بسم الله الرحمن الرحيم

KING SAUD UNIVERSITY
COLLEGE OF COMPUTER & INFORMATION SCIENCES
DEPARTMENT OF COMPUTER SCIENCE

جامعة الملك سعود
كلية علوم الحاسب والمعلومات
قسم علوم الحاسب

CSC281 Syllabus (Spring 2024)

Course title: Discrete Mathematics for Computer Science
Instructor: Yazied Hasan(yhasan@ksu.edu.sa)
Office: 2184
Credit hours: 3 + 1
Prerequisites: Math151 + Stat324
Prerequisites to: CSC311 and CSC339

Course description: This course aims to understand and use (abstract) discrete structures that are the backbones of computer science. In particular, this class is meant to introduce logic, proofs, sets, functions, sequences, summations, number theory, counting, relations, graphs, and trees, emphasizing applications in computer science.

Textbook(s):
K.H. Rosen, *Discrete Mathematics and Its Applications*, 8th edition, McGraw-Hill, 2011.

Topics (tentative):
Note: Section number is based on the 8th edition of the textbook.

Chapter	Topic	Sections covered	# Weeks
1	Foundation: Logic	§1.1 – 1.5	1.5
2	Sets, Functions, Sequences, and Summation	§2.1 – 2.5	1.5
5	Proof techniques including Mathematical Induction	§1.7 – 1.8, §5.1 – 5.2	1
4	Number Theory and Cryptography	§4.1 – 4.6	4
5	Counting	§6.1 – 6.5	3
6	Advanced Counting Techniques	§8.1 – 8.2, §8.4 – 8.6	3
7	Relations	TBD time permitting	
8	Graphs		
9	Trees		

Evaluation:

Attendance	5 points
Homework(s)	20 points
Quizzes (2)	10 points
Midterm exam (1)	25 points
Final exam	40 points