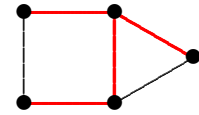


MA 514 - Combinatorial Structures and Techniques  
MWF 12:00pm – 12:50pm in CB 343

Fall 2018

**Instructor:** Martha Yip  
Email: martha.yip [at sign] uky.edu  
Office: POT 775  
Office hours: MF 11-12, W 1-2, or by appointment



**Course website:** All course announcements and supplementary lecture materials will be posted through Canvas.

**Email policy:** My preferred method for contact is by email. To ensure that your emails get answered promptly (within 24 hours) and not get caught in spam filters, please

- have the Course Number (MA 514) in the subject line,
- have your Name in the body of the email, and
- use your UK email account.

**Textbook:** van Lint and Wilson, *A Course in Combinatorics*, 2nd ed., Cambridge University Press, 2001.

**Course goals:** This course is an introduction to fundamental structures and techniques in combinatorics. Topics include:

- Chapter 1 Graphs
- Chapter 2 Trees
- Chapter 3 Colouring graphs
- Chapter 33 Planarity and Colouring
- Chapter 4 Extremal graph theory
- Chapter 6 Partially ordered sets
- Chapter 5 Systems of distinct representatives
- Chapter 7 Network flow theory
- Chapter 10 Möbius Inversion

Time permitting, advanced topics in graph theory and algebraic combinatorics will be introduced. Other learning outcomes in this course include:

- developing facility at combinatorial reasoning, and
- sharpening proof-writing skills.

**Problem sets:** Problem sets are accessible through Canvas. They will be collected at the end of class on each due date.

In order to be successful in this course, it is important that you make every effort to complete the assigned problems. Help is available during my office hours, but *it is recommended that you attempt the homework on your own before seeking help*. In addition, you are encouraged to discuss course material with your fellow classmates, but *your submitted written work must be in your own words*. If you decide to use other sources (eg. textbooks, papers, the internet) as reference, *make sure that you reference every source properly*.

**Examinations:** There are three exams:

- Exam 1: Friday September 28, in class
- Exam 2: Friday November 2, in class
- Exam 3: Wednesday December 12, 10:30-12:30pm

Electronic devices are not allowed during any tests or exams.

**Grading Scheme:** Your cumulative average is computed as follows:

55% Problem sets, 15% Exam 1, 15% Exam 2, 15% Exam 3.

Your course grade will be determined by your cumulative average at the end of the semester and will be based on the following scale:

A	B	C	D	E
≥ 90	≥ 80	≥ 70	≥ 60	< 60

Canvas will be used as a grade server so that you can easily keep track of your grades.

**Academic Accommodations:** If you have a documented disability that requires academic accommodations, please see me as soon as possible. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (**DRC**, Multidisciplinary Science Building, Suite 407, 257-2754, [drc@uky.edu](mailto:drc@uky.edu)) for coordination of campus disability services available to students with disabilities.

**Academic Integrity.** Academic honesty is fundamental to our community. Violations of academic integrity may result in suspension from the university. For details see <http://www.uky.edu/studentconduct/code-student-conduct>.

For information on the Office of Academic Ombud Services' definition of plagiarism, and UK's academic offense policy, see <http://www.uky.edu/ombud/plagiarism-what-it>.