Syllabus
ECE 462 - Data and Computer Communications

Course Number: ECE 462-001
Prerequisites: STAT 344 or 346, and ECE 220, and ECE 331 or 303, all with grade of C or better
Instructor: Haoxin Song
Semester: Fall 2018
Lecture Time: Tuesday and Thursday 1:30-2:45pm
Location: Nguyen Engineering Building 1108
Office phone: 703.993.3703
Email: hsong@gmu.edu
Office hours: By appointment through email (include “ece462” in email subject)

Course Description
This course provides a comprehensive overview of computer networks. Networking topics covered include layered network architecture, data encoding, multiple access, Ethernet, LAN, flow and error control and routing strategies.

Course Objectives
By the end of the course, students should be able to:
Understand how the various components of local area networks and wide area networks work together.
Understand the fundamentals of data transmission and signal encoding.
Understand the operation of various datalink layer and network layer protocols.
Gain an understanding of basic packet analysis using Wireshark protocol analyzer.

Textbook

Reference books
Course Material
All course materials, including the syllabus, lecture slides, lab and homework assignments will be posted on the Blackboard course page{ http://mymason.gmu.edu }. Login using your GMU email ID and password.

Homework will be assigned weekly and is due the following week. Late homework submission will be penalized by 20%. Not all assignments will be graded.

Grading
Homework: 10%; Midterms 1 & 2: 50%; Final Exam: 40%.

Tentative Course Schedule

Week 1: Aug. 28, Aug. 30
Networks, Layer Protocols architecture, tcp/ip (Chapters 1 and 2), Data Transmission (Chapter 3)

Week 2: Sep. 4, Sep. 6
Transmission Media (Chapter 4), Signal Encoding (Chapter 5)

Week 3: Sep. 11, Sep. 13
Signal Encoding (Chapter 5), Error Detection and Correction (Chapter 6)

Week 4: Sep. 18, Sep. 20
Datalink Control (Chapter 7)

Week 5: Sep. 25, Sep. 27
Multiplexing (Chapter 8)

Week 6: Oct. 2, Oct. 4 (Midterm Exam#1)
WAN (Chapter 9),

Week 7: Oct. 9 (no class due to Columbus Day), Oct. 11
LAN (Chapter 11)

Week 8: Oct. 16, Oct. 18
Ethernet (Chapter 12), Wireless LAN (Chapter 13)

Week 9: Oct. 23, Oct. 25
IP (Chapter 14)

Week 10: Oct. 30, Nov. 1
Transport Protocol (Chapter 15)
**Week 11:** Nov. 6 (Midterm Exam #2), Nov. 8  
Routing (Chapter 19)

**Week 12:** Nov. 13, Nov. 15  
Routing (Chapter 19), Congestion Control (Chapter 20)

**Week 13:** Nov. 20, Nov. 22 (no class - Thanksgiving)  
Internetwork Operation (Chapter 21)

**Week 14:** Nov. 27, Nov. 29  
QoS (Chapter 22), MPLS (Chapter 23)

**Week 15:** Dec. 4, Dec. 6  
Application (Chapter 24)

**Week 16:** Dec. 17 (Final Exam)