

Course Syllabus

1. Subject code	2143401
2. Subject name	Netcentric Architecture
3. Credits	3 Credits
4. Program	Information and Communication Engineering
5. Semester	2
6. Academic year	2011
7. Lecturer	Kultida Rojviboonchai, Ph.D.
8. Prerequisite	-
9. Course type	Compulsory course
10. Course name	B. Eng. Program in ICE
11. Subject level	Bachelor degree
12. Hours/week	Lecture 3 hours
13. Course description	Principles of network applications, protocols, services (HTTP, FTP, SMTP, DNS, Peer-to-peer file sharing), Web caching, Content distribution networks, Socket programming, Client-server model, Transport layer (TCP, UDP), Reliable data transfer, Congestion control, Virtual circuit and datagram networks, The Internet Protocol (IP), Routing in the Internet, Multimedia networking, Security in computer networks, Network management

***** Course materials can be downloaded from <http://www.cp.eng.chula.ac.th/~kultida> *****

14. Course objective

The students who have passed this subject should be able to understand principles of network applications, protocols and services provided on the Internet.

15. Reference

- 15.1 K. Ross and J. Kurose, Computer Networking: A Top-Down Approach Featuring the Internet, 4th Edition, Addison Wesley, 2007.

16. Evaluation

Assignments	20%
Midterm Examination	40%
Final Examination	40%

17. Course schedule

Week	Date	Lesson	Assignment	Note
1	Jan. 3-7	Introduction		
	Jan. 10-14	No Class		***Thailand University Sports
	Jan. 17-21	No Class		***Thailand University Sports***
2	Jan. 24-28	Application Layer Network application, Web and HTTP, FTP		
3	Need make-up	Application Layer Electronic Mail, DNS, File Sharing		*** Make-up date: Feb.1 & 2 ***
4	Jan. 31-Feb. 4	Application Layer Web caching, Content Distribution Networks	Assignment 1	
5	Need make-up	Transport Layer Transport-layer services, Multiplexing and de-multiplexing, UDP		*** Make-up date: Feb.8 & 9 ***
6	Feb. 7-11	Transport Layer Principles of reliable data transfer		
7	Feb. 14-18	Transport Layer TCP, Principles of congestion control, TCP congestion control		
8	Feb. 21-25	Midterm Exam Week		
9	Feb. 28-Mar. 4	Network Layer Virtual Circuit, Datagram Network, IP		*** Hand in assignment 1 ***
10	Mar. 7-11	Network Layer ICMP, Distance Vector Routing, RIP		
11	Mar. 14-18	Network Layer Link State Routing, OSPF		
12	Need make-up	Network Layer Hierarchical Routing, What's inside the Router		*** Make-up date: Mar.15&16***
13	Mar. 21-25	Multimedia Networking Multimedia Networking Applications	Assignment 2	
14	Mar. 28-Apr. 1	Multimedia Networking Protocols for Real-time Interactive Applications		
	Apr. 4-8	No Class		*** Chakri Memorial Day***
	Apr. 11-15	No Class		*** Songkran Festival Day***
15	Apr. 18-22	Security in Computer Networks		*** Hand in assignment 2 ***
16	Apr. 25-29	Network Management		
17	May 2-6	Final Exam Week		