California State University Monterey Bay
CST 311: Introduction to Computer Networks
Fall 2014
Anand Seetharam

Time
Mon & Wed – 10:00 AM to 11:50 AM

Place
Mon & Wed: Beginning at 10am: MLC 160

Instructor
Dr. Anand Seetharam (aseetharam@csumb.edu)

Office
MLC 176

Office hours
Mon & Wed: 1:30 PM to 2:30 PM or by appointment.

Description
Introduction to data communications technologies including Local Area Networks, Wide Area Networks, Internet and internetworking protocols including TCP/IP, network security and performance, emerging industry trends such as voice over the network, peer-to-peer networking and high speed networking.

Textbook
"Computer Networks – A Top-Down Approach", 6th Edition, J. Kurose, K. Ross (Amazon link)

Prerequisites
Recommended: CST 231, CST 238, CST 334, CST 337

Outcomes
At the end of the course, students must

Knowledge outcomes

1. Be able to describe the advantages and disadvantages of layering, and the application of layering idea to TCP/IP networking.

2. Be able to use essential networking applications and describe how the applications work.
3. Be able to describe the functionality and inter-layer relationships of TCP/IP protocol suite including TCP, UPD, IP, ARP, routing protocols, and media access protocols.
4. Be able to describe some issues and possible solutions related to (Time-permitting)
    a. Wireless & mobile networking.
    b. Multimedia networking
    c. Security
5. Be able to describe the theory and practical aspects related to network management (Time-permitting).

Skills/Abilities outcomes

6. Achieve at least two of the following three outcomes:
    a. Solve problems from CCNA Network Fundamentals v4.0 and CCNA Routing Concepts and Protocol v4.0 Lab work.
    b. Develop simulation models to analyze the performance of computer networks.
    c. Develop simple software programs using sockets to achieve communication between two (or more) computers.
    d. List basic research methods. This will be really useful if you are thinking of pursuing graduate school.
7. Be able to use simple analytical models to estimate network performance.

Teaching modality

Two classes per week: you will have pre-class activity clearly identified on iLearn – check and do the work. **You have to engage actively in your education.**

Assignments will be given adequate time for completion – if you wait until the last minute to work on the assignment, you may have difficulty getting access to the lab equipment – I will not give extension due to such procrastinating on your part, plan ahead and complete the assignments on time. 2-8 hours of homework/assignment work per week outside of class time.

Reading Assignments
Reading assignments are posted on iLearn; you are expected to read the sections. The ability to read technical, complex material and understand the concepts is a crucial skill that will help you in your career. We will discuss them in the class as well. Your class participation grade significantly will be affected by your participation in class.

Assignments
Assignments are posted on iLearn. You are responsible for keeping track of posted assignments and their due date/time. Some of the assignments will include team assignments – in those cases, you will work with the student in your team together to complete the assignment.

Late assignments will be penalized 15% per day late. No assignments will be accepted after a week from the deadline. If the amount of time allotted for an assignment is not enough, it should be brought for discussion during class.

Project
Create a team of 2 students to work on the project. Select a project based on the ideas discussed in 'Project Ideas' on iLearn.

You must prepare a plan for your project and get my approval as soon as possible. Your project will be based on the assignments, but will explore deeper into the areas. Report/presentation is due at the end of the semester. You will submit two intermediate status reports and may have to do one current status presentation during the semester.

Create a project document on Google doc and share it with the teaching assistant and me. Your project progress and assignments should be updated on this document regularly.

Course Structure and Grading
Total**:** 100 points
MIDTERM: 20 points
FINAL: 20 points
Class participation: 5 points
Quiz (in class): 9 points (3 short quizzes with 5 - 10 questions in each quiz)
Project: 20 points

Homework: 26 points

1. Labs: 6 points (3 Wireshark assignments)
2. Written Assignment : 10 points (4 assignments with 3 - 4 problems in each)
3. Programming Assignments: 10 points (1 assignment)

Grade		
A	100	93 ≥
A–	93 <	90 ≥
B+	90 <	87 ≥
B	87 <	83 ≥
B–	83 <	80 ≥
C+	80 <	76 ≥
C	76 <	70 ≥
F	70 <	0

Email and Appointment

When you email me, please put the class name in the subject line and include your name in the body of the message. I teach a number of classes, so this helps me whenever questions are being asked.

Also, I expect all email correspondence to adhere to academic and professional guidelines - TEXT MESSAGE approaches and other shortcuts are completely inappropriate. Emails that contain spelling, grammar, or punctuation errors, or use shortcuts such as not capitalizing, will be ignored entirely.

Your email should contain a beginning, middle and end:
Dear Prof. Seetharam,

Body of the email.

Thanks,
Your name

Academic Integrity

By accepting admission to Calilfornia State University Monterey Bay, you made a commitment to understand, support, and abide by the University policies without compromise and exception. The code and policies are available in your Student Handbook and on the web at

http://policy.csumb.edu/site/x16011.xml You are responsible for reading and understanding the **Academic Integrity policy.**

It is expected that you yourself have done the work you turn in. That is not to say you cannot get help from another student, your instructor or any other person. However, you need to be very clear about the difference between getting help and another person doing your work. Unless specifically authorized by a class instructor, all of the following uses of a computer are violations of the University's guidelines for academic honesty and are punishable as acts of plagiarism:

copying a computer file that contains another student's assignment and submitting it as your own work.

- copying a computer file that contains another student's assignment and using it as a model for your own assignment.
- working together on an assignment, sharing computer files or programs involved, and then submitting individual copies of the assignment as your own work.
- knowingly allowing another student to copy or use one of your computer files and to submit that file, or a medication thereof, as his or her individual work.
- plagiarism—representing the work of others as your own, by not properly citing all sources (be especially careful of materials copied from the web).
- duplicating or distributing copies of copyrighted software programs, music, videos, images or other media—except as allowed by legal fair use standards in education.

Every student is expected to do his/her own work on individual assignments. Any evidence to the contrary for individual assignments will result in a grade of 0 (zero) and a report will be filed with the Department of Judicial Affairs. CSUMB's policies regarding **student discipline and judicial affairs** may be found at: http://csumb.edu/site/x2161.xml.

Disabilities and Learning Issues

Your instructor wants every student to succeed. Students with disabilities who require accommodations such as time extensions or test accommodations **must** present verification from Student Disability Resources as soon as possible.

Meet with SDR professional staff to register yourself at Building 47, Student Services, First Floor, Phone: 831/582-3672 voice, or 582-4024 fax/TTY or

contact SDR at Student_Disability_Resources@csumb.edu or see the website at http://sdr.csumb.edu

Please schedule an appointment to discuss specifics with your instructor **no later than September 6, 2014** if a disability may impact your performance in this class.