CSc 3320 System Level Programming
(Fall 2016)
Course Syllabus

Instructor:	**Yuan Long**
Office:	25 Park Place, Room 711
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Website:	http://grid.cs.gsu.edu/~ylong4/teaching.html
Office Hour:	Monday and Wednesday 2:00 pm to 3:30 pm and by appointment
Teaching Assistant:	**TBA**

Class Meeting time and location:
Monday and Wednesday 12:00 pm to 1:15 pm @ Aderhold Learning Center 404

Course Text and Materials:
1) Glass and Ables, UNIX for Programmers and Users, Third Edition. Prentice Hall.
2) King, C Programming: A Modern Approach, Norton.

Important GSU Deadlines:
Oct. 11, 2012 is the full semester Midpoint (the last day to withdraw and possibly receive a "W" for full semester classes).

Prerequisite:
CSc 2310 with grade of C or higher. **- IF YOU DO NOT HAVE THE PREREQUISITES (OR ITS EQUIVALENT FROM ANOTHER INSTITION) ON YOUR TRANSCRIPT, WITHDRAW FROM THIS COURSE NOW.**

Course Objectives:
This course is designed to give students experience in using a low-level language (C) to interface with an operating system (UNIX). Students will learn fundamental UNIX concepts, including files, processes, interprocess communication, and shells. They will also gain experience writing and testing C programs using UNIX editors and programming tools.

Topics:
1) UNIX commands: basic commands for non-programmers, advanced utilities like awk, grep.
2) UNIX shell programming: bash script.
3) C Programming: syntax and basic data structures.
4) Files - UNIX file system, file permissions, file system calls (fcntl, creat, open, read, write, close, lseek).
5) Processes - Basic concepts, daemon processes, process creation and termination, process diagnostics (ps, kill, top).

Final Exam
A **two-hour** final exam will be administered on **Monday, Dec. 12th 10:45 AM to 12:45 PM**. The final exam will be **closed-book**.

Grading:
1) Homework (approx. 5): 20% (lowest score dropped)
2) Two exams: 15% each

3) Programming challenges (approx. 10): 20%
4) Final Exam: 20%
5) Attendance: 10%

Misc. Items:

- ***Late work***: 10% late penalty within 7 calendar days of the original due date. No submission accepted after that.
- ***Absolutely no lame excuses please***, such as "I have to go home early, allow me to take the test on Apr 1", or "I had a fight with my girlfriend, which affects my performance". Even when they are true, they are still lame.
- **The course syllabus provides a general plan for the course; deviations may be necessary.**
- Please advise the instructor if you have a documented disability that needs to be accommodated.
- No extra work in the next semester given to improve your grade. Any queries about the grades should be brought to the attention of the instructor within a week after the graded students' works have been returned to the class
- Turn off cell phones and keep them off the desk during the lectures. Text messaging during class is strictly prohibited and grounds for dismissal.
- Assignments and exams (except final exam) will be graded and returned in approximately one week after it was collected or given respectively. Should there be a delay, the students will be notified.

Course Schedule

Date	Topics	Remarks
8/22/16	Introduction. Chapter 1: What is Unix?	
8/24/16	Chapter 2: Utilities for Nonprogrammers	Program Challenge 1
8/29/16		Program Challenge 2
8/31/16	Vi Editor Regular Expression	**HW1 due on 9/10**
9/5/16	**Labor Day. No Class!**	
9/7/16	Chapter 3: Utilities for Power Users	Program Challenge 3
9/12/16		Program Challenge 4
9/14/16	Chapter 4: The Unix Shell	**HW2 due on 9/24**
9/19/16		Program Challenge 5
9/21/16	Chapter 5: The Bourne Shell	
9/26/16	C Basics	**HW3 due on 10/8**
9/28/16	C Basics	
10/3/16	**Exam 1**	
10/5/16	C basics Debugging	
10/10/16	C: Pointer	Program Challenge 6
10/12/16	C: Array	**Last day to withdraw Oct. 11** **HW 4 due on 10/22**
10/17/16	C: String	Program Challenge 7
10/19/16	C: Preprocessor	
10/24/16	C: Structurers, Unions, and Enumerations	Program Challenge 8
10/26/16	C: Dynamic Memory Allocation	
10/31/16	C: Writing Large Programs	
11/2/16	**Exam 2**	
11/7/16	Chapter 13: System Programming	Program Challenge 9
11/9/16		**HW5 due on 11/20**
11/14/16		Project Due on 12/7
11/16/16	Chapter 13: Process Management	

11/21/16	**Thanksgiving break. No class!**	
11/23/16		
11/28/16	Chapter 13: Process Management	Program Challenge 10
11/30/16		
12/5/16	Review	
12/7/16	**No class!**	
12/12/16	**Final Exam**	**10:45 AM to 12:45 PM**