MATH 510 - C: Discrete Mathematics  
Spring 2020  
Lectures: MWF, 3:30 - 4:20 pm in Leasure 010

**Instructor:** Lino (Campos) Amorim  
**Email:** lamorim@ksu.edu  
**Office:** CW 46C  
**Office Hours:** Monday 2:00-3:00 pm, Wednesday 5:30-6:30pm and by appointment.

**Course Description:** The course is an introduction to discrete mathematics and will consist of two independent parts: Graph Theory and Combinatorics. The first will cover basic properties of graphs: graphs, trees, cycles and paths in graphs, planarity and colorings. The second part will cover the basic methods of counting: permutations and combinations, binomial identities, pigeonhole principle, inclusion-exclusion principle, generating functions and special counting sequences. The goal of this course is to give students the ability to solve common classes of combinatorial problems and introduce relevant techniques of mathematical proof.


**Class Format:** The classes will be in the form of lectures with occasional exercise practice and discussion moments. There are no recitations and there are limited tutoring resources available, so the class requires a lot of independent work.

Attendance is not mandatory, but all students are responsible for all the material presented in class and any announcements made in class including any changes to the schedule or exams announced in class.

**Homework:** Homework will be assigned each week on Canvas. There will be a total of 14 homework assignments. The lowest 2 scores will be dropped.

Working on the homework problems is an integral part of the course. They are not simply modified versions of examples worked out in lecture, instead they require a deep understanding of the concepts and tools covered in lecture. You should be prepared to spend a significant amount of time thinking on each problem.

Discussing the homework problems with other students in the class is encouraged but you have to write down and submit your personal solutions. Try to work on problems as soon as we cover the material, don’t leave it to the last day. The problems in the exams
will be similar to the homework problems.

The homework assignment for a given week is generally **due the following Thursday, by 5:00pm**. Due dates will also be posted with the homework so you should check for any special circumstances. **LATE HOMEWORK IS NOT ACCEPTED, NO EXCEPTIONS.** You can always turn in your homework in advance.

There will be a homework box for our class located next to CW 120, across the Math Dept Office. You will need to find the correct MATH 510 box with your section label on it. For full credit you need to show all the details of your work.

Notes about the presentation of your work:

- The front page of each assignment should contain your name, the course and assignment number and the name of your instructor.
  Example: Marie Curie, Math 510 C, HW 7. (Amorim)

- Please always write legibly and present your solutions in an organized way. Please put your solutions of the problems in the order which they are assigned. Homework must be **stapled** and not folded. Your work will be graded not only for correctness, but also for exposition. **If your work is illegible or confusing to read, it may be treated as incorrect.**

**Exams:** There will be two midterm exams and one final exam. The two midterm exams will take place in the normal lecture slot. The final exam will take place during the exam period. If you have a medical or another substantial excuse inform your instructor of your absence ahead of time.
There will be no calculators, books or formula sheets allowed in the exams. There will be no make-up exams.

Dates of midterms:
**Midterm 1: Wednesday, February 26** (in lecture).
**Midterm 2: Wednesday, April 15** (in lecture).
**Final: Wednesday, May 13, 4:10 pm-6:00 pm** (Cumulative).

**Grading Policy:**
Homework (best 12 out of 14 assignments): 36%
Midterm 1: 17%
Midterm 2: 17%
Final Exam: 30%

**Extra help:** In addition to office hours, help sessions are held most days in Cardwell 41, see https://www.math.ksu.edu/courses/help/ for the schedule.

**Useful Drop dates:** February 10: last day to drop with a 100% refund. February 17: last day to drop with a 50% refund. February 25: last day to drop with a W being recorded.
Statement Regarding Academic Honesty: Kansas State University has an Honor and Integrity System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor and Integrity System. The policies and procedures of the Honor and Integrity System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. The Honor and Integrity System website can be reached via the following URL: www.k-state.edu/honor. A component vital to the Honor and Integrity System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Statement Regarding Students with Disabilities: Students with disabilities who need classroom accommodations, access to technology, or information about emergency building/campus evacuation processes should contact the Student Access Center and/or their instructor. Services are available to students with a wide range of disabilities including, but not limited to, physical disabilities, medical conditions, learning disabilities, attention deficit disorder, depression, and anxiety. If you are a student enrolled in campus/online courses through the Manhattan or Olathe campuses, contact the Student Access Center at accesscenter@kstate.edu, 785-532-6441; for K-State Polytechnic campus, contact Academic and Student Services at polytechnicadvising@ksu.edu or call 785-826-2974.

Statement Defining Expectations for Classroom Conduct: All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article V, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.