Math245
Discrete Mathematics

Section: 70789  Instructor: Yan Tian  ytian@palomar.edu
Days: M, W, F  Office: NS 355G
Time: 9:00-9:50 a.m.  Phone: 760-744-1150 ext 2806
Location: F-9  Website: http://www2.palomar.edu/users/ytian/

Office Hours
Math Center (E2): M: 4-8pm
MWF 10-10:50am NS 355G
TTh 9:20-10:20am NS 355G

Textbook

Scope of Course
This course is a study of propositional and predicate logic, the number theory, and methods of proof, elements of set theory, relations and functions, the pigeonhole Principle, sequence, infinite sets, basic counting techniques, permutations, combinations, graph theory, and applications directed to the field of computer science.

A graphing (TI-83 or equivalent) or scientific calculator is required for this course. No graphing calculators that are capable of symbolic calculations are allowed.

Students should plan on studying a minimum of 6 hours per week, outside of the classroom, for this class. Please visit my website for Homework Assignments, Syllabus, and other review materials. http://math.palomar.edu/ytian/

Student Learning Outcomes
Students need to use a standard algorithm to find a minimal spanning tree for a given graph and to prove a statement using one of the basic methods of proof or disprove it using a counter example.

Course Objectives
The successful students will be able to:
- Use logic to explore the truth and falsity of statements and patterns of proofs, and use logic reasoning in set theory, mathematical induction, functions, and relations, and in solving recurrent relations
- Apply logic of compound and quantified statements; translate these statements into symbolic form, and test arguments for validity.
- Solve problems using permutations and combinations; calculate the probability of a given event occurring
- Apply critical thinking skills to express mathematical ideas with clarity and precision both orally and in writing.

Grading Policy
Homework Assignments and projects: 25%
Homework is assigned daily. Homework is due on the day that the test is given. Papers are to be stapled. Chapter and section numbers are to be written on the top of each page. Graphs are to be done on graphing paper with appropriate scales and labels, and to be attached to the proper questions. All work needs to be shown. Answers without work shown are not acceptable. Group projects are assigned throughout the course. Each project needs to be completed on time. Both participation and contribution are necessary for group projects.

**Quizzes:** 10%
A weekly quiz will be given on every Monday. There is no make-up quiz. The lowest quiz score will be dropped.

**Tests:** 50%
Each test is closed-book and closed-notebook. All work needs to be shown in order to earn full or partial credit. The lowest test score will be dropped at the end of the semester. **No make-up tests will be given.** Most of tests are given with scientific calculators only. Any use of any mobile communication/audio device, during an exam, will result in zero point on that exam. Students must complete and turn in at least half of the homework in order to take tests.

**Final Exam:** 15%
The final exam is a comprehensive written exam.

Total percentage: >90: A; 80-89: B; 70-79: C; 60-69: D, <60: F

**Attendance**
Please notify the instructor if you are going to be absent. Two or more consecutive unexcused absences could result in student being dropped. Students may be dropped at any time if 25% of classes have been missed. **Students may be dropped if not doing homework or not taking a test without reasonable excuses.**

**Dishonor**
Students caught violating the Palomar Community College policy on academic integrity will meet with the consequences of that policy. (300.3)

**Students with Disabilities**
Please meet me to discuss testing accommodations.

**Useful Information**
- Attend classes
- Focus on lecture in classroom
- Participate in interactive study
- Do homework
- Form study groups or find study buddies

**Find Help**
• Visit the instructor during the office hours or make an appointment with the instructor
• Visit Mathematics Learning Center to get free tutoring
• Visit the library’s tutoring center to get free tutoring