



MATH 356 Section H6

Theory of Numbers

Monday-Thursday in SEC 212 from 12:20pm to 2:20pm



Instructor: Brooke Ogrodnik (please call me Brooke)

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Office: Hill Center, Busch Campus, 606

Office Hours: Tuesday, Thursday 3-4:30 pm
and upon request

Course Outline

Properties of the natural numbers, congruences, Diophantine equations, and elementary arithmetic functions.

Textbook

Elementary Number Theory & Its Application 6th Edition By Kenneth H. Rosen

ISBN:978-0321500311

Prerequisite(s): Calc 3

Note that though Math 300 is not required, you are expected to be comfortable with mathematical proofs, the course will be fast-paced, and might be difficult if you enter it ill-prepared.

Course Policies:

• Attendance and Absences

- Student Absence Policy: sims.rutgers.edu/ssra/
- Quizzes will be given multiple times a week. If you miss a quiz, then you will receive a zero for that quiz.
- You are allowed 1 missed quiz during this course and 1 missed homework.
- If you are running late to class, you should email me a photo of the homework so that I know you are on your way and it is completed. Failure to do so will result in a zero for the assignment. Failure to show up after sending the photo will also result in a zero.
- If you miss the midterm exam due to a DOCUMENTED illness only, then it is your responsibility to contact me within 2 days of the exam so that I can schedule and create a makeup exam.

• General

- Please read the Academic Integrity Policy and adhere to it:
academicintegrity.rutgers.edu/academic-integrity-policy
- Full disability policies and procedures are indicated at ods.rutgers.edu. Students with disabilities requesting accommodations must present a Letter of Accommodations to the instructor as early in the term as possible
(see ods.rutgers.edu/my-accommodations/letter-of-accommodations).
- Cell phones, laptops, ipods, and tablets are not allowed out during class. You are only allowed physical notes, a physical textbook and a calculator during class and if you wish to use a laptop or tablet to take notes, you must talk to me about it beforehand.
- I recommend coming to my office hours.
- You MUST email me through your Rutgers email and you should be checking it often.
- If something I say seems unclear, please, speakup. Many times if something is unclear to you, it is safe to assume that it is unclear for the entire class.
- Peer tutoring: webapps.rutgers.edu/student-rlc/Tutor/Main/Student/StudentSearch

• Grade Breakdown

- Quizzes/ Classwork 20 %
- Homework 10%
- Midterm 30%
- Final 40%

Classwork Guidelines

Working with others is an extremely important part of mathematics. During every class, there will be periods of group work. The amount of time will vary based on the problems assigned. You will work in groups of 2-3 and hand in 1 paper for the entire group. This paper should have the solution to the problem, if the group was able to get it, but also should discuss the thoughts and ideas discussed, examples, ect. Your grade for these will be based off of the discussions I hear during class which the physical work itself and will make up your classwork grade.

Academic Integrity

I understand that plagiarism can be a little confusing when we also force group work onto students. Therefore, please read below the paragraph from Michigan Tech's Office of Academic and Community Conduct website that I think gives a wonderful rule of thumb on this topic.

The Sauna Rule

If you are allowed to discuss assignments in a group, use the following rule. If you work out a problem with other students, do not copy the answer. Instead, go take a 30-minute sauna, and then write up the answer on your own without the aid of the group work. Copying work that is not yours is plagiarism, even if the work was done as part of a discussion of a problem.

Homework Guidelines

Homework will be handed out at the beginning of each week and must be turned in within the first 15 minutes of class on the following Monday. The homework will be split into sections each of which will correspond to a day in which the material needed will be covered. Homework should be done throughout the week and not saved for the last minute. If you miss the class when it is handed out, you are required to come to my office to pick up the assignment. I will not email homework to students. Your homeworks will be out of 100 points. If a proof is required, it should be written out in detail and be in complete sentences with correct grammar. You should take pride in your work and, therefore, it should be written (or typed) neatly and stapled. Please also note that a two column proof will not be accepted nor will any homeworks that do not contain the following academic pledge along with your signature.

"On my honor, I have neither received nor given any unauthorized assistance on this assignment. This is my own work, I understand each line and am prepared to explain it to the instructor if asked."

Below is a brief overview of why some points may be deducted from your workshop for non-math related reasons. I reserve the right to update/modify this list.

Homework is hard to read	-20
Work is crossed out	-10
Not stapled	-5
Ruffled Edges	-5
Missing Explanations	-10
Using methods not yet covered in class	-20

Schedule

1. Monday, July 8th: Section 1.1, 1.2, 1.3
2. Tuesday, July 9th: Section 1.4, 1.5
3. Wednesday, July 10th: Section 2.1, 2.2
4. Thursday, July 11th: Section 2.2, 2.3
5. Monday, July 15th: Section 3.1, 3.2
6. Tuesday, July 16th: Section 3.3, 3.4
7. Wednesday, July 17th: Section 3.5, 3.7
8. Thursday, July 18th: Section 4.1, 4.2
9. Monday, July 22th: Section 4.2, 4.3, 4.4
10. Tuesday, July 23th: Section 4.4, 4.6
11. Wednesday, July 24th: Extra Topic and Review
12. Thursday, July 25th: Midterm and continue with Extra Topic
13. Monday, July 29th: Section 6.1
14. Tuesday, July 30th: Section 6.2, 6.3
15. Wednesday, July 31th: Section 7.1, 7.2
16. Thursday, August 1st: Section 7.3, 7.4
17. Monday, August 5th: Section 9.1, 9.2
18. Tuesday, August 6th: Section 9.2, 9.3
19. Wednesday, August 7th: Section 11.1
20. Thursday, August 8th: Section 11.2, 11.3
21. Monday, August 12th: Section 11.3, 12.1
22. Tuesday, August 13th: 12.2, 12.3 and Review
23. Wednesday, August 14th: Final Exam 3 **12:20-3:20**

This syllabus is subject to change.