

**DISCRETE MATHEMATICS**  
**MATH 774, Fall 2012**

Instructor: Laszlo A. Szekely                      e-mail: [szekely@math.sc.edu](mailto:szekely@math.sc.edu)

Office: LC 305

Office hours: MWF 12:00–13:00 and by appointment.

Class meetings: MWF 2:30–3:20 LC 310

Text: J. H. van Lint and R. M. Wilson, A course in combinatorics, Cambridge University Press, Second Edition, 2001.

Students are expected to attend and actively participate in classes. Grading is based on homework assignments and research projects and their presentation during classes. Homework will be assigned regularly. Homework can be submitted until its solution is discussed during class. Solving homework problems has to be individual work.

Course content: enumeration techniques, combinatorial identities, basic graph theory, Ramsey theory, matching theory, extremal set theory and combinatorial designs. In addition to students, whose interest is in discrete mathematics, this course will be very useful for students, whose interest is in number theory or computer science.

Learning outcomes: students will master techniques of enumeration and combinatorics. They develop skills of advanced problem solving, and progress towards the ability to do research in combinatorics.