ECE 363 Exam Package

Date: April 14, 2025
Time: 7pm - 10pm
Location: ECS125

Rules: closed-book, 1 page double-sided note and no-programmable calculator are allowed.

Coverage: All chapters we have learned.

Highlights:

- Application layer
    - HTTP (GET, POST)
    - DNS (iterated query vs recursive query)
- Transport layer
    - Connection management (conn create vs close, 3-way handshake, etc)
    - Flow control (difference between flow control and congestion control)
    - Error control (3 dupACKs vs TimeOut, fast reTx vs fast recovery)
    - Congestion control (swnd, cwnd, rwnd, slow start, congestion avoidance, slow start threshold)
- Network layer
    - Routing (link state vs distance vector)
    - NAT (source IP/Port, destination IP/Port)
- Link layer
    - Mac addressing (ARP) (intra LAN vs inter LAN)

Question Types:
- Concept/definition difference (e.g., clarify the key difference(s) between routing and forwarding)

- Understand the link-layer and routing algorithms and complete the tables (refer to Q5 of assn 2, midterm exam, and Q4 of assn 3)

- Understand the big picture of the Internet and the workflow of protocols at different layers (e.g., HTTP, DNS, TCP, routing, NAT, ARP)

- Calculations (mainly for TCP layer, e.g., time to transmit a file)