

DISCRETE MATHEMATICS (MATH 387)
FALL 2013
TTH 4:00 - 5:15 NATURAL SCIENCES 110

1. IMPORTANT INFORMATION

Instructor: Stephen J. Young
Office: Natural Sciences 114
Office Hours: TTh 2:40 pm – 4:00 pm , or by appointment.
E-mail: stephen.young@louisville.edu (**Please** include “Math387” in the subject)
Office Phone: (502) 852-3338
Course Webpage www.math.louisville.edu/~syoung/teaching/math387/fall13/
Textbook *Applied Combinatorics* Keller and Trotter, www.math.gatech.edu/~trotter/book.pdf

2. LEARNING OUTCOMES

At the end of the semester you should be able to:

- ◆ apply fundamental enumeration techniques and algorithms to discrete structures;
- ◆ analyze a discrete mathematical model to identify important structural or enumerative properties in order to solve problems related to the model;
- ◆ evaluate unfamiliar problems to determine if a discrete structure provides an appropriate model and develop such a model;
- ◆ determine and use an appropriate proof technique, such as induction, double counting, recursion, etc. to be able to formally determine properties of mathematical structures;
- ◆ write a clear and convincing mathematical argument.

3. GRADING SYSTEM

All exams and quizzes will be graded on the following holistic five-point scale:

- 5** Well written and complete work. (\sim A+)
- 4** Good work with minor errors or small gaps in explanation. (\sim A)
- 3** Good work with more serious errors or insufficiently clear explanation. (\sim B)
- 2** Significant, but incomplete, explanation that will clearly lead to the correct answer. (\sim C)
- 1** Some ideas that might lead to the correct answer are presented. (\sim D)
- 0** No work, work that will not lead to a correct result, or illegible. (\sim F)

4. GRADING BREAKDOWN

Final grades in this course will be determined according following, with the proviso that in order to pass the class you must pass (C- or better) the final assessment. At the judgement of the instructor and on an individual basis, course grades may be higher than the numerical calculation would yield.

Homework (10%): Homework will be assigned and intermittently collected/graded according to the learning needs of the class. If a particular homework assignment is not collected/graded all students will receive full credit for that assignment.

Exams (25%) \times 2: There will be two in class exams taking approximately 75 minutes. These exams are tentatively scheduled for October 10 and December 5. Unless otherwise noted, no calculator, notes, or books will be permitted on any exam.

Portfolio (25%): Over the course of the semester several questions (at least 25 no more than 50) will be singled out as Portfolio questions. The answers to these questions are to be typed cleanly in L^AT_EX and turned in at the start of the final exam period.

Final Oral Exam (15%): The final exam will be on Saturday December 14, 4:45 pm – 7:15 pm and will consist of each student presenting the solution to a randomly chosen question from the Portfolio.

GRADE DISTRIBUTION

A+	A	A-	B+	B	B-	C+	C	C-	D	F
95	85	80	75	65	60	55	45	40	30	0

5. AMERICAN DISABILITIES ACT

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact the Disability Resource Center (852-6938).

6. COURSE POLICIES

- ◆ Unless otherwise specified in writing, all tests are closed book and closed notes. In order to receive credit all work must be shown and complete sentences must be used where appropriate.
- ◆ Please silence all cell phones and noise making devices during class. Note that some models of cell phone when put on vibrate make a significant amount of noise.
- ◆ If you believe an exam has been graded incorrectly do not mark it in any way. Submit to me, in writing, along with exam, a short statement of why you think a *particular* problem, or set of problems was graded incorrectly. Regrade requests will not be accepted later than the end of the class period after they are returned. I reserve the right to photocopy any or all of your exams in order to prevent regrade abuse.
- ◆ In order to receive full credit on exams, homework, and portfolio work you must show all work in a clear and coherent manner. In particular, correct answers not fully supported by explanations using complete sentences, where appropriate, will not receive full credit. It is your responsibility to present your solutions in an easily understood manner.
- ◆ If you need help outside of normal office hours, please feel free to stop by my office. I may not be able to help at that moment, but we will at least be able to arrange another time to meet.
- ◆ Please keep all your exams and homework; if you believe there has been an error in the recording of your grades they are the only way to validate your claim. Also, grades will be placed on Blackboard, so please periodically check the grades posted there so we can resolve any issues quickly.
- ◆ Make up exams will be only guaranteed to be given as required by university policy (i.e, a conflicting university sanctioned events), all other situations, such as medical procedures or emergencies, will be considered on a case by case basis. All make up exams will be taken through University Testing Services. Note that University Testing Services charges a fee to administer an exam. There will be no make up quizzes.
- ◆ Academic dishonesty is prohibited at the University of Louisville. It is a serious offense because it diminishes the quality of scholarship, makes accurate evaluation of student progress impossible, and defrauds those in society who must ultimately depend upon the knowledge and integrity of the institution and its students and faculty. Any instances of academic dishonesty in this course will be taken extremely seriously.
- ◆ All content in this syllabus is subject to change in order to accommodate unforeseen circumstances and achieve the learning outcomes. Any changes in the syllabus will be announced in class, via email, and on the class website.