

THE UNIVERSITY OF TEXAS AT TYLER
DEPARTMENT OF COMPUTER SCIENCE
COSC 5350 – Data Communication and Networks
Spring 2023

Instructor: Nary Subramanian, Ph.D.
COB 315.11
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Lecture: Tuesday 6.00 pm to 8:45 pm COB 255

Office Hours: Tues and Thurs 8:00 am to 9:30 am

Text: *Computer Networking: A Top-Down Approach* by James Kurose and Keith Ross, 8th (Eighth) Edition, Pearson Publishing, ISBN 978-0-13-668155-7.

Catalog Description: An in-depth study of data communications and networking. Covers the architecture, design and implementation of computer networks. Topics include data transmission, switching, protocols and security.

Course Description: Computer networking has become the most important modern technology that has helped connect people from across the world. This is especially so with the largest public network, the Internet, that has enabled people access information from anywhere, anytime, and anyhow. In this course we will understand the structure of the Internet and the basics of computer networking so that you can design your own networks for yourself, your employer, or for your research. Recently mobile Internet access has exceeded fixed Internet access and this trend is expected to grow with the advancement of Internet of Things (IoT) technologies. We need to understand what mobile networking technologies are and be ready to leverage their potential in our network designs. We will also study network security so that the networks we design are resistant to attacks. All relevant course material will be posted on Canvas.

Grading: Grading will be based on exams and homework. All homework submissions should be made electronically to Canvas – no physical paper submissions will be accepted. Late submissions will not be graded. There will be two mid-term exams as per schedule given later. Attendance will be taken twice in each class – once around 6.30pm and again around 8.30pm; you need to be present during both roll calls for attendance to be marked for the week. There will be a break of 10 minutes at 7.20pm each class. Midterm exams will be held from 6pm to 7.20pm during the scheduled days and regular classes will continue from 7.30pm on these days. Weights are given below:

First Midterm Exam	25%
Second Midterm Exam	25%
Final Exam	25%
Attendance	10%
Homework	15%

Grading Policy:

Points	Grade
≥85	A
≥75, < 85	B
≥65, < 75	C

Course Objectives:

1. Understand the principles of data communications and network
2. Analyze different networking options

3. Design a networked system given the requirements
4. Compare different networking technologies
5. Apply security principles to secure data in transit.

Tentative Schedule:

<u>Week</u>	<u>Chapter</u>	<u>Topic</u>
1	1	Computer Networks and the Internet
2	1	Computer Networks and the Internet
3	2	Application Layer
4	2	Application Layer
5	3	Transport Layer
6	FIRST MIDTERM EXAM, Tuesday, February 14th, 2023	
7	3	Transport Layer
8	4	Network Layer: Data Plane
9	4	Network Layer: Data Plane
10	5	Network Layer: Control Plane
11	SECOND MIDTERM EXAM, Tuesday, March 28th, 2023	
12	6	Link Layer and LANs
13	7	Wireless and Mobile Networks
14	FINAL EXAM, Tuesday, April 18 th , 2023 from 6pm to 8pm	

Census Date: January 23rd, 2023

Attendance and Make-up Policy

It is in your interest to attend all classes. There will be no make-ups for missed exams; missed exams will get a grade of zero.

University Policies

University policies can be seen at <https://www.uttler.edu/academic-affairs/files/syllabuspolicy.pdf>. They are given below as well.