

ECE 462: Data and Computer Communication

Instructor: Haoxin (Larry) Song

Email: hsong@gmu.edu

Office Hours: Thursday 4:00pm – 5:00pm by appointment (Engineering 3707, 3708)

Course Description: This 3-Credit course introduces students to the fundamental concepts and basic technologies in modern data communications and computer networks.

Topics include:

- Basic concepts in data communication and networking
 - OSI network model and layering concept
 - Data transmission, Multiplexing, transmission media, switching, modem
 - Multiple access, Error detection, Wired LAN, Wireless LAN, Virtual LAN
 - Internet Protocol, Logical addressing, Multicasting, Routing
-

Textbook:

Behrouz A. Forouzan, *Data Communications and Networking*, Fourth Edition ,
ISBN-13: 978-0-07-296775-3, ISBN-10: 0-07-296775-7

Grading Policy:

- Midterm1 -- 20%
 - Midterm2 -- 20%
 - Homework & Quiz -- 20%
 - Final -- 40%
-

Tentative Course Calendar and Topics:

Class meet 4:30pm-5:45pm

Date	Topics	Chapter
Mon Aug-31	Introduction to Data Communication	Chapter 1
Wed Sep-2	Network Models	Chapter 2
Mon Sep-7	No Class (Labor Day)	
Wed Sep-9	Data and Signals	Chapter 3
Mon Sep-14	Data and Signals (cont'd)	Chapter 3
Wed Sep-16	Digital Transmission	Chapter 4
Mon Sep-21	Analog Transmission	Chapter 5
Wed Sep-23	Bandwidth Utilization: Multiplexing & Spreading	Chapter 6
Mon Sep-28	Transmission Media	Chapter 7
Wed Sep-30	Midterm 1	
Mon Oct-5	Switching	Chapter 8
Wed Oct-7	Using Telephone and Cable Network for Data Transmission	Chapter 9

Tue Oct-13	Error Detection and Correction	Chapter 10
Wed Oct-14	Data Link Control	Chapter 11
Mon Oct-19	Date Link Control (cont'd)	Chapter 11
Wed Oct-21	Multiple Access	Chapter 12
Mon Oct-26	Wired LAN	Chapter 13
Wed Oct-28	Wireless LAN	Chapter 14
Mon Nov-2	Connecting LANs, Backbone and Virtual LANs	Chapter 15
Wed Nov-4	Midterm 2	
Mon Nov-9	SONET/SDH	Chapter 17
Wed Nov-11	Virtual Circuit Networks	Chapter 18
Mon Nov-16	Logical Address	Chapter 19
Wed Nov-18	Logical Address (cont'd)	Chapter 19
Mon Nov-23	Internet Protocol	Chapter 20
Wed Nov-25	No Class (Thanks Giving)	
Mon Nov-30	Address Mapping, Error Reporting, Multicasting	Chapter 21
Wed Dec-2	Routing	Chapter 22
Mon Dec-7	Free Talk of chosen Topic (security, application Layer, MPLS)	
Wed Dec-9	Final Review	
Mon Dec-14	Final	