Coverage for CS 408 Midterm Exam – Fall 2019
Abbreviations
CNIP: Stallings, Computer Networks and Internet Technology (our main textbook)
DCC: Stallings, Data and Computer Comm., 6th Ed.
Tanenbaum: Tanenbaum, Computer Networks, 4th Ed.
KuroseRoss: Kurose and Ross, Computer Networking, 4th Ed.

Midterm: November 18, Monday, 8:40 – 10:30. Places are to be informed via email.

- Exam will be closed book, closed notes.
- Calculators are allowed. However, it is not allowed to use a machine with any kind of communication interface (infrared, Bluetooth, Wi-Fi, Ethernet, 3G, etc.). That means, please bring only a calculator, not a combo device.
- You are responsible for all topics I covered in the class even if some of them are not in the book (I sometimes used other books) and not in the ppt files (I sometimes used board and showed applications on the computer).

Below is the coverage in the Midterm exam. The handouts from other books are available at SUCourse (under Resources), but these handouts do not imply any completeness due to some parts that I covered out of my own experience.

- Chapter 1 from CNIP, plus
    - Section 1.1 from DCC (pages 5 – 6)
    - Comparison of Circuit Switching and Packet Switching from DCC (pages 308 – 311)
    - Some performance related formulation and discussion are not from the books and may not be in ppt slides
    - 1.5.1. The Internet, from Tanenbaum (pages 50 – 59)
- Chapter 2 from CNIP, plus
    - Partially 1.3.1 from Tanenbaum (pages 26 – 30)
    - Standards from
        - CNIP Section 0.3
        - DCC Section 1.5 and Appendix 1A (pages 22 – 28)
        - And some web pages of ISOC and related organizations
- Chapter 3 from CNIP plus the applications shown on the computer (for e-mail, FTP and telnet)
- Chapter 4 from CNIP (4.3 excluded) plus
    - the applications shown on the computer (for HTTP and DNS)
    - Some parts of HTTP including Cookies, Persistent/Nonpersistent HTTP request/response examples from KuroseRoss pages 122 – 140.
    - DNS is covered as a mix of CNIP, Tanenbaum (Section 7.1 – pages 579-588) and KuroseRoss (Section 2.5 – pages 156-170). Also some examples from www.DNSstuff.com is shown.
- Data Transmission Basics
    - Basics from DCC Section 3.1 (pages 68 – 79) (not all of the section – see the corresponding ppt file for the covered parts)
    - Chapter 4 from DCC (pages 107 – 128) (some parts of this chapter may have been skipped)
    - Section 6.1 from DCC (pages 174 – 178)
- Chapter 15 from CNIP plus
    - Topologies from DCC (pages 429 – 434)
    - For the details of Channel Allocation Problem and Multiple Access Protocols, Tanenbaum is useful (Sections 4.1 and 4.2 until 4.2.3, pages 248 – 258) on top of related parts of CNIP
    - For Ethernet History, Tanenbaum is good (Section 1.5.3, pages 65 – 68)
    - For the Ethernet MAC protocol Section 4.3.3 (pages 275 – 279) of Tanenbaum may be useful on top of related parts of CNIP
    - Bridge Protocol Architecture is from DCC (pages 459 – 460)
    - Discussion on min. frame size compatibility is mostly from Section 4.3.8 of Tanenbaum (286 – 290)
    - CSMA/CD performance is discussed on board and is not in any of the books. If you have not attended that lecture, try to find notes from a friend.
- Section 5.3 from CNIP (except queuing delay)
- About Data Link Layer:
    - We covered 14.1 from CNIP
    - Performance details that are mostly shown on board are in appendices of Chapter 14
        - Appendix 14B for performance issues (until ARQ on page 506)