# CSCI 415 - Computer Networks

**[FINAL TEST](#)**
**Skip Q8 of problem 1**
**Skip Problems 7 and 8**
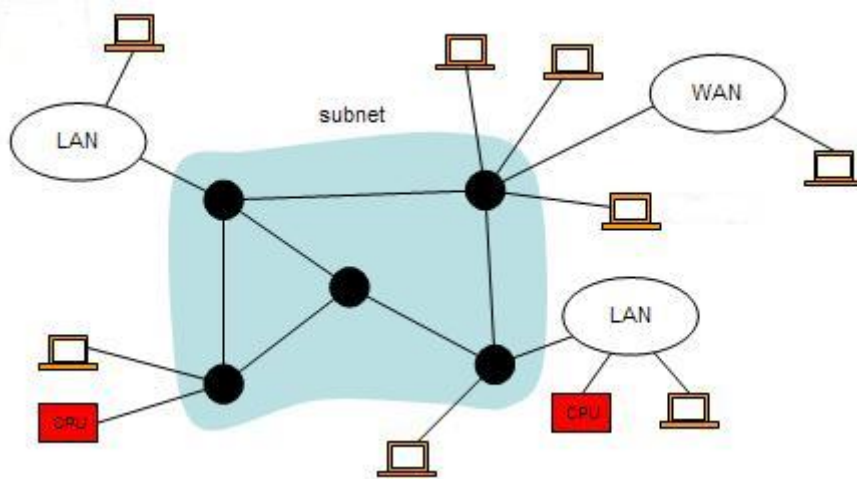


**Class**
TH 407, Mon., Wed. 4:10 PM - 5:25 PM

**Teaching staff**
Saad Mneimneh, Hunter North 1090-G
Office hours: any time **by appointment**

**[TEST 2](#)**

I am in the process of creating notes from my old handouts

**Lectures**
Lecture 1: Introduction, note 1
Lecture 2: Network layered architecture, note 2
Lecture 3: Framing, note 3
Lecture 4: Error detection, note 4
Lecture 5: Error detection, CRC, note 4
Lecture 6: Error correction Stop and Wait ARQ, note 5
Lecture 7: Continue with ARQ, note 5
Lecture 8: Sliding window with bounded numbers, note 5
Lecture 9: Link initialization protocols, note 6
Lecture 10: UDP and TCP, note 7
Lecture 11: No class
Lecture 12: Continue with TCP, note 7
Lecture 13: Test 1
Lecture 14: Going over sliding window and hw 4
Lecture 15: TCP flow control, note 8
Lecture 16: Introduction to queuing theory, Little's theorem
Lecture 17: Poisson process, memoryless property
Lecture 18: Continue with Poisson process
Lecture 19: A simple queuing system M/M/1
Lecture 20: Fairness
Lecture 21: TCP congestion control
Lecture 22: Continue with congestion control
Lecture 23: fair queuing, aloha
Lecture 24: aloha, ethernet, token ring, bridges

**Notes**
[Note 1](#)
[Note 2](#)
[Note 3](#)
[Note 4](#)
[Note 5](#)

Notes 15 and up, for now follow in handouts 8 and up

**Previous handouts**
[Note 1](#) - History, Network Topologies, WANs and LANs, Token Ring, Ethernet, Messages, Packets, Sessions, Switching Techniques, 7 Layer Architecture, Chapters 1, 2.8.1, 2.8.3
[Note 2](#) - DLC Layer, Framing, Error Detection, Parity Check Codes, CRC, Chapters 2.1, 2.3, 2.5
[Note 3](#) - Error Correction, Retransmission Strategies, ARQ, Chapter 2.4
[Note 4](#) - Link initialization, UDP, TCP, flow control, Nagle's algorithm, Chapters 2.7, 2.9, parts of 6.2, but material mainly taken from outside the book
[Note 5](#) - A gentle introduction to queueing theory (gentle?), Little's theorem, Poisson process, Chapters 3.2
[Notes 6 and 7](#) - Continuing with queuing theory, thgroughput and fairness, chapters 3.3, 3.5 (186-194), 6.5.2
[Note 8](#) - Congestion control (mainly material from outside the book)
[Note 9](#) - Multiaccess channels, Aloha, Ethernet, Token Ring, FDDI, chapters 4.2.2, 4.2.3 (282-284), 4.4.1 (305-307), 4.5.2 (317-318), 4.5.3 (320-324), 326-328
[Note 10](#) - Connecting networks, extended LANs, spanning tree of bridges, chapter 5 pp. 382-385, global internet, IP header, fragmentation and re-assembly, IP addresses, ARP, DHCP, routing, routing tables
[Note 11](#) - Building routing tables, Bellman-Ford, distributed Bellman-Ford, link/node failures, counting to infinity problem, Link state routing using flooding+Dijkstra's algorithm, material can be mainly found in chapter 5, pp. 399-402, pp. 404-407
[Note 12](#) - Subneting, Internet routing, BGP, Broadcasting, minimum spanning tree algorithms, mainly chapter 5 pp. 387-393

**Homework**
[Homework 1](#) Due 02/04/08 [Solution](#)
[Homework 2](#) Due 02/13/08 [Solution](#)
[Homework 3](#) Due 02/27/08 [Solution](#)
[Homework 4](#) Due 03/12/08 [Solution](#)
[Homework 5](#) Due 03/26/08 [Solution](#)
[Homework 6](#) Due 03/31/08
[Homework 7](#) Due 04/16/08 [Solution](#)
[Homework 8](#) Due 05/14/08 [Solution](#)

**Grading**
Project 10%
Homework 20%
Midterm 30%
Final 40%

Ask a question:

| | |
|---|---|
| **name and/or email:** | |
| **question:** | |
| | Ask your question |