MATH 597 01W: COMBINATORICS
Fall 2017

CONTACT INFORMATION:

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Office Hours	: TF 9:00-11:00a (online), otherwise by appointment

DESCRIPTION and POLICIES:

1. Class Schedule: Online (Section 01W)
   Office hours will be held online at times indicated above via the Adobe Connect website: http://connect.tamuc.edu/coskun. Students will have access to this discussion room as a **guest** without an account. Please join office hours conveniently scheduled twice a week for all questions.

2. Textbook: **Enumerative Combinatorics**, volumes 1 & 2, by R. P. Stanley (ISBN: 978-1107602625 for volume 1, and ISBN: 978-0521789875 for volume 2). The volume 1 of the textbook is available free of charge at the author's website.

3. Website & Internet: An **eCollege website** is created for the course which may be accessed from student myLEO accounts following the eCollege and then **My Courses** tabs. All files and documents, lecture notes and outlines, links to any video content, and software modules that the instructor shares with the class will be posted in the Doc Sharing folder in the course website. All material posted or shared at the course website is **copyrighted** ©. You are allowed to retain one copy of each file for your personal use, but the files should not be distributed in any form without instructor's written consent.

4. Course Description: This is an introductory course in combinatorics; the study of discrete structures, their arrangements and properties. We will cover a **sampling of topics** from enumerative and algebraic combinatorics, and graph theory; including generating functions, recurrence relations, partitions, Young tableau, symmetric functions, lattices, combinatorial numbers and generalizations, and applications. **Prerequisites** Math 331, or Consent of Instructor

5. Tentative Exam Schedule:

Midterm	200 pts	Monday October 23, 2017
Final	200 pts	Monday December 11, 2017

6. TESTS & PROJECTS: There will be **two exams/projects**, one midterm and one comprehensive final. Each test will consists **two parts**: a written part, and a take home part. The written tests must be taken in a **certified testing center** on the exam date listed below. Students should register with a testing center and forward the contact information to the instructor at least one week before the test dates. No make up test will be given without an official, written, university accepted excuse. The student must contact the instructor the next working day and present the documented excuse to make up a test.

7. SOFTWARE: The **Mathematica** software is required for the course. It will be used for carrying out computations in discussion sessions, homework exercises, exams and projects. Mathematica 11 may be installed in Mathematics computer lab in BIN 328, and in computer labs at the Metroplex center. **Personal student licenses** could be purchased online through the Wolfram Mathematica website (click here). Mathematica has recently introduced an **online version**. In principle, it should be the same with the desktop version, but the user interface looks different. You may use it at your own risk. We will be using the desktop version for all lecture presentations, and other activities.

8. HOMEWORK: Homework will be assigned in **every class** meeting on a regular basis. Selected assignments and problems will be graded, but all homework problems should be worked out. The assignments will be turned **electronically** (in form of a notebook) by due dates listed on the lecture outlines in the Dropbox for that week at the eCollege course website. You may work in groups unless otherwise instructed, however the work you turn in must be your own. **Late homework** is not accepted. Homework score makes **50 points** of the total semester grade.

9. LEARNING OUTCOMES: Students who complete this course successfully will
   a) learn the **terminology** of enumerative and algebraic combinatorics;
   b) learn the **methods** employed in the field of combinatorial analysis;
   c) learn the **applications** of the theoretical methods to practical problems.

10. TENTATIVE COURSE OUTLINE: We cover **all or certain parts of these topics** from the textbook as time permits.

   1. Software Introduction (Week 1)

   2. Essentials of Enumerative Combinatorics (Weeks 2, 3, 4)

   3. Combinatorial Numbers and Generalizations (Week 5, 6, 7)

   4. Generating Functions and Recurrence Relations (Week 8, 9, 10)

   5. Theory of Partitions (Weeks 11, 12)

   6. Symmetric Functions (Weeks 13, 14, 15)

11. GRADING SCALE: All scores will be added and a **letter grade** will be assigned according to the following table.

   A   406 - 450 pts
   B   361 - 405 pts
   C   316 - 360 pts
   D   271 - 315 pts
   F   0 - 270 pts

12. MISCELLANEOUS: Your enrollment in this course indicates that **you agree to observe** all the conditions and regulations of this syllabus and the Student Handbook. The test and homework scores may be filed to be used anonymously for educational research.

It is the **student's responsibility** to secure the software licenses if any, and other resources (such as a personal computer with proper operating system to run the software, broadband internet access, etc.) to be able to complete and communicate all assignments, tests and projects to the instructor as required. The access information to Library resources, and **Help Desk** for technical support are available through the eCollege website. You should contact the community forums and/or **technical support lines** for all installation, licensing, and other technical questions about the software.

Policies pertaining to scholastic dishonesty are identical to TAMU-Commerce regulations given in the **Student Handbook**, available online at the university website (click here). All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (See Student's Guide Handbook, Policies and Procedures, Conduct). Disruptive behavior and scholastic dishonesty in any form will not be tolerated.

Campus Concealed Carry Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a **concealed handgun** in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in **restricted locations**. For a list of locations, please refer to the policy (click here) at the university website, and/or consult your event organizer. Pursuant to PC 46.035, the **open carrying of handguns is prohibited** on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 911.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for **persons with disabilities**. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an **accommodation**, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 162, Phone: (903) 886-5150 or (903) 886-5835, Email: `StudentDisabilityServices@tamuc.edu`, or Fax: (903) 468-8148.

Nondiscrimination notice: Texas A&M–Commerce will comply in the classroom, and in online courses, with all federal and state laws **prohibiting discrimination and related retaliation** on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment **free from discrimination** on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Any **possible changes** to be made in this syllabus by the instructor during the semester will be announced by email.