Course Syllabus

Course ID	2301736
Credit	3
Course title	Distributed Computer Systems
Faculty/Department	Science/Mathematics
Semester	Fall
Academic year	2551
Instructor	Assoc. Prof. Dr. Peraphon Sophatsathit
Course requirements	prerequisite 2301681 or 2301732 or C.F.
Course orientation	Mandatory elective
Program	M.S. in Computer Science and Information
Course standing	Graduate
Course description	Distributed computer systems architecture; remote file access; message-based systems; client/server paradigm; distributed algorithms; replication and consistency; concurrency control; models of distributed computation.

Course outline

1 - 6	Distributed computer system concepts and architecture • Hardware and software concepts of distributed processing • Distributed models • Centralized, network, and distributed systems
7 - 12	Networking and internetworking • Types of network • Network principles • Layered protocols
13 - 15	Remote invocation and operating system support • Remote procedure call • DOS support
16 - 27	Distributed computer fundamentals • Concurrent processes • synchronization • Distributed mutual exclusion • Global clock • Synchronous and asynchronous communication • Process synchronization and rendezvous • ACID properties
28 - 30	Name services • Name services and domain name system • Directory and discovery services
31 - 41	Distributed file systems • Data and file replication • Remote access and update propagation • Primary-based protocols • Replicated-write protocols • Transaction models • Distributed transactions

42 - 45	Coordination and agreement • Elections • Multicast communication and consensus			
assessment	Midterm	35%		
	Final	40%		
	assignments	15%		
	Quizzes	10%		
Grading criteria	86 – 100	A	83 – 85	B+
	80 – 82	B	75 – 79	C+
	65 – 74	C	60 – 64	D+
	50 – 59	D	0 - 49	F

Textbook:

1. Distributed Systems—concepts and design, George Coulouris, Jean Dollimore, and Tim Kindberg, Addison-Wesley, 2001.

References:

1. Distributed Systems, Andrew S. Tanenbaum and Maarten van Steen, Prentice-Hall International, Inc., 2002.
2. Distributed Operating Systems & Algorithms, Randy Chow and Theodore Johnson, Addison-Wesley, 1997.
3. Distributed Operating Systems, Andrew S. Tanenbaum, Prentice-Hall International, Inc., 1995.

Web site:

1. http://pioneer.netserv.chula.ac.th/~sperapho/public_html/files/class/736.html