Math 1165: Introduction to Discrete Structures

Course Schedule:

Week	Sections	Descriptions
week 1	1.3, 2.10	sets, properties of sets, and inclusion-exclusion
week 2	2.10, 2.12, 1.4, 2.11	sets, properties of sets, characteristic function, logical statements, and quantifiers
week 3	1.5 - 1.7	logic and truth tables proofs: direct, counter-examples
week 4	7.35 - 7.36	division, factoring, GCD, LCM, and the Euclidean algorithm
week 5	2.8 - 2.9	counting: factorials & permutations Catch Up & Review for Test 1
week 6	3.14	**Test 1** relations, digraphs, adjacency matrix
week 7	3.14 - 3.17	relation properties, equivalence relations, and combinations
week 8	3.17 - 3.19	multinomials, inclusion-exclusion, and derangements
week 9	4.20 - 4.22	proofs: contrapositive, contradiction, and mathematical induction
week 10	4.23	sequences and recurrence relations Review for Test 2
week 11	4.23, 5.25	**Test 2** sequences & the pigeonhole principle
week 12	5.27 - 5.29	permutation functions, symmetry
week 13	5.28 - 5.29, 7.37-7.39	symmetry, big oh notation, mods
week 14	10.54 - 10.55	posets, Hasse diagrams, max/min Review for Test 3
week 15	10.59, 9.47 - 9.49	**Test 3** lattices, boolean algebras graphs, subgraphs, paths, cycles
week 16	9.50 - 9.52	trees, spanning trees, bipartite graphs, colorings Review for Final Exam
week 17		**Final Exam**

Text: *Mathematics: A Discrete Introduction*, 3rd Edition
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