**Exam 1 guideline**

**Dr. Abraham**

**4345 – Fall 2017**

**Please bring ScanTron form 30423 with your name and id bubbled in already.**

Study notes (20%), ppt slides (14%), student presentation questions (5%), and the multiple choice questions you have been working on (60%). The following is a limited set of subject material (not comprehensive, there will be other topics on the test), that you may want to give special attention:

1. Questions on IP address. Particularly: Classes, range of Addresses in each class, default masks, classless vs. classful, how IP addresses are distributed by ISPs, beginning and ending IP addresses and how many ip addresses, given an IP address and mask. IP addressing in LAN.
2. OSI layers, and which device operate under which layer. Each layer’s primary responsibility. Peer layer. Headers added or subtracted. Know the names of the layers.
3. Email: different components, purpose of each, protocols or ports used. Email uses FTP or UDP?
4. DNS. Purpose. Different ways of resolving an address. Root server, zone server, secondary server. Inverse look up. Organization of domain name space.
5. FTP/TFTP. Services used. Purpose. Standard ports used. Active and passive opens. Difference between control and data ports.
6. Socket programming. Socket, port, server program, client program. Well known vs ephemeral ports. Stream vs datagram.
7. HTTP: port, persistent, proxy, post, put, head, etc.
8. Student given questions