Course	**CS/SE 3376.002 C/C++ Programming in a UNIX Environment**
Professor	**Jonathan Brandenburg**
Term	**Fall 2016**
Meetings	**Mo/We 10:00 AM – 11:15 AM** **ECSS 2.410**

Professor's Contact Information

Office Phone	(972) 883-3863
Office Location	ECSS 3.403
Email Address	jcb011200@utdallas.edu
Office Hours	Mo/We 1:30 PM – 3:30 PM and by appointment
Other Information	E-mail is the best way to reach the professor. When sending an email, please include the class number and section in the subject or at the top of the email.

General Course Information

Pre-requisites, Co-requisites, & other restrictions	Prerequisite CS/CE/TE 2336 with a grade of C or better or equivalent
Course Description	Advanced programming techniques utilizing procedural and object oriented programming in a UNIX environment. Topics include basic UNIX concepts, file input and output, implementation of strings, and dynamic memory allocation/management. Design and implementation of a comprehensive programming project is required.
Learning Outcomes	After successful completion of this course, students should have an: • Ability to use the UNIX operating system interactively as a user (commands) • Ability to express algorithmic solutions using shell scripting (utilities) • Ability to understand and use regular expressions • Ability to use the UNIX programming environment (editor, compiler and linker) • Ability to understand UNIX processes (creation and control) • Ability to perform input/output of binary files • Ability to use interprocess communication (pipes, sockets and signals) • Ability to understand the UNIX file system • Ability to understand and use version control system
Required Texts & Materials	Beginning Linux Programming (4th edition); Matthew, Neil and Stones, Richard; Wiley Publishing, Inc. ISBN 978-0-470-14762-7 A Practical Guide to Linux® Commands, Editors, and Shell Programming, (3rd edition); Sobell, Mark G. Prentice Hall. ISBN-10: 0-13-308504-X. ISBN-13: 9780133085044

Suggested Texts, Readings, & Materials	Unix® and Linux® System Administration Handbook (4th edition); Nemeth, Evi and Snyder. Garth and Hein, Trent R. and Whaley. Ben. Prentice Hall. ISBN-10: 0-13-148005-7. ISBN-13: 978-0-13-148005-6
Assistance	There are many resources at UTD to provide assistance. Take advantage of these resources! Options include: • Professor's office hours • TA office hours • The Computer Science Mentor Center. A schedule will be posted early in the semester • Tutors • Study groups (be aware of the academic honesty policy)
C++ Compiler (Required)	This course will use the GCC compiler (both gcc and g++) and Linux environment on the cslinux1.utdallas.edu and cslinux2.utdallas.edu servers. If a student uses a compiler or environment other than the specified version for class work or uses a server other than cslinux1.utdallas.edu or cslinux2.utdallas.edu, that student is responsible for verifying prior to submission that the assignments work properly in the stated environment on the stated servers. It is the student's responsibility to make sure that the assignments function as expected in the environment that will be used for grading. The version of GCC on cslinux1.utdallas.edu and cslinux2.utdallas.edu are slightly old, version 4.8.5. Be aware that certain recent features of C++ are not available on cslinux1.utdallas.edu and cslinux2.utdallas.edu. If a student intends to use their own computers to access cslinux1.utdallas.edu and cslinux2.utdallas.edu it important to confirm access to those servers as soon as possible. If a student doesn't have a computer, or if has problems getting access to cslinux1.utdallas.edu and cslinux2.utdallas.edu, the student should write the programs in the labs until the problems are resolved. In any case, please note that the student is responsible for getting the programming assignments written and turned in on time. Since there are many computers available on campus, problems with a personal machine will not be accepted as an excuse for not doing the assignments or late submissions.

Assignments & Academic Calendar

Week	Date	Topic	Reading
1	Mon 8/22	Introduction to CS 3376	
	Wed 8/24	Introduction to UNIX/Linux	
2	Mon 8/29	UNIX command line	
	Wed 8/31	UNIX command line	
3	Mon 9/5	NO CLASS	
	Wed 9/7	UNIX Shell	
4	Mon 9/12	UNIX Shell	
	Wed 9/14	UNIX Shell	
5	Mon 9/19	Regular Expressions	
	Wed 9/21	Regular Expressions	

6	Mon 9/26	Review	
	Wed 9/28	Exam 1	
7	Mon 10/3	Programming in UNIX	
	Wed 10/5	Programming in UNIX	
8	Mon 10/10	Programming in UNIX	
	Wed 10/12	Processes and Threads	
9	Mon 10/17	Processes and Threads	
	Wed 10/19	Processes and Threads	
10	Mon 10/24	File System	
	Wed 10/26	File System	
11	Mon 10/31	Review	
	Wed 11/2	Exam 2	
12	Mon 11/7	Binary Files	
	Wed 11/9	Binary Files	
13	Mon 11/14	Interprocess Communication	
	Wed 11/16	Interprocess Communication	
14	Mon 11/21	NO CLASS	
	Wed 11/23	NO CLASS	
15	Mon 11/28	Interprocess Communication	
	Wed 11/30	Version Control Systems	
16	Mon 12/5	Version Control Systems	
	Wed 12/7	Review	
	Finals Week	Exam 3	

Course Policies

Grading (credit) Criteria	**Grading Policy** Homework and quizzes – 15% Exam 1 – 15% Exam 2 – 15% Exam 3 – 15% Projects – 40% (4 projects, each worth 10%) **Grading** A+ 97 and above A 93 - 96 (93 or more and less than 97) A- 90 - 92 (90 or more and less than 93) B+ 87 - 89 (87 or more and less than 90) B 83 - 86 (83 or more and less than 87) B- 80 - 82 (80 or more and less than 83) C+ 77 - 79 (77 or more and less than 80) C 73 - 76 (73 or more and less than 77) C- 70 - 72 (70 or more and less than 73) D 60 - 69 (60 or more and less than 70) F Below 60 **Grade Disputes** All grade disputes must be reported within 1 week and resolved within 2 weeks of the grade in question being posted to eLearning. See the TA for grade disputes related to homework, quizzes, and projects. See the professor for grade disputes related to exams.
Make-up Exams	An exam should not be missed except for the most extreme circumstances (such as hospitalization or death of an immediate family member). A make-up exam may be given to students with a valid reason (and documentation) for missing the exam. Otherwise, the missed exam grade will be zero. The allowance of a make-up exam is at the sole discretion of the instructor.

Extra Credit	None
Late Work	All assignment due dates will be posted to eLearning. Assignments turned in late but within 24 hours of the due date and time will be accepted at a penalty of 25%. An assignment will not be accepted if turned in after 24 hours of the due date and time. Projects are intended to take approximately 15 to 20 hours to complete, including designing, coding, and testing. Thus, it is not appropriate to wait until a couple days before the assignment is due to start the project.
Special Assignments	None
Class Attendance	Expected. There will be a sign-in sheet. The Computer Science Department attendance policy: Three consecutive absences lead to one letter grade drop. Four consecutive absences result in an F.
Classroom Citizenship	Professional at all times. Students are expected to be respectful to each other and to the course instructor. Do not sleep in class. Plan your schedule and social life to ensure you are alert and ready to learn in class. Do not make or take cell mobile phone class in class. Ensure your device is silent.
Comet Creed	*This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:* *"As a Comet, I pledge honesty, integrity, and service in all that I do."*
UT Dallas Syllabus Policies and Procedures	*The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.* *Please go to http://go.utdallas.edu/syllabus-policies for these policies.*

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.