CMPS 309 Syllabus
Fall 2008

Instructor
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Office hour: M, W, F – 11:00 AM to 1:00 PM, 2:00 PM to 3:30 PM

Catalog Description
Fundamentals of computer networking and protocols used in local area and wide area networks. Topics include network selection, installation, customization, and administration.

Course Description
Introduction to computer networking, including fundamental, primary protocol suites, local area and wide area networks, and internet applications and security. A number of practices in using network analyzer, such as packet sniffing tool, to categorize and analyze internet traffic will be included.

Topics Included
• Protocol Architecture
• Data Transmission
• Data Link Control Protocol
• Circuit Switching and Packet Switching
• Local Area Network Overview
• Internetworking Protocols and Operations
• Transport Protocols
• Network Security
• Internet Applications – Directory Service and World Wide Web

Course Objectives
After completing of the course a student will understand:
• OSI and TCP/IP network protocol suites;
• Distinction between digital and analog data; and digital and analog transmission;
• Transmission impairments, Nyquist Bandwidth and Shannon Capacity Formula;
• Data link control protocols, the cooperative point-to-point exchange of data between two devices;
• Error detection, error and flow control;
• Packet-switched networks, network routing and congestion control;
• Virtual Circuit and Datagram;
• Traditional LANs, Ethernet and token ring;
• Bridges, routers and basic principles of internetworking (IP);
• Host to host transport protocol mechanisms (TCP); and
• Network security tools, techniques, and services.
• DNS and HTTP operations; and
• How to use Network Analyzer, such as WireShark.

**Prerequisites**
CMPS 161 or CMPS 169, and CMPS 293, and MATH 165

**Textbook**

**Course Requirements**
- Reading of all assigned materials (text or online) before discussion in class.
- On-time completion and submission of assignments and projects. Late submissions will not be taken.
- Regular visits to the course Blackboard web page for announcements, assignments, handouts, notes and schedules.
- Personal responsibility to understand and gather materials from missed classes.
- Ability to use online tools (Blackboard, Email, World Wide Web).
- Exams will be based on course texts, homework/assignments, handouts, links and notes posted on Blackboard and class discussions.

**Americans with Disabilities ACT**
If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office Disability Services, Room 111, Student Union. No accommodations will be granted without documentation from the Office Disability Services.

**Class Procedures**
*Class Attendance:* Students are expected to attend class regularly and punctually unless illness or an emergency arises. In these cases a proof of emergency is required. **Excessive absences may jeopardize your chances of success in this course.** Absences will have an adverse effect on your grade in the following ways: missed announcements concerning assignments and due dates, non-exposure to material not directly covered in text.

*Classroom Decorum:* Free discussion, inquiry, and expression is welcomed and encouraged in this class. Classroom behavior that interferes with either (a) the instructor's ability to conduct the class or (b) the ability of students to benefit from the instruction is not acceptable.

**Academic Dishonesty**
Any form of academic dishonesty on assignment/exam will not be tolerated. For more information, refer to the “Academic Dishonesty” policy in the University Undergraduate Catalog.

**Open Door Policy**
The instructor welcomes input to help make your learning of the material in this course better and more productive. Please feel free to come by during the office hour and voice your suggestions and ideas.
Other Policies
Each graded exam or assignment will be returned to you in class within one week after the submission. If there is any question about your grades, talk to me immediately. After grades have been returned for one week, I assume the grades are correct and will not be reevaluated.

Important Dates
1  Friday, October 24 is the last day to withdraw or resign from regular classes.
2  Monday, December 15 is the last day to return rental textbooks without a fine.

Grading
Assignments and projects are due on the assigned dates whether or not the student attends. Late assignments are not accepted. No make-up exams will be given without PRIOR consent or proof of emergency.

Exam:  Mid-term  20%
       Final      30%

Project:  20%
      • Ethereal project: Ethereal is an open source protocol analyzer. It’s used by the network professionals for troubleshooting, analysis, software and protocol development, and education.
      • System administration project: To take advantage of the newly established system administration lab (Fayard Rm 125), we are going to do some project closely related to Internet application, such as setting up Domain Name Server.

Homework: 4 to 5 assignments. 30%

Grading Scale

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<tr>
<th>Grade Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 - 100 %</td>
<td>A</td>
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<tr>
<td>80 – 89%</td>
<td>B</td>
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<tr>
<td>70 – 79%</td>
<td>C</td>
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<td>60 – 69%</td>
<td>D</td>
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<td>Below 60%</td>
<td>F</td>
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