CS 392 Systems Programming Syllabus

The syllabus below describes a recent offering of the course, but it may not be completely up to date. For current details about this course, please contact the course coordinator. Course coordinators are listed on the course listing for undergraduate courses and graduate courses.

Text Books

Required

W. Richard Stevens, Stephen A. Rago , *Advanced Programming in the UNIX Environment* , 3rd ed., Addison-Wesley Professional, 2013

Recommended

Mike Loukides and Andy Oram , *Programming with GNU Software* , O'Reilly, 1996
Brian W. Kernighan and Dennis M. Ritchie , *The C Programming Language* , Prentice Hall, 1988. ISBN: 0-13-110362-8

Week-by-Week Schedule

Week	Topics Covered	Reading	Assignments
1	UNIX commands, The C Preprocessor	Chapter 1	.plan and folder permissions
2	Static vs Dynamic Binding, Libraries, pointers		libmy.a
3	Strings and string manipulation in C, void*, malloc, free	Chapter 5	libmy.a version 2
4	Using I/O with system calls, buffered vs unbuffered writing	Chapter 3	liblist.a
5	Makefiles, debuggers, Version Control with RCS & CVS		
6	Concurrent operations, fork & pipes	Chapter 8	mypipes
7	Shell principles, exec family of functions, naming conventions		minishell
8	Permissions and IDs (real uid, effective uid, set-uid, etc.)	Chapter 6	
9	Signals	Chapter 10	signaltalk
10	Sockets and using TCP/IP	Chapter 16	sockettalk
11	X Window System		
12	GTK+ 2.0		my_gtk
13	Shell scripting		
14	Terminal Input/Output, termios.h, canonical vs non-canonical read, termcaps	Chapter 18	my_select