

Assumption University
Vincent Mary School of Engineering, Science and Technology

CSX3005 Computer Networks

Semester 1/2024

Number of Credits :	3 Credits
Pre-requisite(s) :	None
Instructor :	Ms. Piyakul Tillapart
Office Location :	VME 0304
E-mail Address :	piyakultll@au.edu
Class Schedule :	Section 541: Every Tuesday, 13:30-16:30 Section 542: Every Friday, 13:30-16:30
Class Venue :	SLM 0404

Course Description

CSX3005

3 (3-0-6) credits

Fundamentals of computer networks, network devices and services, role of protocol layers, protocol basics and network protocols, inter-operability issues, Open System Interconnection (OSI) reference model and TCP/IP, addressing and naming schemes, network types and topologies, wired and wireless networks, network media, Local Area Network (LAN) and Wide Area Network (WAN) technologies, network security basics.

Primary Material

- James F. Kurose and Keith W. Ross, "Computer Networking: A Top-Down Approach", 8th Edition, Global Edition, Pearson Education Limited, 2022.
- Larry L. Peterson and Bruce S. Davie, "Computer Networks: A Systems Approach", Web-based Version 6.2. <https://book.systemsapproach.org/>

Mark Allocation

Class participation and contribution, in-class activities, homework	15%
Mini Research(s) + Mini-Research#1 (mid of semester) + Mini-Research#2 (end of semester)	20% (10%+10%)
Midterm examination (Date and time defined by Registrar)	30%
Final examination (Date and time defined by Registrar)	40%
Total	100%

Course Content & Schedule

Week	Date	Topics	Remark
1	(Sec. 541) Jun 4, 2024 (Sec. 542) Jun 7, 2024	Introduction + Fundamentals of computer networks and the Internet	Chapter 1
2	(Sec. 541) Jun 11, 2024 (Sec. 542) Jun 14, 2024	Application Layer + Common application layer protocols	Chapter 2
3	(Sec. 541) Jun 18, 2024 (Sec. 542) Jun 21, 2024	Transport Layer + Two transport layer protocols: UDP and TCP	Chapter 3
4	(Sec. 541) Jun 25, 2024 (Sec. 542) Jun 28, 2024	Network Layer – Data Plane (I) + IPv4 and IPv6	Chapter 4
5	(Sec. 541) Jul 2, 2024 (Sec. 542) Jul 5, 2024	Network Layer – Data Plane (II) + Switching and routing, generalization and SDN	Chapter 4
6	(Sec. 541) Jul 9, 2024 (Sec. 542) Jul 12, 2024	Network Layer – Control Plane (I) + Routing algorithms	Chapter 5
7	(Sec. 541) Jul 16, 2024 (Sec. 542) Jul 19, 2024	Mini-Research Presentation #1	
8	(Sec. 541) Jul 23, 2024 (Sec. 542) Jul 26, 2024	Spare class, discussion, and preparation for midterm exam	
Midterm Examination (2 hrs)			
9	(Sec. 541) Aug 13, 2024 (Sec. 542) Aug 9, 2024	Network Layer – Control Plane (II) + SDN, ICMP, and SNMP	Chapter 5
10	(Sec. 541) Aug 20, 2024 (Sec. 542) Aug 16, 2024	Link Layer (I) + Essential protocols for link layer functions	Chapter 6
11	(Sec. 541) Aug 27, 2024 (Sec. 542) Aug 23, 2024	Link Layer (II) + LAN technologies	Chapter 6
12	(Sec. 541) Sept 3, 2024 (Sec. 542) Aug 30, 2024	Wireless and mobile networks	Chapter 7
13	(Sec. 541) Sept 10, 2024 (Sec. 542) Sept 6, 2024	Security in computer networks	Chapter 8
14	(Sec. 541) Sept 17, 2024 (Sec. 542) Sept 13, 2024	Mini-Research Presentation #2	
15	(Sec. 541) Sept 24, 2024 (Sec. 542) Sept 20, 2024	Spare class, discussion, and preparation for final exam	
Final Examination (3 hrs.)			