ENGR-354 - Notes regarding exam # 1

In general the exam will cover the topics we have worked with thus far. That includes:

- Know the basics of binary numbers and hexadecimal representation
- Be able to read and write Boolean logic expressions
- Know and be able to use axioms of Boolean algebra
- Know and be able to use singe-variable theorems (often referred to as OR and AND laws)
- Know and be able to use the two and three variable properties. Commutative and Associate come naturally from regular algebra. Pay attention to the absorption, combining, and consensus theorems.
- Function minimization using boolean laws
- SOP and POS type logic expressions
- Truth tables
- Be able to take a list of SOP terms and create a truth table or place them in a K-map
- Function minimization using K-maps: loop out and writing the reduced function.
- Function minimization using entered variable (EV) K-maps.
- Symbols for common gates (INV, AND, NAND, OR, NOR, XOR)
- DeMorgan's theorem applied to boolean terms or expressions and to the common gates.
- Be able to draw out a circuit of logic gates for a given boolean expression.
- Be able to read a logic circuit and write a boolean expression for it.
- Know 1's complement and 2's complement signed number representation
- Know how decoders and multiplexers operate

No questions will be asked about the logic kit.
No questions will be asked about sections of the text that deal with VHDL.