

MathSc 855001. Time: MWF 12:20-1:10. Location: Martin Hall E-005

**Course Objective and Topics:** This course will focus on combinatorial techniques, with an emphasis on the use of generating functions, and especially the interplay between combinatorial relationships and analytic and algebraic properties of generating functions.

**Textbook:** We will be using Flajolet and Sedgewick's recent book "Analytic Combinatorics", published by Cambridge University Press: it is available for free download from Flajolet's website at

<http://algo.inria.fr/flajolet/Publications/books.html>

I will also draw on material from Wilf's classic book *Generatingfunctionology*, also available for free download from Wilf's website at

<http://www.math.upenn.edu/~wilf/DownldGF.html>

and from other sources.

**Lecture Notes and Homework:** Students will be expected on a rotating basis to  $\text{\LaTeX}$ notes for the course in a common format. A  $\text{\LaTeX}$ template will be provided. Students will also be expected to typeset all homework in  $\text{\LaTeX}$ .

**Attendance** Students are expected to attend every class: exceptions will be made for appropriate reasons (for example, attending conferences, illness, job interviews). If the instructor does not arrive within 15 minutes of the class time, the students may leave.

**Grades** Grades will be based on performance on homework, participation in class (including, but not limited to presenting solutions to assignments on the board, asking appropriate questions and answering questions in real time), and on performance in exams. As with all graduate classes, an A/B/C/F scale will be used: C and F will be reserved to reflect seriously deficient work: students who satisfactorily complete most assignments should expect to earn an A or B.

**Group work versus independent work** Students in this class are encouraged to work together to figure out how to do assignments unless explicitly told otherwise. However, all assignments are to be written up separately and individually.

**Disability Statement** Disability access statement from the Office of Student Disability Services: "It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities. Students are encouraged to contact Student Disability Services to discuss their individual needs for accommodation."

**Academic Integrity** "As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form. In instances where academic standards may have been compromised, Clemson University has a responsibility to respond appropriately and expeditiously to charges of violations of academic integrity."