

Syllabus: COSC 4300 - 5300 Networks and Internets

Fall Semester 2021

Instructor: Thomas Schwarz, sj

Website: <https://tschwarz.mscs.mu.edu/Classes/Networking2022/index.html>

Literature

- Tanenbaum & Wetheral: Computer Networks, Prentice Hall
- Forouzan: Data Communications and Networking, McGraw Hill
- Odom: CCNA 200-301 Official Cert Guide Volumes 1 and 2

Contents

- I. Introduction
- II. Physical Layer
 - a. Description of waves, Frequency Domain, Bandwidth Limits
 - b. Digital and Analog Transmission: Digital to Digital Conversion, Analog to Digital Conversion, Transmission Modes, Digital to Analog Conversion
 - c. Bandwidth Utilization, Transmission Media
- III. Data Link Layer
 - a. Error Correction and Detection
 - b. Data link protocols
 - c. Medium Access Controls
- IV. Network Layer
 - a. Network types
 - b. Routing algorithms
 - c. Congestion control
 - d. Quality of Service
 - e. Internetworking
 - f. IP, OSPF BGP
- V. Transport Layer
 - a. Transport services
 - b. Congestion control
 - c. UDP and TCP
- VI. Application Layer
 - a. DNS
 - b. Email
 - c. WWW
 - d. Streaming
 - e. Content Delivery

Grading:

Grading is based on the following components.

Quizzes	20%
Homeworks	30%
Midterm	25%
Final	25%

Quizzes and homeworks are administered via D2L. Only submissions in PDF are accepted. Midterm and Final Examination will be conducted only online.

Synchronous Long Distance Classes

Because I will be using a pencil on occasion, I have to use my own system, which has had difficulties in the past with zoom.

Join Zoom Meeting
<https://us02web.zoom.us/j/81258461828?pwd=WElTYlJxRU8ybkhONyt6ZXlFOEZhUT09>

Meeting ID: 812 5846 1828

Passcode: 834069

One tap mobile

+13126266799,,81258461828#,,,,*834069# US (Chicago)

+16465588656,,81258461828#,,,,*834069# US (New York)

Dial by your location

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington DC)

+1 346 248 7799 US (Houston)

+1 669 900 9128 US (San Jose)

+1 253 215 8782 US (Tacoma)

Class Policies:

You are expected to take part in every class. As according the federal guidelines "merely logging in" is not considered to count as a class attended, you will have to participate in the quizzes in order to have "attended class". According to Marquette policies, I will have to dis-enroll you if you are missing more than two weeks worth of classes.

Because the class is already given in a synchronized manner, you are encouraged to attend via zoom if you feel sick. Please participate in the "know your neighbor" policy of Marquette.