

Course Syllabus

- 1. Subject code** 2143401
- 2. Subject name** Netcentric Architecture
- 3. Credits** 3 Credits
- 4. Program** Information and Communication Engineering
- 5. Semester** 1
- 6. Academic year** 2010
- 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

14. Course objective

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

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. 5, 2010	Introduction		
2	Jan. 12, 2010	Application Layer - Network application - Web and HTTP - FTP		

Week	Date	Lesson	Assignment	Note
3	Jan. 19, 2010	Application Layer - Electronic Mail - DNS - File Sharing		
4	Jan. 26, 2010	Application Layer - Web caching - Content Distribution Networks		***University Sport Week Make-up class to be held on Feb. 6, 2010 (Sat.) 13:00 – 16:00
5	Feb. 2, 2010	Transport Layer - Transport-layer services - Multiplexing and de-multiplexing - UDP	Assignment 1	
6	Feb. 9, 2010	Transport Layer - Principles of reliable data transfer		
7	Feb. 16, 2010	Transport Layer - TCP - Principles of congestion control - TCP congestion control		
	Feb. 23, 2010	Midterm Exam Week		
8	Mar. 2, 2010	Network Layer -Virtual Circuit - Datagram Network - IP		
9	Mar. 9, 2010	Network Layer - ICMP - Distance Vector Routing - RIP		
10	Mar. 16, 2010	Network Layer - Link State Routing - OSPF		
11	Mar. 23, 2010	Network Layer - Hierarchical Routing - What's inside the Router	Assignment 2	
12	Mar. 30, 2010	Multimedia Networking - Multimedia Networking Applications		
13	Apr. 6, 2010	Multimedia Networking - Protocols for Real-time Interactive Applications		*** Chakri Day Make-up class to be held on Mar. 6, 2010 (Sat.) 9:00 – 12:00
14	Apr. 13, 2010	Security in Computer Networks		*** Songkran Day Make-up class to be held on Mar. 13, 2010 (Sat.) 9:00 – 12:00
15	Apr. 20, 2010	Network Management		
	Apr. 27, 2010	Final Exam Week		