Syllabus

Instructor Information:

Instructor: Dr. Weizhen Gu (Diana)

Office: MCS 567

Phone: 512-245-9017

E-mail: wg04@txstate.edu

Office Hours: TTH 10:00 - 10:50, 3:30 - 4:30, or by appointment

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Course Information:

Semester: Spring

Course: Math 3398

Course Title: Discrete Mathematics II

Section: 400

Class Time: TTh 2:00 – 3:20pm

Classroom: DH 330

Required Textbook: Discrete Mathematics and Its Applications, 7th ed., by Kenneth H. Rosen

Objectives:

- solve counting problems using the basic counting rules (the sum and product rules, inclusion-exclusion principle)
- be familiar with permutations and combinations with or without repetitions
- solve some problems using the Pigeonhole Principle master concepts in the probability theory
- understand the concepts of big-O, big-Ω, and big-Θ
- write algorithms for solving certain problems and then use a big-O to estimate their time complexity
- solve recurrence relations and use recurrence relation to solve some word problems
- understand the generating functions and use them to solve recurrence relations and counting problems

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Attendance Policy: Students are expected to attend each scheduled class meeting. Regular attendance is essential to your success in this course. If you are not in class you are responsible for the material covered. NO MAKE UP QUIZZES WILL BE GIVEN FOR ANY REASON. Should you miss an exam contact the instructor ASAP!

Homework: Homework will be assigned every day. It is most important for the students to do the exercises from the sections covered in order to get a good grade for a weekly-quiz. However the homework will not be graded.

Quizzes: A weekly-quiz will be given every Thursday except holidays or test days. Each quiz is worth 10 points. The top ten quizzes will be counted. Quiz questions will usually be selected from the homework assignments. No make-up quizzes will be given.

Quizzes, Tests, and Final Exam:

Quizzes	every Thursday except holidays or test day	100 points
Test 1	Feb. 13 (Thursday)	100 points
Test 2	April 2 (Thursday)	100 points
Final Exam	May 7 (Thursday), 2:00 - 4:30pm	100 points
total		400 points

Grading: Your final grade will be computed using the following percentages.

Test 1-2	25% each
Quizzes (top ten quizzes)	25%
Final Exam	25%
Total	100%

Letter grades are assigned using the following percentages:

A (90-100)

B (80-89)

C (70-79)

D (60-69)

F (0-59)

Drop Dates:

Drop with an automatic W - by 5:00 pm on March 31

Last day to withdraw from the University - at the office of the Registrar by 5 pm on April 23

Academic Honor Code:
As members of a community dedicated to learning, inquiry and creation, the students, faculty and administration of our university live by the principles in this Honor Code. These principles require all members of this community to be conscientious, respectful and honest.

We are conscientious.

We complete our work on time and make every effort to do it right. We come to class and meetings prepared and are willing to demonstrate it. We hold ourselves to doing what is required, embrace rigor, and shun mediocrity, special requests, and excuses.

We are respectful.

We act civilly toward one another and we cooperate with each other. We will strive to create an environment in which people respect and listen to one another, speaking when appropriate, and permitting other people to participate and express their views.

We are honest.

We do our own work and are honest with one another in all matters. We understand how various acts of dishonesty, like plagiarizing, falsifying data, and giving or receiving assistance to which one is not entitled, conflict as much with academic achievement as with the values of honesty and integrity.

The Pledge for Students

Students at our university recognize that, to ensure honest conduct, more is needed than an expectation of academic honesty, and we therefore adopt the practice of affixing the following pledge of honesty to the work we submit for evaluation:

Honor Code web site http://txstate.edu/effective/upps/upps-07-10-01.html

Electronic Devices:
Cellular Telephones, Pagers, or any device that may distract from the class should be turned off before class begins and may not be on the desk during class or tests.

Special Needs:
Students with special needs, as documented by the Office of Disability Services, should identify themselves at the beginning of the semester.

Resources

SLAC (4th. floor of the Library, Room 411)

CLC (RF Mitte Building, Room 4203 and 4204)

Math Lab (DH 233)

Texas State Endorses
Wingspread Journal's Seven Principles for Good Practice in Undergraduate Education

1. Student-faculty contact
2. Cooperation among students
3. Active Learning
4. Prompt feedback
5. Time on task
6. High expectations, and
7. Respect for diverse talents and ways of learning

Tentative Schedule

Note: The instructor reserves the right to deviate slightly from the syllabus in order to better serve the needs of the students enrolled in the course.

Weeks	Topics
Week 1	Counting (Product Rule and Sum Rule)
	Principle of Inclusion-Exclusion
	Permutations and Combinations
Week 2	Binomial Coefficients
	Generalized Permutations and Combinations
Week 3	Generalized Permutations and Combinations
	Pigeonhole Principle
Week 4	Review and Test 1
Week 5	Introduction to Probability
Week 6	Relations
Week 7	Limits and Algorithms
Week 8	The Growth of Functions and Complexity of Algorithms
Week 9	Recursive Definitions and Recursive Algorithms
Week 10	Review and test 2
Week 11	Recurrence Relations
	Solving Recurrence Relations
Week 12	Applications to Recurrence Relations
	Power Series
Week 13	Generating Functions
Week 14	Applications of Generating Functions
Week 15	Review and final exam