

Spring 2021 14:332:456 Syllabus Network Centric Programming

Text Book:

UNP: Unix Network Programming
 CSAPP: Computer Systems - A Programmers Perspective
 ALP: Advanced Linux Programming
 Advanced Programming in the UNIX environment

Lecture No.	Date	Slides	Notes	Content
1	Jan. 21	lecture 1 introduction	Course introduction.	
2	Jan. 28	lecture 2 client server model	CSAPP: Sec 11-11.2 ALP: Sec 2.1, 2.2 (getopt_long, assert, streamp) UNP: Sec 1.1	Warming Up Assignment Distribute
3	Feb. 4	lecture 3 file IO	CSAPP: Sec10-10.3, 10.8 ALP: Appendix B.1	Makefile, autotools, a small daytime server, OS functions, strace, fork, Key I/O functions, Bash redirection
4	Feb. 11	lecture 4 directories	CSAPP: Section 10.5-10.10 APUE: Section 4	I/O system calls and buffering; efficiency difference between stdio and system calls; error handling, file sharing
5	Feb. 18	lecture 5 server	UNP: Sec 3,4 CSAPP: Sec10.4 + 11.	Socket server. Bind(); listen(); Accept();TCP three way handshake; read/write socket Warming Up Assignment Due Assignment 2 Distribute
6	Feb. 25	lecture 6 client+http	CSAPP: Sec 11.5	Client side. IPv4 Socket Address; Parsing the HTTP Protocol; URL; Typical Webbrowser steps; Typical Request Message; Response Example/Header
7	Mar. 4	lecture 7 processes	ALP : Sec 2.1.1, 2.1.6, 3 (excluding 3.3)	Running a different program in the new process; pid, fork; Cleaning up Wait / Waitpid; Zombies; Environment variables vs Command Line Arguments; Memory Layout; Race Conditions
8	Mar. 11	lecture 8 thread	CSAPP: Sec 12	Multi-threading Assignment 2 Due Assignment 3 Distribute
9	Mar. 18	Spring Recess		
10	Mar. 25	lecture 9 bufferoverflow	UNP: Sec 8	Security issue on buffer overflow
11	Apr. 1	Midterm		
12	Apr. 8	Different Arrangement Assignment 3 Due		
13	Apr. 15	lecture 10 udp socket + timeout	UNP: Sec 21	Assignment 4 Distribute UDP socket and timeout issue
14	Apr. 22	lecture 11 broadmulticast	CSAPP: Sec 3.12 Take Online Survey	Broadcast and multicast
15	Apr. 29	lecture 12 secureprogram	ALP: Sec 10	Secure Network Transmissions
16	May 10	final exam week		Assignment 4 Due