

Course Outline — Fall 2018

Math 580 (Combinatorial Mathematics, Fall 2018)

MWF: 10:00 pm - 10:50 pm, 143 Altgeld Hall

József Balogh, 233B Illini Hall, jobal@math.uiuc.edu,

Office Hours: right after classes and MF 11:00-11:50pm. Study sessions: Wednesdays afternoon (time TBA).

Web page: <http://www.math.uiuc.edu/~jobal>.

Syllabus: This is a rigorous, graduate level introduction to combinatorics. It does not assume prior study, but requires mathematical maturity; it moves at a fast pace. The first third of the course is on enumeration. The second third covers graph theory. The remainder of the course considers some topics that are treated more in depth in advanced graduate courses (Math 581, 582, 583, 584): Ramsey theory, partially ordered sets, the probabilistic method and combinatorial designs (as time permits).

Tests: October 24 (Wednesday); 6–8 pm; December 5 (Wednesday); 6–8 pm;

Final exam: 1:30-4:30 p.m., Monday, December 17

Textbook: The FALL 2018 edition of the text COMBINATORIAL MATHEMATICS (by Douglas West) will be available at Illini Union Bookstore (from August 27). Note that earlier edition might have different numbers for homework!

REQUIREMENTS (math 580): A raw score of 80% or higher guarantees an A while a score of 60% or higher guarantees a B- (grade drops by 5%). (Near) weekly assignments. Each assignment will have 6 problems of your choice of 5/6 are graded. Homework is usually collected on Fridays. Independently from the score: for an A, on the final test at least 50% is needed, for a B-, at least 40%, for a C- at least 30% is needed.

There are (about) 10 homework assignments, each worth 5%, two tests, each worth 10% and a final exam for 30%.

The grading: 80%– : A, 75%– : A⁻, 70%– : B⁺, 65%– : B, 60%– : B⁻, 55%– : C⁺, 50%– : C, 45%– : C⁻ etc.

Note that the writings of the solutions must have a high quality and typed, if the argument is messy or not typed then even if the solution is correct it could be returned without grading with 0 points.

Late homework policy: In case the homework is not submitted on time, it could be submitted for the next class, with losing 10% of the score. However it might be accepted at most twice during the semester from the same student. If there is official or medical reason then try to notify me in advance via e-mail.

RESOURCES: Electronic mail is a medium for announcements and questions. I will use the e-mail given in the system, I am not responsible in case it is not monitored.

PREREQUISITES: There are no official prerequisites, but students need the mathematical maturity and background for graduate-level mathematics.