Welcome to CS664
Computer Networks

Introduction

Instructor:

Maha Lakshmi Yarlagadda

WICHITA STATE UNIVERSITY

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Class Information

Instructor: Maha Lakshmi Yarlagadda
Department: School of Computing
Office Location: JB244
Email: mxyarlagadda@shockers.wichita.edu
Preferred Method of Contact: Email
Office Hours: 09:45 AM – 10:45 AM Monday, Wednesday

Classroom Day/Time: Wallace Hall 310/

Monday, Wednesday and Friday 11:00 AM-12:15 PM

Prerequisites: CS 311(Object-Oriented Programming), and IME 254(Engineering Probability and Statistics)
Teaching Assistant: None
TA Contact: None
TA Office Hours: None

Course Description

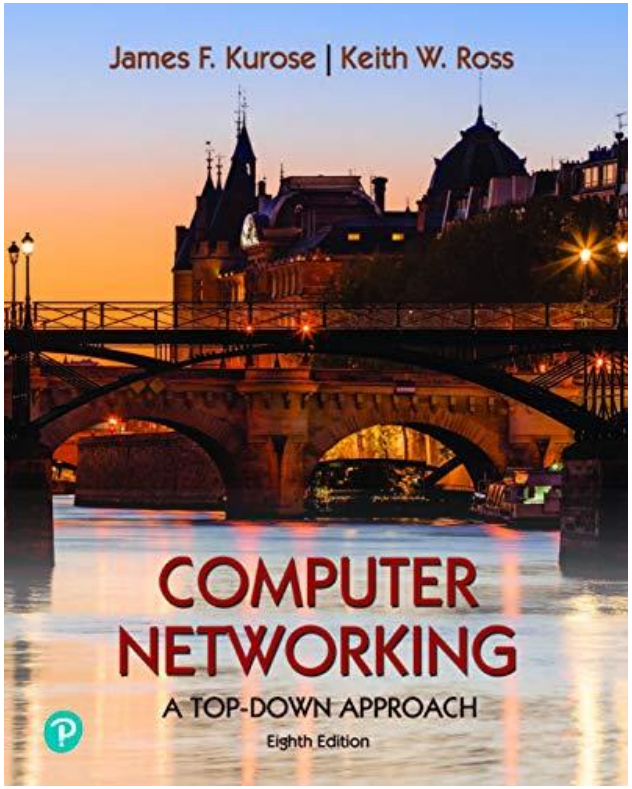
Introductory course on computer networking. Introduces concepts and protocols in various network layers with emphasis on the internet. Topics covered include, physical layer (wired and wireless), medium access control and data link layers, packet switching and routing (IP), routing protocols, transport layer (TCP, UDP), congestion and flow control, basic network security, and network applications.

Prerequisite(s): undergraduate students: IME 254(Engineering Probability and Statistics) and CS 311(Object-Oriented Programming); graduate students: object-oriented programming and statistics/probability knowledge.

Textbook

Computer Networking: a Top-Down Approach (8th ed.)

J.F. Kurose, K.W. Ross, Pearson, 2020



Class protocol & Course learning Objectives

- You are responsible to check your school-registered emails at least once a day. All material and assignments will be posted on Blackboard and in addition, I may contact you about the homework, quizzes, and exams through your email. Make sure you can receive emails and your mailbox is not full.
- Any grades posted on Blackboard are only a copy of the official grades which are kept on a private spreadsheet. There may occasionally be a difference which if brought to my attention, I am willing to explain and/or correct.
- Describe the functionality of networking protocols such as TCP, ICMP, IP and routing protocols.
- Analyze the efficiency of networking protocols by applying concepts and solving problems.
- Understand algorithms to implement the functionality of the networking protocols.

Grade Evaluation

- Your letter grade will be based on the following components:

Homework Assignments – 20%

Quiz – 20%

Exam 1 – 30%

Exam 2 – 30%

- Your final course grade will be based on the following:

Percentage obtained	Letter grade
>= 90	A
>= 85 and < 90	A-
>= 80 and < 85	B+
>= 75 and < 80	B
>= 70 and < 75	B-
>= 65 and < 70	C+
>= 60 and < 65	C
>= 50 and < 60	C-
>= 40 and < 50	D
< 40	F

Academic Honesty

- Any evidence of academic dishonesty (or plagiarism), including copying of homework (from other students or from Online sources), and cheating during exams/quizzes, will be treated with utmost seriousness.
- First offense will result in a zero on the assignment/Quiz/exam. Those who are involved the second time will automatically receive an F grade for the course.
- Any assignment with an 85% or more on SafeAssign WILL NOT be graded and given a ZERO.
- It is your responsibility to protect your computer files (by setting appropriate access protection) and printouts.

What is allowed?

- Discussions with classmates/Instructor on possible approaches/directions for solving homework problems.
- All homework should be completed (and written) individually.

What is not allowed (and would be considered as dishonesty/plagiarism/cheating)?

