

CmpE 476 Distributed Systems Spring 2016

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Class Meetings : Wednesdays 14:00-15:50 ETA A2
Thursdays 09:00-09:50 ETA A2 (**will be moved to Wed 16:00**)

Reading Material : - A. Tanenbaum, Computer Networks, Prentice-Hall, 2011, 5th Ed.
Chapters 5-8
- A. Silberschatz, P. Galvin & G. Gagne, Operating System Concepts, Addison Wesley, 2010, 8th Ed., Chapters 16-18 (not in 9th Ed)
- Course notes on network programming

Grading :	Term papers	100	
	Project	150	(Network Programing)
	Midterm I and II	450	200+250
	Final Exam	300	Total Exams : 75%
	Total	1000	

Subjects to be covered :

0. (Subjects not covered in CmpE 475, Fall 2015) TCP/IP Network Layer:IPv6
1. Network Layer : IPv6, MPLS and Congestion Control (Tanenbaum ch 5)
2. Transport layer : Services. Elements of transport protocols. A simple transport protocol. TCP, UDP, RTCP. Performance issues. (Tanenbaum ch 6).
3. Network Programming : Socket programming and UNIX V TLI. Client server model, remote procedure call and RPC programming (notes to be distributed).
4. Application Layer (mostly reading, little lecturing, Tanenbaum ch 7): DNS, SNMP, electronic mail (SMTP, POP), World Wide Web (HTTP, HTML). Multimedia issues (audio, video, compression, Mbone).
5. Network Security (some reading, less lecturing, Tanenbaum ch 8): Cryptography, symmetric and public key algorithms, authentication, digital signatures, key management.
6. Overview of distributed systems: Network structures, distributed system structures, network operating systems and distributed operating systems (mostly reading, Silberschatz ch 16).
7. Distributed file systems. Naming and transparency, caching. file replication, SUN NFS and other distributed file systems (mostly reading, Silberschatz ch 17).
8. Distributed coordination: Event ordering, mutual exclusion, concurrency control, deadlock handling, election algorithms, reaching agreement (Silberschatz ch 18).

Additional Notes :

1. CmpE 476 is the continuation of CmpE 322 Operating Systems and CmpE 475 Computer Networks, therefore preferably drop this course if you did NOT successfully take (grades C or above) CmpE 322 and CmpE 475 or take the course on your own risk.
2. Your attendance is checked and required in all classes.
3. Midterms: TBA
4. Final Exam : As scheduled by the Registrar. **Note that you will NOT be allowed to take the Final Exam if the sum of your Midterm 1 and Midterm 2 grades is less than 50% of the sum of Midterm 1 and Midterm 2 full grades.**
5. The course email list cmpe476@listeci.cmpe.boun.edu.tr is for announcements and discussions among CmpE 476 students only.