THE UNIVERSITY OF TEXAS AT TYLER
DEPARTMENT OF COMPUTER SCIENCE
COSC 5350 – Data Communication and Networks
Spring 2025

Instructor: Nary Subramanian, Ph.D.
COB 315.11
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Lecture: Monday/Wednesday 2.30 pm to 3:55 pm COB 211

Office Hours: Monday/Wednesday 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. For each homework assignment on Canvas you will get **one** attempt only. Late submissions will not be graded. There will be two mid-term exams and one final exam as per schedule given later. Weights are given below:

First Midterm Exam	25%
Second Midterm Exam	25%
Final Exam	30%
Homework	20%

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:

Week	Chapter	Topic
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
	FIRST MIDTERM EXAM, Wednesday, February 12th, 2025	
6	3	Transport Layer
7	4	Network Layer: Data Plane
8	5	Network Layer: Control Plane
9	6	Link Layer and LANs
	SECOND MIDTERM EXAM, Wednesday, March 12th, 2025	
10	6	Link Layer and LANs
11	7	Wireless and Mobile Networks
12	7	Wireless and Mobile Networks
13	8	Network Security
14	8	Network Security
	FINAL EXAM, Wednesday, April 23rd, 2025 from 2.30pm to 4.30pm	

Census Date: January 27th, 2025

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.