

Math 387: Discrete Mathematics, Section 01, Fall 2018

## SYLLABUS

(This syllabus is available on Blackboard.)

Lectures: Tuesday, Thursday, 11:00–12:15, NS212C.

Instructor: Csaba Biro.

Email: csaba.biro@louisville.edu. Office: NS 115. Phone: 502-852-2730.

Office hours: Tuesday, Thursday, 2:17–3:17; or by appointment.

### \*\*\* General Information \*\*\*

Prerequisite: MATH 206 or ENGR 102; MATH 325.

Text: Applied Combinatorics by M.T. Keller and W.T. Trotter.

Covered material: Most of the first 9 chapters. The book is available for free

(under a Creative Commons license) at <http://rellek.net/book/app-comb.html>

Course Content: Basics of enumerative combinatorics, including elementary techniques, permutations, binomial coefficients, inclusion-exclusion, and generating functions. Proofs by induction. The Pigeonhole Principle. Introduction to Complexity Theory. Basics of Graph Theory. Partially ordered sets. Recurrence equations.

### \*\*\* Assessment and Grading \*\*\*

Quizzes: There will be unannounced quizzes about once a week. These will only take about 10 minutes each, and they will contain one or two routine problems, often from the homework.

Tests: There will be three 75-minute tests during the term.

#### Tentative Test Dates:

Test 1. September 18

Test 2. October 25

Test 3. November 29

Final Exam. December 6, 11:30–2:00

Homework: Regularly assigned, but not collected or graded. Problems from the homework will often appear on quizzes. Collaboration on the homework is

permitted.

Final Exam: The final exam will be optional, cumulative and may improve or worsen class grade. Students will know their standing before the final exam, so they can choose to take or not to take the exam.

Each graded assessment will be weighted by their length in minutes. That is, quizzes will carry a weight 10, and tests are of weight 75.

Grades will be determined on the following scale: 85% or better guarantees an A, 70% or better guarantees a B, 55% or better guarantees a C, and 40% or better guarantees a D. +/- grades will normally not be given.

### \*\*\* Attendance and emergencies \*\*\*

Students are expected to attend every class. Class rolls will not be taken, but students will be responsible for everything they should have heard in lecture, including in-class announcements. If you miss a class due to unexpected emergency, it is your responsibility to ask about what happened and to make up for missed material.

Exams or quizzes may only be missed for official university-sanctioned events, and documented medical emergencies (otherwise a score 0 will be awarded). Documentation is required in every case. For university sanctioned events, please use the usual forms and let me know about the conflict at the beginning of the semester. For medical emergencies, a doctor's note will be required.

For missed exams, a make-up will be administered by the University of Louisville Testing Services Office. (A fee applies.) Missed quizzes will simply be factored out from the final grade computation.

### \*\*\* Tentative Schedule \*\*\*

Coming soon...

### \*\*\* Title IX/Clery Act Notification \*\*\*

Sexual misconduct (including sexual harassment, sexual assault, and any other nonconsensual behavior of a sexual nature) and sex discrimination violate University policies. Students experiencing such behavior may obtain confidential support from the PEACC Program (852-2663), Counseling Center (852-6585), and Campus Health Services (852-6479). To report sexual misconduct or sex discrimination, contact the Dean of Students (852-5787) or University of Louisville Police (852-6111).

Disclosure to University faculty or instructors of sexual misconduct, domestic violence, dating violence, or sex discrimination occurring on campus, in a University-sponsored program, or involving a campus visitor or University student or employee (whether current or former) is not confidential under Title IX. Faculty and instructors must forward such reports, including names and circumstances, to the University's Title IX officer.

For more information, see the Sexual Misconduct Resource Guide (<http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure>).

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The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes, or for similar reasons.

Prepared by Csaba Biro, last updated on 08/21/2018.