

Texas State University
Department of Computer Science

CS 4350 – 251 - Unix Systems Programming
Spring - 2021

Catalog Description:

The main objectives of this course is to learn Fundamentals of Unix operating systems, Unix file system and environment, C memory allocation, development tools, processes and signals, threads, device drivers, and programming for security. Prerequisite: CS 3358 with a grade of C or higher.

Course Objectives:

- Introduction to UNIX, concepts and history - OS concept - UNIX history.
- Basic UNIX commands, files and directories - File management User management.
- Shell programming: syntax and function and command.
- C programming - Interpreted vs compiled programs - Make file.
- UNIX IO: STREAM IO, low level file and directory IO - STREAM IO functions - Low level IO functions - File and directory organization.
- Process and thread - Parent and child processes - Process vs thread - Process and user privileges.
- Interprocess communication - Pipe - Shared memory - Socket - Signal and timer (optional).

Upon completion of this course, the student will be familiar with Fundamentals of Unix operating systems, Unix file system and environment, C memory allocation, development tools, processes and signals, threads, device drivers, and programming for security.

INSTRUCTOR : Husain Ghooloom

We will be using a combination of **ZOOM, Canvas** and **my personal web site** for course content delivery, announcements , most assessments, and/or assignment submission

Lecture Scheduled Type :

Fully online Education Instructional Method .

Successfully completing the requirements of an online course places more responsibility on the shoulders of the student. Staying engaged is vital to the learning process. Practice is especially important when learning to write efficient, readable code that is easily maintainable.

You are required to have a working camera and a working microphone especially on lectures and exam days. You will be required to leave your camera on during Zoom lecture meetings / exams. To receive any credit for proctored exams, you will be required to leave both camera and microphone on for the duration of the exam.

Note :

- Think ahead. Plan for your online class, especially on exam days.**
- You should have a quiet place where you can listen to the presentation of new material, participate in class discussions or take an online proctored exam.**
- You also should a place free of distraction and free of any other people and/or pets whenever possible. Let your parents, roommates or friends know what time you need their cooperation.**
- Consider moving your pet(s) into another room during meetings.**
- Consider putting a 'Do Not Disturb' sign on the door and turn off the ringer on your phone.**

ZOOM meetings minimum requirements:

- You are expected to behave in a professional manner when participating in ZOOM meetings.
- Verbal exchanges should be respectful and profanity free.
- Backgrounds (visible through your camera) should be appropriate.
- Dress appropriately.
- Your profile picture is required and should be a headshot where you are easily identifiable. (no costumes or masks or images of superheroes and the like)
- Remember that you are **expected** to leave your camera on during the meeting.
- Remember that you are **required** to leave your camera and microphone on during the meeting.

CLASS TIME (Via Zoom and will not be recorded) :

MW 5:00 p.m. - 6:20 p.m.

OFFICE: COMAL 301F

E-MAIL: hag10@txstate.edu

(You can expect a reply to your e-mail **if** you provide the correct reply e-mail address; however, do not depend on immediate responses at night or over the weekend.)

WEB PAGE: <http://www.husaingholoom.com/classes.html>

OFFICE HRS (Via ZOOM):

MW 9:00 am - 11:00 am &
MW 6:20 pm - 6:50 pm or by appt.

Other times by appointment.
**(Appointments need not be made during regularly
scheduled office hours.)**

SUGGESTED TEXTBOOK (Optional) :

Beginning Linux Programming, 4th edition.

Author : Richard Stones, Neil Matthew

Publisher : Wrox Press

GRADING POLICY:

Attendance : **Required (Via ZOOM)**
Programming Assignment (6 - 7) : 30 %
Midterm Exam : 35 %
(March 10th – 2021)

**Final Exam (comprehensive over programming
concepts Via Canvas & ZOOM) : 35%**

Note: You are **required** to show your Texas State student (photo) ID to your instructor on exam days. A driver's license is not adequate. Exam scores will be recorded as zeros until your Texas State student ID is presented.

Major exams will be announced at least one week in advance. They are typically scheduled in the eighth weeks of the semester; however, the actual dates may be adjusted to benefit the students.

FINAL EXAM SCHEDULE:

C.S. 4350.251 Will be on: Wednesday May 5th / 2021
Exam Time: 5:00 p.m. - 7:30 p.m.

Final exams will be administered *only* on the day and at the time indicated in the university exam schedule.

Exams administered on Canvas will be **proctored in the ZOOM meeting scheduled on exam day and time. Therefore, to receive any credit, you are **required** to join the ZOOM meeting with camera and microphone on while completing such assessments.**

Makeup Exams policy : There will be *NO* Makeup Exams .

