

# CS 5311 Applied Combinatorics

Winter, 2013

## General information:

Instructor: Dr. Ruizhong Wei (AT 5021, Ex. 8227)

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Time and location: TTh 10:00 - 11:30 am, AT 2020

Office hours: Thursdays 1:30 - 2:30 pm, AT 5021

## Description:

This course investigates several interesting and important topics in combinatorics and their applications. The topics may change from year to year. This year the following topics will be covered:

- Some topics from combinatorial design theory and their applications to network security.
- Some topics from graph theory and their applications to computer and networks.
- Some useful algorithms from combinatorics and their applications to computer science.

## Materials:

Based on lecture notes. Some materials will be from Internet or other resources distributed in class or by emails.

The students registered for CS 5311 will be requested to read some supplemental materials. The details of these materials will be distributed in separated sheet.

## Reference books:

- R. Diestel, Graph Theory, Springer.
- D.R. Stinson, Combinatorial Designs: Constructions and Analysis, Springer.

- D.L. Kreher and D.R. Stinson, Combinatorial Algorithms, CRC Press.

**Assignments:**

There will be 4 - 5 assignments in this term. Assignments may include some projects and research paper reading. Late assignments will be penalized and will not be accepted after 3 days.

**Quizzes:**

There will be 4 - 5 short quizzes during lectures. The purpose of a quiz is for understanding lecture materials.

**Course grade:**

To determine the final grade of the course, the following weights will be applied:

- Assignments: 40%
- Quizzes: 20%
- Final Exam: 40%

**Course web page:**

Some course information, supplemental materials and lecture notes will be put on the page:

<http://peace.lakeheadu.ca/cs5311.html>

Students are recommended to reference the web from time to time.