

Math 381

Discrete Mathematics

Section 003

Tuesday/Thursday 11:00-12:15, Phillips 383

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Office Hours: Tues 1:00-1:45PM, Thur 2:00-2:45PM, Fri 3:00-3:45PM, or by appointment

Note: The instructor reserves the right to make changes to the syllabus, including due dates and test dates.

Course Description: Math 381 is a transitional course from computational to more theoretical mathematics, and as such emphasizes the development of mathematical/logical thinking skills. In this course we will learn how to create a certain style of mathematical argument called a proof, which is an argument based on formal logic. Proofs are a powerful and essential (every day) tool for theoretical mathematicians, and they can be a useful tool in neighboring disciplines such as applied math, engineering, computer science and physics. We apply these techniques to various areas of mathematics such as set theory, number theory, combinatorics and more. This corresponds to all/most of chapters 1 and 2 and selected parts of chapters 4,5,6,7 and 9.

Prerequisites: You must have earned a passing grade in MATH 232 (or an equivalent).

Textbook: *Discrete Mathematics and Its Applications*, Kenneth H. Rosen, 8th edition. See document on Canvas page for purchasing options.

Course Policies:

- **Grading**

- This section will be graded in a manner consistent with other sections of Math 381. Since this manner is similar to the style of grading in 500 level mathematics courses, there will be no references to a 90-80-70-60 grading scale.
- Of your final grade, Homework is worth 22%, there are two midterms each worth 22% and the final exam is worth 34%.

- **Homework**

- Homework is assigned weekly, and is returned one week later. Homework is submitted and returned on Gradescope. You should be automatically added to the Gradescope site,

but you can also manually join with class code: RZ8XRX. No late work will be accepted under any circumstance. Instead we drop the lowest two homework grades. Latex is mathematical software intended for writing mathematics (this is what textbooks use). You are encouraged to use Latex on homework assignments. If you don't know how to use it, I would be happy to help you get started.

- **Exams**

- There are two exams in this course whose dates will be announced as they approach.
- The comprehensive final exam will be given on **December 9, 8AM-11AM**. The final exam time is not tentative. You may not take it early under any circumstance. In order to take a make-up exam after this date, you must have an official examination excuse, signed by a Dean or authorized agent of the Dean (through Academic Advising, e.g.). Instructors may not grant permission for a make-up final exam or an alternate time.

- **Attendance and Absences**

- Attendance is not required. If you miss class you are responsible for making up the material yourself. Missed exams can only be made up in the case of documented emergency. If you have a planned conflict with an exam, you should let me know at least 2 weeks in advance.

Honor Code Statement: Each student is expected to abide by the Honor Code and the Student Code of Conduct: <http://honor.unc.edu>

In this class, all exams must be done individually and are closed book and closed notes. It is an instance of cheating to give or receive help on an exam, except from the instructor. On homework assignments, students may work together in pairs or small groups, provided that all participants are contributing and the collaboration benefits the learning of all involved. Simply copying or trading answers is an instance of cheating.

In addition to avoiding actual academic dishonesty, please avoid appearances of academic dishonesty. In particular, please silence and put away cell phones before any exams are handed out and please avoid the appearance of looking at other students' papers. In order to maintain a proper testing atmosphere, the instructor may ask students to switch seats before or during an exam.

CAPS: Counseling and Psychological Services is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Title IX: Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu or the Equal Opportunity

and Compliance Office.

Policy On Nondiscrimination: The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's Policy Statement on Non-Discrimination offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, creed, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered and that equitable and consistent standards of conduct and performance are applied.

Accommodations: If there any special circumstances that will affect your performance in this class, please contact the staff at the Academic Success Program, 919-962-7227, so that we can work together to meet your needs.