CIS370: Introduction to Computer Networks

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Course Description: The major objective of this course is to let students have an introductory understanding about computer networking and administration. This course introduces basic principles of computer networking; discusses local area networks (LAN) and wide area networks (WAN); examines the network hardware and software features; explores the principal methods used to access computer networks, wired or wireless; describes the Open Systems Interconnection (OSI) reference model; examines the TCP/IP protocol and its relationship to the OSI reference model; learns how to use repeaters, bridges, routers, brouters, and gateways to extend networks; and installs a TCP/IP LAN connected to Internet through a router. The course also prepare students to the industrial certification Network+ and MCSE.

Learning Goals:

This course is to achieve the following Global Learning Goals of KSI:

- Students must acquire both a conceptual and operational understanding of the development of sophisticated programming applications including: knowledge of advanced application development in at least two upper level object oriented developer languages, and familiarity with advanced principles of networks and databases
- Students must acquire the ability to be creative, analytical, and critical thinkers in the arenas of information technology and computer science engineering

Class Objectives: The student will:
1. demonstrate knowledge of computer networks, protocol standards, and Internet architecture.
2. demonstrate knowledge to install, configure, manage, and trouble-shooting TCP/IP networks
3. demonstrate knowledge to write networking applications using TCP/IP sockets.
4. demonstrate knowledge of Local Area Networks, including LAN design and implementation.

To achieve the above objectives, we will cover the following topics in details:

<topic>Network Basics</topic>
<topic>Network Hardware</topic>
<topic>TCP/IP Fundamentals</topic>
<topic>TCP/IP Applications</topic>
<topic>Network Security</topic>
<topic>Network Connections</topic>
<topic>Data-Link Layer Protocols</topic>
<topic>Network Layer Protocols</topic>
<topic>Transport Layer Protocols</topic>
<topic>LAN Network Management</topic>

Textbook:

Course Contents:

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<td>Introduction to Networking</td>
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<td>Basic Network Media</td>
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"Grading Policy:

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<td></td>
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<td>F: 0-49</td>
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1. Students must submit assignments/projects before the due date to avoid grading deductions for lateness.
2. Students who miss the midterm exam will not be allowed to take the final exam, but can obtain permission to make up the midterm exam within seven (7) days after the scheduled midterm.
3. Students will receive an “I” (incomplete) grade if he/she:
   - Fails to submit assignments/projects
   - Misses the final exam
4. Students will receive an “F” (failing) grade if he/she:
   - Fails to submit less than half of the assignments/projects
   - Receives an “I” (incomplete) grade but still fails to submit the makeup coursework within thirty (30) calendar days beyond the end date of the course
5. An “I” (incomplete) grade may be converted to a non-failing grade according to the quality of any makeup work submitted within thirty (30) days. On the thirty-first (31st) day after an “I” grade is given, the grade will automatically be converted to an “F” grade if no makeup work has been submitted.
6. Students are expected to attend every class on time without arriving late or leaving early.
   - An absence due to a personal emergency or illness may be considered “excused” so long as the student provides official documentation (e.g., a doctor’s note) giving reason for the absence. See section 7.4 for further detail.
   - If a student misses the first 3 consecutive classes of a course, unexcused, the student will receive an F grade for the course. This will immediately affect the student’s authorization to work the following semester, if applicable.
   - If a student misses 5 or more classes, unexcused, the student will receive an F grade for the course. This will immediately affect the student’s authorization to work the following semester, if applicable.
   - Students are required to attend classes on time. A “Late” will be recorded for students who arrive more than 10 minutes after the class is scheduled to begin. Two recorded “Late”s are equivalent to one class absence on a student’s attendance record.
   - Students are required to remain in class for the entire class duration. An “Early Leave” will be recorded for any student...
who leaves before a class is scheduled to end. Two “Early Leave”s are equivalent to one class absence on a student’s attendance records.