Instructor: Yorai Wardi
Office: 429 TSRB
Tel (404) 894-8326
Email: ywardi@ece.gatech.edu

Office hours: Mondays, 3.00 – 4.30, and Wednesday, 11.00 – 12.30

Grading:
Quiz 1 (June 8) – 25%; Quiz 2 (July 6) - 25%; Homework – 10%; Final exam – 40%
Assignments (including exams) are subject to distance learning – based delays.

Textbook:

Topical Outline
1. Introduction
   a. Classification of Communication Networks
   b. Switching Methods (Circuit Switching, Packet Switching)

2. Physical Layer
   a. Transmission Media
   b. Digital Data Communication Techniques
   c. Interfacing to Physical Layer

3. Data Link Layer
   a. Introduction
   b. Framing Techniques
   c. Error Detection/Correction Techniques
   d. Flow Control (Stop-and-Wait, Sliding Window)
   e. ARQ Error Control (Stop-and-Wait, Go-Back-N, Selective Repeat Request)
   f. Performance Analysis of ARQ Protocols

4. Circuit Switching
   a. Circuit Switched Networks
   b. Switching Concepts
   c. Routing in Circuit Switched Networks

5. Network layer
   a. Routing
b. Traffic Control

6. Local Area Networks
   a. IEEE 802.3: Bus with CSMA/CD Protocol
   b. IEEE 802.5: Token Ring
   c. Fiber Distributed Data Interface (FDDI)
   d. Distributed Queue Dual Bus (DQDB)
   e. Fast Ethernet

7. Transport Layer
   a. Transport Protocol Mechanisms
   b. Flow Control and Congestion Control in TCP
   c. Transport Control Protocol

8. Internetworking
   a. Connectionless Internetworking
   b. The Internet Protocol
   c. Routing Protocol

9. Overview of ATM Networks
   a. Basic Concepts of ATM
   b. Multiplexing
   c. Broadband Switching
   d. ATM Cell Structure
   e. ATM Layer