

# CS 3310-010 Principles of Unix Fall 2019 Syllabus

## Textbook

Negus, C., *Linux Bible*, 9<sup>th</sup> Ed., Wiley, ISBN-13: 978-1118999875. eBook from [VitalSource.com](http://VitalSource.com)<sup>i</sup>: 978-1118999899. Free pdf from [Wiley.com](http://Wiley.com)<sup>ii</sup>.

## General Course Information

**Instructor:** Lopamudra Roychoudhuri

**E-mail:** lroychoudhuri@angelo.edu

**Office:** MCS 205E

**Campus Phone:** (325) 486-5448

**Class Times:** MWF 12:00-12:50 pm

**Classroom:** MCS 114

**Course Web Site:** Blackboard

**Office Hours:** MW 2:00-5:00 pm, TR 4:00-5:00 pm, F 2:00-4:00 pm.

## Prerequisites

CS1337 Computer Science II.

## Course Objectives

This course introduces UNIX and systems programming. Students will use Linux to learn operating systems principles. Students will learn UNIX commands and shell scripting. They will program in C implementing UNIX concepts such as processes and Inter Process Communication, and will develop client/server applications using Socket API.

## Student Learning Goals

Students who successfully complete this course will be able to:

1. Understand Unix principles, concepts and terminology,
2. Master Unix shell commands and programming,
3. Program in C in Unix environment utilizing Unix process creation and Inter-process Communication (IPC) techniques, such as signals, pipes, FIFOs and sockets,
4. Apply various architectures for developing client/server applications using Socket API.

## Grading

Grading Criteria	Dates	Weights	Goals Assessed
Assignments	Daily/Weekly/biweekly	45%	1 thru 4
Quizzes	Weekly	5%	1 thru 4
Exam 1	9/23/19	15%	1, 2
Exam 2	11/11/19	15%	1 thru 3
Final Exam	12/9/19	20%	1 thru 4

GRADE	PERCENT
A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	0 - 59

## Week by week tentative schedule

Wk	Date	Topics
1	8/26,8/28,8/30	Module 1: Intro to Unix, shell programming;
2	9/4, 9/6	Module 1: Shell programming; cont.
3	9/9,9/11, 9/13	Module 2: Intro to Linux System Administration
4	9/16, 9/18, 9/20	Module 2: Linux System Administration cont.
5	9/23, 9/25, 9/27	<b>Exam 1 on 9/23; Module 3: C programming</b>
6	9/30,10/2, 10/4	Module 4: Signals and Timers
7	10/7,10/9, 10/11	Module 4: Signals and times cont.
8	10/14,10/16, 10/18	Module 5: Processes
9	10/21,10/23, 10/25	Module 5: Processes cont.
10	10/28,10/30, 11/1	Module 5: Inter-process Communication (IPC)
11	11/4,11/6, 11/8	Module 6: Intro to Socket Programming, Clients
12	11/11,11/12, 11/15	<b>Exam 2 on 11/11; Module 6: Socket Programming - Clients cont.</b>
13	11/18, 11/20, 11/22	Module 6: Linux Servers; Module 6: Socket Programming - Servers
14	11/25	Module 6: Socket Programming – Servers cont.
15	12/2,12/4, 12/6	Module 6: Socket Programming – Servers cont.
16	12/9 (Monday)	<b>Final Exam on Mon 12/9 1:00 - 3:00 pm</b>

## Class Policies

### TEAMS

You will form teams of 2 or 3. The teams will be chosen on the first day of class, and will be maintained till the end of semester.

### ASSIGNMENTS

- There will be many kinds of assignments that you will complete in and out of class.
- Quizzes:

You will complete some reading from the textbook or other sources prior to every class session. The reading will be announced beforehand. This is to ensure that you are familiar with the topics that will be discussed in the class. This may be validated by the quizzes that may be team-based or individual. The grade from the quizzes will constitute 5% of the total grade.

