Midterm 1 Study Guide

Suggestions on how to study: read again the course Lectures & Notes carefully and similar material in the text. Review your own homework and make sure you understand the problems and mistakes you made. Scan the course material to see what questions (requiring say 15 minutes each) you might ask on a midterm if you were asked to create one.

- Understand Circuit Switching, Message Switching and Packet Switching
- TCP/IP Reference Model, Encapsulation and Decapsulation
- Classical LAN Example and how data from one machine can get to another machine on the Internet based on the TCP/IP protocol stack
- Delays in the network: propagation time, transmission time, queuing time
- Shannon Capacity Theorem and Nyquist Sampling Rate Theorem
- Error Correction and Detection, including parity, internet checksum, Hamming block codes and polynomial codes
- Link layer protocols (Lecture 3) through page on synchronization – bit stuffing
- Multiaccess control protocols (Lecture 4A) all pages.
- Local area networks (in Lecture 4B): Ethernet including logical formats, transmission algorithm, backoff, and performance
- LAN bridges except the Spanning Tree Algorithm
- Probability notes as related to analyses in the course material