MATH 406: INTRODUCTION TO NUMBER THEORY
FALL 2022

- **Instructor:** William (Bill) Goldman, `wmg "AT" umd.edu`
- **Office Hours:** MTH 3106, Tuesdays 2:00–2:45 or by appointment
- **Assistant:** Tom Hua, `tomhuasj "AT" terpmail.umd.edu`
- **Meeting Times:** Tuesday-Thursday 12:30–1:45. EGR 3106
- **Textbook:** *An illustrated theory of numbers,* Martin H. Weissman, American Mathematical Society 2017. For information about the book, including errata, go to
  `illustratedtheoryofnumbers.com`.
- **Homework:** Practice is the key to understanding many mathematical concepts, so completing homework problems is crucial. Homework problems will be given on Tuesdays and due one week later. If your work is late, please contact us about an extension. Visit the website periodically to be aware of any updates or changes. You may freely discuss the homework with others, but the work submitted must be your own, written in your own words. The quality of presentation of solutions is taken seriously, and your homework will be graded for correctness and completion.
- **Grading:** There will be weekly homework (15%), two midterm exams (25% each), and a final examination (35%).
- **Make-up and special accommodations:** Make-up exams will be given only in case of serious unforeseen emergencies.

  If you have a legitimate conflict with an exam, notify me before Monday September 12. If you need special accommodations, visit the *Accessibility and Disability Service* (ADS) office and provide documentation by September 12. For more information, see
  `www.ugst.umd.edu/courserelatedpolicities.html`.
- **Attendance policy:** Please try to attend class. Contact me in case you have to miss a class. Also contact other class members or us for lecture notes and announcements.

Date: William M. Goldman,November 14, 2022.

- **Academic honesty:** Cheating on exams is strictly prohibited and will result in serious consequences. In particular, cheating may result in an "F" for the course and be reported to both the student's college and the Offiffice of Student Conduct. Academic dishonesty in any form will be vigorously prosecuted.
- **Classroom Etiquette:** Lectures are device-free in general: no phones or laptops, unless we are working with technology in class. Please silence phones.

  All class members are expected to follow current university and county regulations regarding the wearing of hygenic face coverings. If you are feeling sick, *please do not come to class.* If this entails missing an assignment notify us promptly and we will arrange an alternative.
- **First assignment (due September 20):**
  (pp.19-20): 1, 3, 6, 8, 12, 16, 20, 22, 23, 28
- **Second assignment (due September 20):**
  (pp.45-46): 4,5,6,7,15, 16,17, 18, 21 (challenge problem 13)
- **Third assignment (due September 29):**
  (pp.72-73): 1,2,3,4,6,7,9,11,12,18
- **Fourth assignment (due November 3):**
  Chapter 3: p.96 — 2,3, 4 (challenge), 8, 9, 10, 11
  Chapter 4: p.122– 1,2,4,5
- **Fifth assignment (due November 17):**
  Chapter 5: read pp. 128-139, 1, 2, 6, 7. (p.150)
  Chapter 6: read pp.154-169, 1, 3, 6, 8 (p.170)
- **Sixth assignment (due December 8):**
  Chapter 5: Finish reading (pp.140-149), 11, 13, 14, 15 (p.151)
  Chapter 6 (read pp.173-189), 3,6,7, 9, 11 (p.190)
- **Seventh assignment (due December 19):**
  Chapter 7 (read pp.194–219), 1,2,3,7 (pp.220-221)
  Challenge problems: 8, 10
- **Important dates:**
  - First class: Tuesday, August 30
  - Special accommodations, Add/Drop date:
    Monday, September 12
  - First midterm: Thursday, October 6
  - Second midterm: Thursday, November 17
  - Thanksgiving: Thursday, November 24 (no class)
  - Last class: Thursday December 8
  - Final exam: Monday, December 19, 1:30pm - 3:30pm.