- Copying (by slightly modifying) homework or any other course related submission from other students.
- Sharing one's own homework solutions or other course submission material with others.
- Please protect (both physical and digitally) your submissions. You will be held responsible even if your homework or project work is copied without your consent.
- Referring to Internet sources or textbook solution guides for completing homework. If you must use some information available online for your submissions, you must clearly cite or acknowledge the original author of the work (This may result in grading penalties; check with the instructor before using someone else's work).

Contact policy

- Email communication is the best way of communication. Feel free to email me any questions or concerns following these guidelines
- Always use the course name in the subject line of the email
- Remember to sign your name.
- Always email me from your WSU email address. Email sent from personal email servers like Gmail, Yahoo, etc., have a tendency to end up in my spam folder, and I never see them. You may also email me through Blackboard via the Email My Instructor tab. I will respond all your questions within 48 working hours.
- If you have a problem with accessing or uploading assignments, you should let me know before your assignment is due. You will also have to accompany this notification with the file in question, so I can verify that it is completed by the due date/time.

Homework Assignments

- There will be a total of 4 homework assignments throughout the course. All homework assignments must be completed individually. Homework must be submitted on Blackboard as a single PDF file.
- **No Late Submissions**: Assignments must be submitted on time, and late submissions are not accepted. This policy encourages students to manage their time effectively and prioritize their work.
- **High Point Weightage**: Homework assignments carry a significant portion of the overall grade, emphasizing their importance in the learning process. Each homework assignment will carry a weight of 5% of the overall grade.

Quizzes

- There will be a total of 2 quizzes throughout the course.
- Each Quiz will carry a weight of 10% of the overall grade.
- Quiz will be conducted during class time.
- Once the quiz starts, you will be given 45 minutes to complete it.

Late Assignments/Missed Exams

- All assignments are due as indicated on Blackboard. Late assignments will **NOT** be graded unless the student has prior permission from the instructor. Please send an email to the GTAs and CC your instructor if you know that you are in danger of missing an assignment no later than 5pm on the day of submission. Documentation of the reason for missing will be required by the instructor.
- A student is allowed to make up the missed exam or quiz. Documentation of reason will be required by instructor.

Tentative Schedule

- A tentative schedule is posted to BlackBoard. This schedule may change during the summer and any changes will be posted to Blackboard and discussed in class.

Week number	Topics
1	Introduction to Computer Networks and Internet (Chapter 1)
2	Application Layer: Principles of Network Applications, HTTP, SMTP, DNS, P2P, Video Streaming and Content Distribution Networks and Socket Programming (Chapter 2)
3	Application Layer: Principles of Network Applications, HTTP, SMTP, DNS, P2P, Video Streaming and Content Distribution Networks and Socket Programming (Chapter 2)
4	Transport Layer: Introduction, Multiplexing and Demultiplexing, UDP, Principles of Reliable Data Transfer, TCP, Principles of Congestion Control, TCP Congestion Control, Evolution of Transport Layer Functionality (Chapter 3)
5	Transport Layer: Introduction, Multiplexing and Demultiplexing, UDP, Principles of Reliable Data Transfer, TCP, Principles of Congestion Control, TCP Congestion Control, Evolution of Transport Layer Functionality (Chapter 3)
6	Network Layer: The Data Plane: Overview, Switching fabrics, Buffers, Packet Scheduling, IPv4, NAT, IPv6, Generalized forwarding, Middleboxes (Chapter 4)
7	Network Layer: The Data Plane: Overview, Switching fabrics, Buffers, Packet Scheduling, IPv4, NAT, IPv6, Generalized forwarding, Middleboxes (Chapter 4)
8	Network Layer: The Control Plane: Introduction, Link-State and Distance-Vector routing algorithms, Intra-AS Routing (OSPF), Routing Among the ISPs (BGP) (Chapter 5)

Disability Services

- If you have a physical, emotional, or learning disability that may impact on your ability to carry out assigned coursework, I encourage you to contact the Office of Disability Services (DS).
- The office is located in Grace Wilkie, room 203, (316) 978-3309 (voice/tty) (316-854-3032 videophone). DS will review your concerns and determine, with you, what academic accommodations are necessary and appropriate for you.
- All information and documentation of your disability is confidential and will not be released by DS without your written permission.

Classroom silence policies

- **Raising Questions Appropriately:** Save questions related to the class topic for appropriate times (e.g., end of a lecture or designated Q&A sessions).
- **Electronic Devices During Lectures:** Put electronic devices on silent mode or turn them off during class to minimize disturbances.
- **Electronic Devices During Exam/Quiz:** Using personal electronic devices such as smart phones, tablets, headphones and smart watches during exam/quiz are strictly prohibited.

Important Academic Dates Spring 2024

- Last day to drop an eight-week class and not have it appear on your record: June 7
- Quiz 1: June 24
- Exam 1: July 5
- Last day to drop an eight-week class with a “W”: July 9
- Quiz 2: July 22
- Exam 2: July 26

Questions?

If you have any questions regarding the class, please wait until the end of the class to talk to me, and please do not disturb during the middle of the class.