

## 67-720 Combinatorial Mathematics

Summer 2009

Section 1 9:00 - 11:45 MTWR

**Instructor:** Zoubir Benzaid

**Phone:** 424 - 7354

**Office:** Swart 238

**Office Hours:** 8:30-9:00 and 12:00 – 12:30 MTWR and by appointment

**Recommended Text:** *Introductory Combinatorics* by R. Brualdi, Prentice Hall.

### References:

1. *Applied Combinatorics* by A. Tucker, John Wiley
2. *Introductory Combinatorics* by K. Boggart, Brooks Cole.
3. *Combinatorics : Topics, Techniques, Algorithms* by P. Cameron, Cambridge Press.
4. *A Course in Combinatorics* by Van Lint & Wilson, Cambridge Press.
5. *A Walk Through Combinatorics* by M. Bona, World Scientific.
6. *Introduction to Combinatorics* by M. Erickson, Wiley.
7. *Introduction to Combinatorial Analysis* by J. Riordan, Dover Pub.
8. *Discrete and Combinatorial Mathematics: An Applied Introduction* by R. Grimaldi, Addison Wesley.
9. *Applied Combinatorics* by Roberts & Tesman, Prentice Hall.
10. *Schaum's Outline of Combinatorics* by V.K. Balkrishnan, McGraw-Hill.

**Topics:** We will be covering the following topics: Basic Counting Rules, Generating Functions and their applications, Recurrence relations, Principle of Inclusion and Exclusion, The Pigeonhole Principle, Polya's Theory of counting, Coding Theory, Network Optimization and various applications.

**Grading:** Your grade will be based on homework assignments, one Final exam and class presentations and participation.

Final Exam:	30%
Homework:	40%
Class Participation and Presentation of Problems:	30%