THE INTERNET

Course Syllabus

Course No:	CS 70	**Instructor:**	Prof. Leonid Romanyuk
Semester:	Spring 2013	**Phone:**	(510) 628-8024
Units:	3 units (= 45 lecture hours)	**E-mail:**	lromanyuk@lincolnuca.edu
Class hours:	Wednesday 3:30 pm – 6:15 pm	**Office hours:**	Monday, Wednesday 11:50 am – 12:25 pm
Classroom:	TBA	**Office number:**	Room 402

COURSE DESCRIPTION:

An introduction to the Internet and HTML publishing. Discussions will focus on the use of the Internet applications to access the Internet resources and to create intranets for use inside an organization. Among topics: setting up a network and dial-up connections to the Internet, e-mail, news, FTP, and Web servers, creating Web pages using HTML and Java, converting existing documents into Web documents, CGI programming. (3 units)

REQUIRED MATERIALS:

TEXTBOOK:	**Computer Networks and Internets, 5th Edition, by Douglas E. Comer,** Prentice Hall, 2008, ISBN: 0136061273
OPTIONAL TEXTBOOK:	**Internet and World Wide Web How To Program**, 5th Edition, by Harvey & Paul Deitel & Associates, Prentice Hall, 2012, ISBN-10: 0132151006
TOOLS:	A scientific or graphing calculator and Microsoft Excel software. Open source networking software tools.
OPTIONAL:	Publisher's Web resources at http://www.pearsonhighered.com/student, Author Website at http://www.netbook.cs.purdue.edu

LEARNING OBJECTIVES:

This course is designed to familiarize students with the terminology and concepts related to data communication, computer networks, and internets. The course will be focusing on principles and concepts rather than covering specific technology or software -- technology and software may become obsolete in one to two years, but the principles will remain. As such, the coverage of this course is on breadth, not depth. At the end of the course, students will be expected to master the terminology and basic concepts, but they will not be expected to know the engineering details of any technology.

INSTRUCTIONAL METHODS:

Lecture method is used in combination with the practical use of a LAN and the Internet tools to solve problems. The emphasis will be on learning by doing. Every student must participate in an intensive classroom activity. Reading, writing, computer lab, and project assignments will be made throughout the course.

OTHER REQUIREMENTS:

All students are required to attend the class. Continuous assessment is emphasized. Written or oral quizzes will be given every week. Students must complete all assignments and take all quizzes, mid-term exam and final exam ON THE DATES DUE. Talking in class, using cell phones, coming late, leaving the room at times other than at break time is not allowed. Plagiarism/cheating will result in the grade "F" and a report to the administration.

TESTING:

Classroom activities	every week	10%
Quizzes	every week	10%
Assignments	every week	10%
Mid-term exam	as scheduled	30%
Final exam	as scheduled	40%

There will be no make-up for a missed quiz or participation in a classroom activity. No make-up exams will be given unless you have the instructor's prior approval obtained in person before the exam date, with the exception of an extreme emergency. Late assignments will get no credit or reduced credit. *Students will not be allowed to use computers or cellular phones during tests.*

GRADING:

Less than 50% total is an "F"; 75% total is "C+". Other grades will be calculated "on the curve" from the scores above.

COURSE SCHEDULE:

Daily schedule of topics is attached. Students should read every chapter of the textbook on the topic to be discussed in class before they come to class. Be ready to answer in writing all review questions and to solve problems at the end of the chapter.

ASSIGNMENTS:

Each assignment is due on the Wednesday of the next week after it is assigned. Additional assignments based on the Internet and library resources can be given during the semester. Take a folder or a notebook and create an Assignment Notebook. You will put in it the solutions and other results of all your assignments. The instructor can ask you to turn in this folder / notebook and grade your work at any time during the semester.

MODIFICATION OF THE SYLLABUS:

This syllabus was updated on January 7, 2013. The instructor reserves the right to modify this syllabus at any time during the semester. An announcement of any changes will be made in the classroom.

Spring 2013 Schedule of Topics

Read every chapter on the topic to be discussed in class before you come to class.
Be ready to answer in writing all review and discussion questions at the end of the chapter.

Date	Topics	Chapters
1/23/13	Introduction and Overview. Internet Trends.	1 – 2
1/30/13	Internet Applications and Network Programming. Traditional Internet Applications.	3 - 4
2/06/13	Overview of Data Communications. Information Sources and Signals. Transmission Media.	5 - 7
2/13/13	Reliability and Channel Coding. Transmission Modes.	8 - 9
2/20/2013	Modulation and Modems. Multiplexing and Demultiplexing. Access and Interconnection Technologies.	10 - 12
2/27/13	Local Area Networks: Packets, Frames, and Topologies. The IEEE MAC Sub-Layer.	13 - 14
3/06/13	Wired LAN Technology (Ethernet and 802.3). Wireless Networking Technologies.	15 - 16
3/13/13	**Review.** **MIDTERM EXAM**	1 - 16
3/20/13	**Spring recess**	
3/27/13	LAN Extensions: Fiber Modems, Repeaters, Bridges, and Switches.WAN Technologies and Dynamic Routing. Networking Technologies Past and present.	17 - 19
4/03/13	Internetworking: Concepts, Architecture, and Protocols. IP: Internet Addressing.	20 - 21
4/10/13	Datagram Forwarding. Support Protocols and Technologies. The Future IP (IPv6).	22 - 24
4/17/13	UDP: Datagram Transport Service. TCP: Reliable Transport Service.	25 - 26
4/24/13	Internet Routing and Routing Protocols.	27
5/01/13	**Review**	1 - 27
5/08/13	**COMPREHENSIVE FINAL EXAM**	