/139741>

Readings:

- **Required Text:** *Introduction to Analytic Number Theory*, by Tom M. Apostol (available online, at the CU Bookstore, on Amazon, etc.)
- **Optional text:** *Multiplicative Number Theory*, third edition, by Harold Davenport
- **Lecture notes** will be posted online, AFTER the class in which they are delivered. I make no guarantees as to how soon after class they will appear.
- **Various supplemental notes** may be provided on our Canvas page, as needed.

About the course. Two of the crowning achievements in analytic number theory are *Dirichlet's theorem on primes in progression* (which marks essentially the *first* application of analytic techniques to number theory), and *the prime number theorem*. Accordingly, our first major objectives will be to prove these results.

Other topics *may* include: Dirichlet series; prime number theorems for arithmetic progressions; modular forms. How far and where we go depends on how long it takes us to get there.

Requirements.

Homework will be assigned, and due, once every one or two weeks. See our Canvas page for assignments. On occasion, we may also have some in-class activities, based on the homework (or not).

You may turn in your homework through Canvas or in hard copy, in class.

There will be no exams, but you will be asked to write, and (sometime near the end of the semester) to present, a *term project*, about which we'll say more later.

Please see the “**ADDITIONAL IMPORTANT COURSE INFORMATION**” header on our Canvas home page, for:

- **Guidelines for written assignments.** Please **read** and **follow** these guidelines for written work.
- **Other general information, concerning:** classroom behavior; requirements for infectious diseases; accommodation for disabilities, temporary medical conditions, and medical isolation; preferred student names and pronouns; the CU Honor Code; sexual misconduct, discrimination, harassment and/or related retaliation; religious holidays; and mental health and wellness.