Brooklyn College

Discrete Structures (Discrete Mathematics) (3 Credits)

Course Aims/Description:

Elementary set theory, functions, relations, and Boolean algebra.Switching circuits, gating networks. Definition and analysis of algorithms. Applications of graph theory to computer science. Related algorithms. Introduction to combinatorial computing and counting arguments. Introduction to error analysis in managerial decision making to solve a wide range of operating management problems. Topics covered include: planning, evaluating, and control of operations; forecasting and inventory management; scheduling; project design and management; resource allocation; queuing models; quality of the work environment; and technological change. Design and implementation of management strategy will be emphasized through computer simulation, problems, and cases.

Required Materials:

Text: **Discrete Mathematics Fifth Edition**
Kenneth A. Ross and Charles R. B. Wright
Prentice Hall

Grading Policy (Might vary):

Quizzes:	50%
HW Questions:	10%
Final (cumulative):	40%

Table of topics and dates

(Small changes may be made during the semester)

Chapter Readings	Topics	Availability of Chapter Review Question Quiz
Chapter 1	Sets, Sequences and Functions 1.3-1.4; 1.5-1.7	Within 2 days after we complete the chapter
Chapter 2	Elementary Logic 2.1-2.2, (2.3) ; (2.4) 2.5 (2.6)	
(Chapter 13)	Predicate Calculus and Infinite Sets (Logic and Infinite Sets)	
Chapter 3	Relations 3.1-3.4, (3.5)	
Chapter 4	Induction and Recursion (4.1), 4.2-4.6	
(Chapter 11)	More on Relation (Partially Ordered Sets, Hasse Diagram) 11.1-11.3	
Chapter 5	Counting 5.1-5.5	
(Chapter 6)	Intro to Graphs and Trees	
	Final Exam	

Blackboard

Some of this course will be on Blackboard (see below).

If you are having problems with the site you may contact ITS at 718-951-5861 but it is likely due to congestion and I suggest that you simply give it some time and re-log onto blackboard later.

Plan

The course is set up on a chapter by chapter schedule – see the table on page 2.

On a weekly basis you will have to do:

1. **Readings:** Read the chapter(s)
2. **HW problems:** Complete all problems and upload them as a pdf to the discussion board (see below).
3. **Quizzes (sometimes):** Be ready for a quiz on the previous week's material.

Exams

We expect to have quizzes and then a Cumulative Final.

Please note that it is possible that proctoring software may be required to be installed on your computer when you take online exams.

You may be asked to have your cameras on during quizzes and exams.

Discussion Board and HW Problems:
Every week you should do the HW problems listed on the discussion board.

Work out the problems on paper. Scan and upload your worked out solution as a single PDF attachment to a new thread in the chapter discussion board. Other students may comment.

Contact

My email address is yarmish@sci.brooklyn.cuny.edu If you email me, your subject line should be: Discrete Structures <your name> - <the topic>