Math Methods (COSC 1110) Summer 2024

PROFESSOR:

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OFFICE HOURS:

M-R: 2.00 - 3.30 PM or by appointment.

TEACHING ASSISTANTS:

Name	Office Hours	Location	Email
TBA	TBA	TBA	XXX@georgetown.edu

TEXT: (7th or 8th Edition is required)
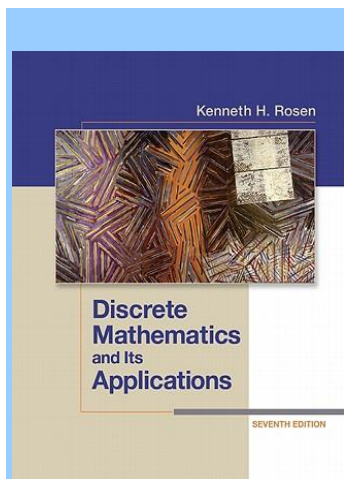
Discrete Mathematics and its Applications	Kenneth H. Rosen (7 or 8 th Ed) (required)	
Publisher	McGraw Hill	
ISBN:	978-0-07-338309-5	

SYNOPSIS:

This course, designed to be taken concurrently with COSC 052, covers mathematical tools and principles that are valuable to the computer scientist. Topics are generally in the domain of discrete, rather than continuous, mathematics, and include, propositional and predicate logic; mathematical proofs, including induction; counting and basic probability theory; logarithmic and exponential functions; elementary graph theory; and "Big-O" notation and asymptotics.

Notes:

Will be available after each class

OURSE REQUIREMENTS:

   Home Work: **50% of your final grade**
   Mid-Term: **20% of your final grade**
   Finals: **30% of your final grade**

IMPORTANT DATES:

   Mid-Term: **June 20 (R)**
   Finals: **July 3 (W)**

COURSE SCHEDULE:

Lec	Topic	Reading
1	Logic and Proofs	Chap 1
2	Sets and Functions	Chap 2
3	Algorithms	Chap 3
4	Number Theory	Chap 4
5	Induction and Recursion	Chap 5
6	Induction and Recursion	Chap 5
7	Counting	Chap 6
8	Counting	Chap 6
9	Probability	Chap 7
10	Recurrence Relations	Chap 8
11	Recurrence Relations	Chap 8
12	Relations	Chap 9
13	Graphs	Chap 10
14	Trees	Chap 11
15	Boolean Algebra	Chap 12
16	Boolean Algebra	Chap 12
17	Modeling and Computation	Chap 13
18	Modeling and Computation	Chap 13

HOME WORK:

Home Work	Given	Due	Pts	Problems	Sol
1	6-3	6-4	20	hw1	sol
2	6-4	6-5	20	hw2	sol
3	6-6	6-10	20	hw3	sol
4	6-10	6-11	20	hw4	sol
5	6-11	6-12	20	hw5	sol
6	6-12	6-13	20	hw6	sol
7	6-13	6-17	20	hw7	sol
8	6-17	6-18	20	hw8	sol
9	6-18	6-19	20	hw9	sol
10	6-20	6-24	20	hw10	sol
11	6-24	6-25	20	hw11	sol
12	6-25	6-26	20	hw12	sol
13	6-26	6-27	20	hw13	sol
14	6-27	7-01	20	hw14	sol
15	7-01	7-02	20	hw15	sol

COURSE POLICY:

1. A hard copy of *Home works* should be turned
    in at the beginning of the class. Keep the
    graded home works until the semester is
    over.

2. Late Home work will NOT be accepted. If you
    cannot make it to class, its your
    responsibility to turn it in prior
    to the due date.

3. Makeups and extensions will be given only
    Under extreme circumstances (Eg: medical
    reasons).

4. Use of ChatGPT is allowed for Home works.
    For exams it is not allowed.

COURSE ETHICS:

You can discuss the questions with your
classmates, but do not copy the solutions.