CSE 321
Discrete Structures
Midterm Topic List

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The midterm covers everything in chapters 1, 2 and 4, except 4.5. Briefly, this includes:

Logic propositions, $\vee, \wedge, \neg, \rightarrow, \leftrightarrow$, tautology, satisfiability, contingency, converse, contrapositive, truth tables, logical equivalences, quantifiers, nesting, scope, free/bound variables. Proofs: vacuous, trivial, direct, contradiction, counterexample. As to the the various laws, e.g. Table 6 in Sect 1.2, you should know them all, and know the names for associative, commutative, distributive and DeMorgan. [Ditto for the analogous Table 1 in 2.2.] Similarly, learn the rules in Tables 1 & 2 in 1.5, and the names for "modus ponens" and "resolution."

Sets $U, \cap, \cup, \in, \subseteq, \emptyset$,complement, DeMorgan, $A \times B$, cardinality, countable, denumerable, enumerable, enumeration, uncountable, diagonalization.

Functions domain, co-domain, range, image, pre-image, composition, in-, sur-, bi-jection, 1-1, onto, inverse. In table 2 of 2.4, the 2nd and 5th summations are particularly useful - memorize them.

Induction plain, strong, structural. Recursive definitions and algorithms.

The List of Symbols inside the front cover of the textbook is also a useful review.