

MATH 331 – Discrete Mathematics

MTWR 11:00 – 12:50 BIN 302

Instructor: Dr. Thomas R. Boucher, PhD
Binnion 310
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Office Hours: MTWR 10-11 or by appointment

Note: This syllabus details the rules and procedures by which this course is to be conducted. You are responsible for reading this syllabus and knowing the contents – enrollment in this course constitutes an acknowledgement of this responsibility and implied consent to these rules and procedures.

Description: Mathematical models, mathematical reasoning, sets, binary relations, counting and algorithm analysis, infinite sets.

Prerequisites: CSCI 151 and Math 192.

Student Learning Outcomes:

- Perform operations on discrete structures such as sets, functions, relations, and sequences.
- Construct proofs using direct proof, proof by contraposition, proof by contradiction, proof by cases, and mathematical induction.
- Demonstrate the ability to solve problems using counting techniques and combinatorics in the context of discrete probability.
- Solve problems involving recurrence relations.
- Use graphs and trees as tools to visualize and simplify situations.
- Apply algorithms and use definitions to solve problems and to prove statements in elementary number theory.

Text: *DISCRETE MATHEMATICS*, 5th Edition, by Kenneth A. Ross and Charles R. B. Wright. We will cover parts of Chapters 1-5 and 10.

eCollege: I will get an eCollege coursesite up and running as soon as I am able. All handouts and grades will be posted on the site.

Topics covered: see Class Schedule.

Grading: on a standard 100% scale:

- **HW/QUIZZES: 25%**
- **EXAMS: 5 @15% each**

Exams: There are 5 exams. There will be no makeup exams. With proper documentation of a valid excuse for missing an exam, the % of your grade due to that exam will be rolled over into the cumulative final; absent such documentation a missed exam counts as a zero. Exams will be given on Thursday each week.

Homework: will be assigned in class. These are for your benefit – I will NOT be collecting and grading them. However, you will have frequent take-home quizzes which will draw from the homework problems.

Attendance/Class Participation/Academic Integrity: Students are expected to attend all lectures in a timely fashion and to participate in classroom and group discussions and activities; therefore no record of attendance is necessary.

Note: I reserve the right to give unannounced in-class quizzes at any time. These will count as a quiz grade.

ADA Statement: 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 132, Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, email: StudentDisabilityServices@tamuc.edu

Basic Tenets of Common Decency: “All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.” (Student’s Guide Handbook, Policies and Procedures, Conduct.) This means that rude and/or disruptive behavior will not be tolerated.

Tentative Class Schedule: topics in () are time-permitting

Week	Topics
1	M – 1.1, 1.2 T- 1.3, 1.4 W – 1.5, 1.6, (1.7) R – Exam #1
2	M – 2.1, 2.3 T- 2.4 W – 3.1, 3.2 R – Exam #2
3	M – 3.3, 3.4 T- 3.5 W – (4.1), 4.2 R – Exam #3
4	M – (4.3), 4.4, 4.5 T- 4.6 W – 5.1, 5.2 R – Exam #4
5	M – 5.3, 5.4, (5.5) T- 2.2, 10.1 W – Review R – Exam #5