Course Syllabus

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Office Hours: Tuesday and Thursday 11AM – 12PM. If you need to see me at another time, please email me to set up an appointment.


Course Description: “Elementary combinatorial techniques used in discrete problem solving: counting methods, solving linear recurrences, graph and network models, related algorithms, and combinatorial designs.”

Course Topics: Principles of Counting (Chapt. 1); Properties of the Integers: Mathematical Induction (Chapt. 4); Relations and Functions (Chapt. 5); The Principle of Inclusion and Exclusion (Chapt. 8); Generating Functions (Chapt. 9); Recurrence Relations (Chapt. 10); An Introduction to Graph Theory (Chapt. 11); Trees (Chapt. 12).

Grading Scheme: Grades will be calculated according to the following distribution:

30% Final Exam
60% Three Midterm Exams (20% + 20% + 20%)
10% Homework

Significant improvement over the semester will also be taken into account. Grades will be assigned on the traditional scale:

A 90 or higher
B 80 – 89
C 70 – 79
D 60 – 69
F Below 60

Final Exam: The final exam is scheduled for Thursday, May 3rd, in the morning from 8:00AM - 10:50 AM. The exam will be cumulative and count for 30% of the final grade.
Midterm Exams: There will be three in-class exams, each counting for 20% of the final grade, for a total of 60%. The exams will be closed book, closed notes, no calculator, individual tests. The tentative exam dates are:

Midterm 1 Thursday, February 1st
Midterm 2 Thursday, March 1st
Midterm 3 Thursday, April 5th

Exam dates will be confirmed at least a week in advance.

Homework: Homework will be assigned on a weekly basis, and typically due on Thursdays at the beginning of class. Late homework will not be accepted. Selected problems will be graded; assignments should be neat and clear. Unfortunately, illegible solutions will receive no credit. Collaboration is allowed (and explicitly encouraged) when working on homework problems, but each student must write-up and submit an independent solution in his/her own words.

Attendance: Regular attendance is expected. Exceptions will be accommodated only for valid, documented reasons including (1) official representation of the Institute and (2) medical emergencies.

Note: If you will not be able to meet the requirements of the class as stated, you must contact me within the first two weeks of class.

Academic Integrity: Students are reminded of the obligations and expectations associated with the Georgia Tech Academic Honor Code and Student Code of Conduct, available online at: http://www.deanofstudents.gatech.edu/integrity/policies/honor_code.php and http://www.deanofstudents.gatech.edu/codeofconduct. Any violations must be reported to directly to the Dean of Students.

Additional Resources:

- WebCT — http://webct.gatech.edu
- 3012D webpage — http://www.math.gatech.edu/~heitsch/3012d.html
- Math Lab — http://www.math.gatech.edu/academic/undergraduate/mathlab.html
- Tech Tutoring — http://www.undergradstudies.gatech.edu/supportTutoring.htm

Updates: This syllabus is subject to modification. Any changes will be announced in class and posted on the course website.