Al Imam Mohammad ibn Saud Islamic University
College of Computer and Information Sciences

Computer Science Department
Course Syllabus
CS330 - Computer Networks

Catalog Description: The course introduces fundamental concepts in the design and implementation of computer communication networks and their protocols. This includes layered network architectures, applications, transport, congestion, routing, data link protocols, local area networks. An emphasis will be placed on the protocols used in the Internet. A top-down approach will be emphasized during the course starting from the application layer down to the data link layer. Major topics include:
- Overview of computer networks and the Internet
- Knowledge of layered network architectures and the Internet Stack
- Application Layer Protocols (HTTP/FTP/SMTP/DNS/) protocols.
- UDP/TCP Socket Programming
- Transport layer and the TCP/UDP protocols
- Network layer,the IP protocol and routing algorithm in the Internet
- Data link layer and local area networks LAN

Credit Hours: **4 Credit hours:**   **4** Lectures per week   **0** Labs. per week   **0** Recitation per week

Prerequisites: CS322 Operating Systems

Course Learning Outcomes:
1. Discuss the benefits of layered communication architectures (OSI and TCP/IP) models and develop the appreciation of the design issues involved in each layer for both models.
2. Describe the working mechanisms of some of the Internet application layer protocols such as HTTP, FTP, SMTP, and DNS.
3. Write simple networked applications using Socket TCP/UDP library and apply networking principles on these applications.
4. Understand the syntax and semantic of connection-oriented (TCP) and connectionless (UDP) protocols implemented at the transport layer and the principles of reliable data transfer.
5. Describe the basic functions of the network layer in general and of routing and the semantics and syntax of IP in particular.
6. Describe the basic functions of the DL layer and understand the basic principles and technologies of Local Area Networks.
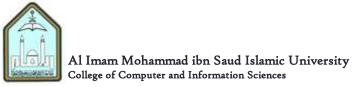
Major Topics:
- Introduction
- Application Layer
- Transport Layer
- Network Layer
- Data Link Layer and Local Area Networks

Text Books: Computer Networking: A Top-Down Approach, Ross and Kurose, 6th edition, Addison-Wesley, 2012.

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Grading:

◉ The grading scale for this course is:

. 95 - 100 A+ Passing
. 90 - 94 A Passing
. 85 - 89 B+ Passing
. 80 - 84 B Passing
. 75 - 79 C+ Passing
. 70 - 74 C Passing
. 65 - 69 D+ Passing
. 60 - 64 D Passing
. 0 - 59 F Failing

◉ Final grades will be determined based on the following components:

. 60% Semester Work
. 40% Final Exam

◉ Students may not do any additional work for extra credit nor resubmit any graded activity to raise a final grade.

◉ Late submissions will not be accepted for any graded activity for any reason.

◉ Studentshave one week to request the re-grading of any semester work.
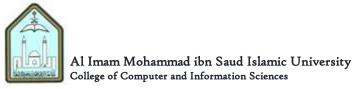
Attendance Policy:

Students should attend 80% of the overall course hours taught in the semester as per the University regulations.

If a student fails to achieve this portion, he/she shall not be allowed to appear in the final exam and shall be awarded "DN" grade and repeat the course.

Cheating and Plagiarism Policy:

The instructor will use several manual and automated means to detect cheating and/or plagiarism in any work submitted by students for this course.

When a student is suspected of cheating or plagiarism, the instructor raises the issue to the disciplinary committee.

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Communications:	Registered students will be given access to a section of the Blackboard Learning System for this course. Bb will used as the primary mechanism to disseminate course information, including announcements, lecture slides, assignments, and grades.
	Communication with the instructor on issues relating to the individual student should be conducted using CIS email, via telephone, or in person.