GRADING SCALE:

Determination of letter grade in the course :

semester average ≥ 89.5 A

$79.5 \leq$ semester average < 89.5 B

$69.5 \leq$ semester average < 79.5 C

$59.5 \leq$ semester average < 69.5 D

semester average < 59.5 F or U

Programs are very important to this course. Therefore, *ALL* programs *MUST* be turned in. A '*good faith*' effort must be demonstrated for each program that turned in. *Programs that contain compilation errors will automatically receive a 100% penalty.* To receive *any* credit for a programming assignment, the source code (along with appropriate support files) must be submitted *electronically on or before the due date.* If the electronic copy is not available to the grader on the date and the time the programming assignment is due, a grade of *zero* will be assigned.

All programs are going to be tested using : Zeus

You can use any IDE that is installed on your personal computer, **however**, you are responsible for making any adjustments to accommodate differences between IDE requirements before submitting your projects since programming assignments will be graded using Zeus.

Alert: Time permitting programs will be run through an Internet service designed for detecting plagiarism in software code.

LATE POLICY: Assignments should be uploaded *via canvas* on the specified date and time. No late assignments will be accepted ***unless official*** (an ***original, not a copy***) documentation can be provided that ***may*** warrant an extension.

If you take paperwork meant for your lecture instructor to the Computer Science Department office (Comal #211), you should send an e-mail to your instructor indicating that you have done so.

ALLOW FOR NATURAL DISASTERS! The computer system used may ‘go down’, lost internet service ...etc. These types of events do **NOT** excuse late work.

Regardless of the deadline set, there will always be people who want it extended. No time extension will be given.

Now that the deadline *for full credit* has been established, *please respect this deadline, and plan accordingly.*

GRADE DISPUTES : For complete discussion and possible resolution, grade disputes must be handled in a ZOOM meeting during regularly scheduled office hours or by appointment when all records are readily available to your instructor. Disputes over grades **must** be discussed within **five days** from when grades are posted. For example, you must discuss programming assignment grades within five days of when feedback is posted. This means within **five days** from the date the assignment feedback is **posted**. It **DOES NOT** mean five days from the date you decide to review the feedback.

ACADEMIC OFFENSES: All assignments submitted for a grade should reflect the work of the **individual** student unless otherwise established in writing by your instructor. Violations will be dealt with according to Academic Procedures and Policies as outlined in the **Texas State Student Handbook**.

Go to **<http://www.dos.txstate.edu/handbook.html>**, and click on **Academic Honor Code** to review **Academic Offenses** and the **Penalties for Academic Dishonesty**.

ATTENDANCE POLICY: Class attendance via **Zoom is required**. You will be held responsible for material covered in the lectures. Some of the material covered in lectures may not be readily available elsewhere. I recommend that you obtain contact information of several classmates in the event that you are forced to miss a day of class.

E-MAIL notifications related to this class will be regularly sent to your **Texas State e-mail account**. If you do not check it on a regular basis, forward your Texas State e-mail to an e-mail account that you *do* check on a regular basis.

ABSENCE POLICY: If you are absent at the time of *midterm exam*, a grade of zero will be recorded. If you are absent at the time of *final exam*, a grade of U will be recorded.

There will be **NO** make-up *exams*.

DROP POLICY: (Refer to the [Academic Calendar](#)).

- Official 12th Class Day / Last Day to Drop with **100% Refund - Wednesday , February 3rd , 2021.**
- Automatic “W” deadline and last day to drop a class is on **Tuesday , March 30th , 2021**
- Last opportunity to *withdraw* from the University on **Thursday , April 22nd , 2021 .**
- Students who withdraw from the University after the automatic “W” date will be assigned a “W” or an “F” or an “U” based on class performance up to that point in the semester. A “W” will be assigned **only** if the class average is *passing* on the day the withdrawal procedure is **officially completed.**

Note: Contact the Registrar’s Office as to the proper procedure to follow in order to successfully complete the drop/withdrawal process. If you decide to withdraw from the University *after* the automatic “W” date previously mentioned, be sure to check with your instructor *prior* to completing the withdrawal procedure in order to verify whether you will be receiving a “W” or an “F”. Contact the Registrar if you have any further questions.

It is *your* responsibility to make sure the drop/withdrawal process is complete. Do *not* come to me later and say that you "thought" you had dropped but the process did not "go through" expecting me to change a grade of ‘F’ to a ‘W’. Be sure to check your revised schedule to make sure the course dropped is no longer listed.

ADA Compliance: Students with special needs as documented by the Office of Disability Services who require accommodations should identify themselves to the instructor as soon as possible but no later than the **12th class** meeting in a long session and no later than the 4th class meeting during a regular summer session. Students with special needs who have not already done so will be required to contact the Office of Disability Services in order to establish accommodations. Every effort will be made to secure the necessary accommodations to facilitate students with special needs/disabilities in order to enhance their performance in the classroom.