

CIS 4335-115 - 60517- UNIX Systems Administration

Summer 2021

Texas A&M University - Central Texas

COURSE DATES, MODALITY, AND LOCATION

Course Dates: 7 Jun - 30 Jul

Modality: This is an "independent study" course. This course uses the A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com/>].

Location: Founder's Hall room 307

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Emmet Gray

Office: Founder Hall, Room 323Q

Phone: No office phone, COBA Admin - (254) 519-5437

Email: Canvas Inbox (preferred) or TAMUCT email (e.gray@tamuct.edu)

Office Hours:

I am available for "virtual" office hours via WebEx, Zoom, Teams, etc. Please contact me via Canvas to schedule a time to be online.

Mode of instruction and course access:

This is "independent study" course with asynchronous content via video. This course makes extensive use of the TAMUCT Canvas Learning Management System (<https://tamuct.instructure.com>). The course syllabus, schedule, supplemental readings, class announcements, power point slides, learning modules, homework assignments, exams and other course related documents will be posted on Canvas. Each student is responsible for the posted material, and should check Canvas several times a week for updates

Student-instructor interaction:

I typically respond to Canvas email within 24 hours except on weekends. I can meet with students (either virtually or face to face at the university) by appointment.

WARRIOR SHIELD

Emergency Warning System for Texas A&M University-Central Texas

Warrior Shield is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in Warrior Shield through their myCT email account.

Connect to Warrior Shield by 911Cellular [<https://portal.publicsafetycloud.net/Account/Login>] to change where you receive your alerts or to opt out. By staying enrolled in Warrior Shield, university officials can quickly pass on safety-related information, regardless of your location.

COURSE INFORMATION

Course Overview and description:

Examine the underlying conceptual considerations of the UNIX operating system and its variants in mainframe, minicomputer, server and microcomputer application environments. Explore memory and process management, multi-programming and processing, interrupt structure, and parallel processing mechanisms and procedures. Special emphasis on practical application of configuration and security of selected UNIX systems. Prerequisite(s): CIS 3305 or 12 hours of CIS courses or permission of department chair.

Course Objective:

This course is an introduction to the Linux operating system, and covers the essential duties of a system administrator, such as: installing the OS, controlling access, adding hardware, automating tasks, overseeing backups, installing and upgrading software, and vigilantly monitoring security.

Student Learning Outcomes:

A student successfully completing this course will be able to:

- Use the Linux shell, navigate the file system, and use common commands
- Demonstrate the ability to install and configure a Linux server
- Explain the concepts of authentication, authorization, and controlling user access
- Identify the steps in adding physical hardware
- Demonstrate the ability to automate simple admin tasks
- Describe the concepts of the file system and network access
- Explain basic software installation and management tasks
- Demonstrate an understanding of security technologies

Competency Goals Statements (certification or standards):

Section not used

Required Reading and Textbook(s):

Required:

UNIX and Linux System Administration Handbook, 5th Edition

Authors: Nemeth, Snyder, Hein, Whaley & Mackin

Publisher: Addison-Wesley Professional

Edition: 5th

ISBN: 978-0-13-427755-4

The Linux Command Line, 5th Internet Edition

Author: William Shotts

Publisher: No Starch Press

Edition: 5th

ISBN: 978-1-59327-389-7

Available free online at: <http://linuxcommand.org/tlcl.php>

Note: An electronic version of the books may be available.

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Supplemental Material:

The course textbook will be supplemented with other materials including lecture notes, handouts, oral presentations, industry articles, research paper readings, case studies, Power Point presentations etc.

Required Reading:

The student is expected to read and review all material presented in the assigned chapter prior to class.

COURSE REQUIREMENTS

Course Requirements

Examinations: There are 2 major exams, one midterm and one final exam. Each is worth 17.5 points. The midterm covers TLCL chapters 1-12,19 / UALSAH chapters 1-6, and the final covers UALSAH chapters 7-31. There is a review video lecture before each exam.

Quizzes: section not used.

Assignments: There are 6 take-home assignments. Each assignment is worth 5 points. Multiple submissions are typically allowed.

Term Project: There is 1 term project that is worth 35 points.

