

Welcome to MAD 4203 Combinatorics & Graph Theory I

Lecturer: [Zixia Song](#)

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Lecture: MWF: 3:00-4:20pm in MAP 121

Office Hours: MWF 1:30-2:30pm, or by appointment.

Textbook: *Discrete Mathematics & its Applications*, 5th Edition, by Kenneth H. Rosen.

Students are responsible for all material covered, as well as announcements made in lectures.

Prerequisite: [MAC 2312](#), STA 2023 and [MHF 3302](#)

Lecture Schedule:

1. Induction
2. Permutations and combinations
3. The binomial coefficients
4. Discrete Probability
5. Recurrence relations and generating functions
6. The principle of inclusion and exclusion
7. Graph theory topics I (isomorphism, connectivity, Euler & Hamilton paths)
8. Graph theory topics II (coloring, planarity, trees)
9. Graph algorithms (shortest paths, spanning tree algorithms)

Midterms & Final Exam: Three midterms are tentatively scheduled for [Fridays, September 22, October 20, November 17](#). There will be no make-ups. Please see Dr. Song if you have to miss an exam due to an illness or an emergency. A proof will be required. Neither oversleeping nor traffic are acceptable excuses. The comprehensive final exam is tentatively scheduled for [Wednesday, December 6 \(1pm-3:50pm\)](#). All exams, including the final, will take place in the usual lecture room. The format for all exams will be in-class, closed notes, closed book, no computers. Credit will be awarded according to the following guidelines:

- Correctness of the procedure.
- Brevity and elegance of the procedure.
- Accuracy of the result.

The correct answer with no supporting procedure will be worth nothing.

Homework & Quizzes: Homework will be posted [here](#), and will not be graded. Weekly quiz (10 in total) will be given on Friday if no exam is scheduled.

Grades: 60% midterms, 25% final, 15% quizzes.

Re-grading policy: If you believe that a mistake in grading has been made you may request that your paper be regraded. Such request must be submitted in writing within one week from the day the graded test has been returned in class, and must be accompanied by the original unaltered paper. If you make any changes to the paper your request will be denied. Please note that if you request regrading, all problems are subject to review.

Attendance: Attendance at lectures is required.

Honor code: Everyone is expected to abide by the guidelines for the Academic Honor Code given in the university [Golden Rule](#). Violations will be reported. You are encouraged to study in groups, but any and all work submitted for grading, including homework, must be your own.

Course information: This text can be accessed at <http://www.math.ucf.edu/~zxsong/MAD4203/>.