

## Course Information

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**Instructor:** *Phone number:* (502)852-5845 (x5845)  
*Office:* Natural Sciences Building 231  
*Office hours:* *Primary:* W13–14, R11–12, *Secondary:* M11–12, T9–10, and by appointment

### Course Websites:

[http://blackboard.louisville.edu/bin/redirect\\_temp.pl?course\\_id=MATH-387-01-4122](http://blackboard.louisville.edu/bin/redirect_temp.pl?course_id=MATH-387-01-4122)  
<http://aleph.math.louisville.edu/teaching/2012FA-387>

**Lecture:** MWF 9:00–9:50 in Natural Sciences Building 130

**Prerequisites:** MATH 206 or EAC 102 and MATH 325, or permission of instructor.

**Description:** Pigeon-hole principle, counting techniques, binomial coefficients, generating functions, stirling and catalan numbers, permutations and graphs.

**Textbook:** *Applied Combinatorics with Problem Solving* by Jackson and Thoro. This book is out of print and copies can be obtained at Gray's Bookstore only.

**Objectives:** In this class, we will study the fundamentals of discrete mathematics, including deductive proof, inductive proof, counting techniques, binomial coefficients, the pigeonhole principle, the inclusion-excluding principle, recurrence relations, generating functions, and graphs.

**Responsibilities:** You are responsible for attending class on a regular basis and maintaining comprehension of the scheduled class objectives for each day. You are expected to be active participants in class, to turn in assignments promptly, and to attend examinations. Examinations will be on **Friday, February 17** and **Friday, April 6** during class time, and **Friday, April 27 at 8AM**. Except in case of emergency, late assignments will only be accepted for half credit within one week of the original due date. It is important that you show your work or outline the process of discovery for each problem on the homework assignments. No credit will be given for answers which do not include work, unless otherwise stated.

**Special needs:** Any scheduled absence during an examination, or any other special needs, *must* be brought to my attention before the end of the second week of class. Unscheduled absences will be handled on a case-by-case basis, with exceptions generally made only for documented emergencies.

**Honesty:** There are many resources available to help you succeed in this class, including consultation during office hours, secondary texts, and cooperation with other students. It is important, however, that all papers handed in be the result of your individual comprehension of the course material. Duplication of others' work is both a disservice to your own education and a serious violation of the university's academic honesty policy.

**Grades:** Homework problems account for 30% of your grade. Each of the two midterm examinations will be 20% of your grade, and the final examination will contribute 30%. A 90% overall guarantees a grade of A–, 80% guarantees a B–, 70% guarantees a C–, and 60% guarantees a D–. Grade cutoffs may be lower than those indicated here, but will not be higher.

**Changes:** The syllabus is subject to change. Changes will be announced in class and updated online.