

MATH 4473 – Combinatorics
Section 01, Spring 2017
MWF 10:10 am – 11:00 am 304 Boyd Bldg

Prerequisites: Math 3003 or an equivalent course.

Instructor: Dr. Rui Xu

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Office hours: M W F 9:00 am – 10:10 am, 12:05 pm – 1:35 pm or by appointment.

Textbook: Introductory Combinatorics, by Richard A. Brualdi, Fifth Edition, Pearson Education, Inc. 2010.

Course Description: Topics include the pigeonhole principle, combinations, permutations, binomial coefficients, generating functions, recurrence relations, and inclusion-exclusion principle. Möbius inversion and Pólya counting will also be covered if time allows.

Learning Outcomes:

- (I) An understanding of permutations, combinations.
- (II) A thorough understanding of the Pigeonhole Principle.
- (III) An understanding of the Binomial Coefficients.
- (IV) The ability to use Inclusion-Exclusion in applications.
- (V) A thorough introduction to the theory of recurrence and generating functions.
- (VI) An introduction to Möbius inversion and Pólya counting.

Grading Methods: Grades will be assessed based on a total of 570 points (as shown below), using the standard decade scale: (90–100%=A, 80–89%=B, 70–79%=C, 60–69%=D, below 60%=F).

Test 1 Chapter 2 & Chapter 3	100pts
Test 2 Chapter 5 & Chapter 6	100pts
Test 3 Chapter 7	100pts
Final 8:00 am–10:30 am, Wednesday, May 3rd	150pts
Homework	100pts
Attendance	20pts
Total (with the lowest test score dropped)	570pts

Homework & Test Policy:

Homework must be turned in on time. Late homework is not acceptable. Homework may be graded partially or totally. I may grade a specific problem or just look for completeness. I am interested in the solution of problems not just their answers. So you need to show your work in details to get credits.

Makeup tests will be granted only for excused absences (scheduled University-approved activity such as field trips, debate trips, choir trips, and athletic contests, or verifiable medical doctor's excuse). In that case, the student should contact the instructor in advance to reschedule the makeup test. If that is impossible, the student must contact the instructor the same day of the

test by email or phone to let the instructor know. Failure to do so will result in a zero for that test. All students are required to take the final exam at the scheduled time and no makeup for final exam.

Other Policies:

1. Class attendance will be taken every class day. Tardies and early leaves are not allowed. Three tardies/early leaves are counted as one absence. Students are allowed to miss at most 3 classes to get the full 20 pts for attendance and will lose 5 pts for each additional absence.

2. Cell phones should be set to an inaudible setting.

3. The instructor follows the common university policies as shown on the website below:

http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf

Important Dates:

January 7-11	: Open Drop and Open Drop ends at 4:00 pm on Jan.11th
January 7-12	: Open Add and Open Add ends at 4:00 pm on Jan. 12th
January 16	: MLK Holiday (no classes)
March 2	: Last day to withdraw with a grade of W
March 20-24	: Spring Break (no classes)
April 28	: Last Day of Class
May 3rd, 8:00-10:30 am	: Final Exam