

Course Syllabus

CSU Math 301: Introduction to Combinatorial Theory, Fall 2019

Instructor: Henry Adams

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Office: Weber 125

Lectures: MWF 11:00-11:50pm in Military Sciences 115

Textbook: *Discrete Mathematics: Elementary and Beyond* by László Lovász, József Pelikán, and Katalin Vesztergombi. This book is freely available as a PDF to CSU students if you login on the CSU library webpage.

Class Webpage: <http://www.math.colostate.edu/~adams/teaching/math301fall2019>

Henry's typed class notes:

https://www.math.colostate.edu/~adams/teaching/Notes_Math301.pdf

Course Overview: This course is an introduction to combinatorics. Topics covered include combinations, permutations, sets, induction, inclusion and exclusion, the pigeonhole principle, binomial coefficients, recurrence, prime numbers, graph theory, and trees. Additional topics will be chosen from Euler's formula, finite geometries, cryptography, and Ramsey's theorem.

Prerequisites: Math 160 (Calculus for Physical Scientists)

Requirements: Your final grade will be based on the following components:
25% homework, 20% midterm 1, 20% midterm 2, 35% final exam.

Exams: The dates for the exams (all in-class) are

- Midterm 1, **Friday, October 4** during class,
- Midterm 2, **Friday, November 8** during class, and
- Final exam, **Wednesday, December 18 from 4:10-6:10pm**.

Confirm you can attend these exams before enrolling. You will only be able to use your brain and a pen or pencil — no notes, books, or electronic devices. The exams will be comprehensive, except that Midterm 2 will emphasize the material after Midterm 1, and the Final will emphasize the material after Midterm 2.

Homework: The clarity of your solutions will count as much as their correctness, and all steps must be explained. Working in groups on homework and to study is encouraged! However, your submitted homework must be written up individually, in your own words, and without consulting anyone else's written solutions or a solution manual of any form.

Homework is due at the beginning of class. Late homework will not be accepted, though to accommodate illnesses and other unexpected events the lowest homework score will be dropped. It is in your best interest to inform me as soon as reasonably possible when such a situation arises. [CSU policies apply](#) for university-sanctioned activities, for which you should give me plenty of advanced notice.

Academic Policies and Integrity: Students are expected to adhere to the CSU Academic Integrity Policy as found on the Students' Responsibilities page of the [CSU General Catalog](#) and in the [Student Conduct Code](#). For further policies which apply to all math department classes, please see <http://www.math.colostate.edu/programs/undergraduate/policies.shtml>.

Colorado State University is committed to providing reasonable accommodations for all persons with disabilities. Students with disabilities who need accommodations should first contact the [Student Disability Center](#) in order to request accommodations for this class.