- Assignments: these fall in two categories:

*In-class Assignments:* We will discuss topics in class and work on assignments. You will be able to collaborate with your fellow students in order to complete these. Assignments that could not be completed in class will be taken out-of-class and turned in. The grade from these assignments will constitute 30% of the total Assignment grade.

*Homework Assignments:* the purpose of the homework assignments is to give you individual out-of-class practice on the topics that you are learning, and to explore some ideas more deeply. The grade from the homework assignments will constitute 70% of the total Assignment grade.

- All assignments, unless otherwise specified, must be submitted to Blackboard containing your name, course name, the title of the assignment and the due date.
- *No late assignment will be accepted. No e-mail or in-person submission is accepted.* There are no exceptions to this rule.
- All homework assignments should be the work product of each individual. Cheating occurs when a student either submits work for a grade that is not entirely due to his/her own effort or allows others to use her/his work. Cheating occurs when a student submits work product that is copied from another student. Cheating on an assignment or exam will result in a failing grade for the course. No student shall look towards the work of any other student during exams as it shall be construed as cheating.
- **Academic Honor Code:** Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at [Academic Honor Code](#)<sup>iii</sup> in [Student Handbook](#)<sup>iv</sup>. You should familiarize yourself with it. If a student violates this policy in any way, the student may receive a sanction of failure on the assignment/exam or failure in the course. If you have questions about appropriate citations, please ask.

## EXAMS

*All exams will be comprehensive.* All students must take all the exams at the scheduled times. There are no makeup exams. Only exception will be student absence for observance of religious holy day (see below). If one exam is missed, the final exam will count double to make up for the missed exam. Only one missed exam can be made up this way. If more than one exam is missed, a grade of zero will be given for the additional missed exam. *The final exam must be taken on its assigned date and time.* For students taking all three exams, the final exam grade can replace a lower grade on one of the first two exams if the final exam grade is higher. Only one regular exam grade can be replaced in this way.

## ATTENDANCE

Attendance is mandatory (*no excused absences*) and roll will be taken.

## **GRADEBOOKS**

During the course of the semester, you are expected to monitor your performance on assignments and exams by accessing your grades online. It is your responsibility to: (1) insure that correct entries have been made into the gradebook, and (2) be aware of your performance in the class. Grade percentages are shown on this syllabus so you can compute your own grade standing as the semester progresses.

## **E-MAIL**

You are required to obtain an e-mail account. If you have any question about the course or need assistance, please contact me in person or by telephone during office hours, or by e-mail at any time.

## **LAB POLICY**

No food or drinks are allowed in the lab.

## **General Policy Statements**

### **Academic Accommodations**

Persons with disabilities that may warrant academic accommodations must contact the Student Life Office, Room 112, University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

### **Add/Drop Dates**

Students may add this course up to August 29, 2019.

Students may drop this class or withdraw from the university until October 31, 2019.

### **Student Absence for Observance of Religious Holy Day**

1. "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
2. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
3. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

### **Modifications to the syllabus**

The instructor and the university reserve the right to modify or change the syllabus (schedule, course requirements, grading policy, etc.) as the curriculum and/or program require(s).

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<sup>i</sup> [https://www.vitalsource.com/products/linux-bible-christopher-negus-v9781118999899?duration=perpetual&gclid=EA1aIQobChMI5-4ndH83AIVhjpgCh1plQa6EAQYASABEgLRvD\\_BwE](https://www.vitalsource.com/products/linux-bible-christopher-negus-v9781118999899?duration=perpetual&gclid=EA1aIQobChMI5-4ndH83AIVhjpgCh1plQa6EAQYASABEgLRvD_BwE)

<sup>ii</sup> <https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781119209539>

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iii <https://www.angelo.edu/student-handbook/code-of-student-conduct/misconduct.php>

iv <https://www.angelo.edu/student-handbook/>