Point Scores: The final grade for the course will be based upon the following:

Item	Quantity	Points	Total	Percent
Exams	2	17.50	35.000	35%
Quizzes	0	0.00	0.000	0%
Assignments	6	5.00	30.000	30%
Term Project	1	35.00	35.000	35%
Total			100.000	100%

Grade	Points	Percent
A	100 - 90 points	100 - 90%
B	89 - 80 points	89 - 80%
C	79 - 70 points	79 - 70%
D	69 - 60 points	69 - 60%
F	59 - 0 points	59 - 0%

Note: Point scores are not rounded

Grading Criteria Rubric and Conversion

Exams & Quizzes: Exams and quizzes will receive a numeric score (0-100) each. Scores will be converted to points and totaled as shown in the example below:

Quiz	Score	Percent	Max Points	Points
Quiz 1	95	95%	5.00	4.75
Quiz 2	100	100%	5.00	5.00
Quiz 3	80	80%	5.00	4.00

Quiz	Score	Percent	Max Points	Points
Quiz 4	85	85%	5.00	4.25
Quiz 5	86	86%	5.00	4.30
Quiz 6	88	88%	5.00	4.40

Requirements for Assignments: Assignments must follow the requirements as stated in the Canvas assignment system; demonstrate the concepts; get proper results; be organized, use comments, and use best practices.

The following grading rubric is used for assignments:

Criterion	% of Grade	Excellent (100%)	Adequate (80%)	Poor (60%)	Not Met (0%)
Assignment Requirements	20%	Meets all the requirements of the assignment	Minor details of the requirements are missing	Significant details of the requirements are missing	Significant portions of the requirements are missing
Chapter Specific Objectives	35%	Fully demonstrates the concepts of the chapter	Applies major and minor concepts of the chapter	Applies only major concepts of the chapter	Chapter concepts not in evidence
Gets proper results/conclusions	25%	No Errors, Gets Proper Results	Minor errors, Gets Proper Results	Minor errors, does not produce proper results	Does not produce proper results
Best Practices	15%	Uses best practices at every opportunity	Minor issues with best practices	Large portions have best practices issues	No best practices in evidence
Spelling, grammar, formatting	5%	No issues	1 or 2 issues	3 or 4 issues	5 or more issues

File Naming Convention: Submit your assignments via Canvas using file names with the following format:

CIS4335 [AssignmentID] [LastName.FirstName].[extension]

Example:

CIS4335 Assignment1 Doe.John.docx

Posting of Grades: All student grades will be posted on the Canvas Grade Book and students should monitor their grading status through this tool. Grades will be posted within 7 days after of the due date.

Late Policy: Exams, Quizzes, and Assignments are due by midnight on the date assigned in Canvas. Typically, this is by the end of the semester. A 5-point penalty will be assessed for each day a requirement is late.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

There is no established course calendar. All tasks are due before the end of the semester.

Chapters covered:

The Linux Command Line (TLCL)

- 1 What is the Shell?
- 2 Navigation
- 3 Exploring the System
- 4 Manipulating Files and Directories
- 5 Working with Commands
- 6 Redirection
- 7 Seeing The World As The Shell Sees It

Unix and Linux System Administrators Handbook (UALSAH)

- 1 Where to Start
- 2 Booting and System Management Daemons
- 3 Access Control and Rootly Powers
- 4 Process Control
- 5 The Filesystem
- 6 Software Installation and Management
- 7 Scripting and the Shell
- 8 User Management
- 9 Cloud Computing
- 10 Logging

- 8 Advanced Keyboard Tricks
- 9 Permissions
- 10 Processes
- 11 The Environment
- 12 A Gentle Introduction to vi
- 19 Regular Expressions

- 12 Printing
- 18 Electronic Mail
- 19 Web Hosting
- 20 Storage
- 21 The Network File System
- 22 SMB
- 27 Security
- 29 Performance Analysis
- 30 Data Center Basics
- 31 Methodology, Policy, and Politics

University Calendar

Date	Activity
06/07/2021	Classes Begin for First 5-, 10-, and 8-Week Summer Session
06/10/2021	Deadline to Drop First 5-Week Classes with No Record
06/14/2021	Deadline to Drop 8-Week Classes with No Record
06/22/2021	Deadline to Drop 10-Week Classes with No Record
06/25/2021	Deadline to Drop First 5-Week Classes with a Quit (Q) or Withdraw (W)
07/01/2021	Deadline for Teacher Education Program Applications
07/02/2021	Deadline for Summer Graduation Application
07/05/2021	Independence Day (University Closed)
07/09/2021	Classes End for First 5-Week Session
07/09/2021	Deadline to Withdraw from the University for First 5-Week Classes
07/12/2021	Add, Drop, and Late Registration Begins for Second 5-Week Classes
07/12/2021	Classes Begin Second 5-Week Summer Session
07/13/2021	Deadline for Faculty Submission of First 5-Week Final Class Grades (due by 3pm)
07/15/2021	Deadline to Drop Second 5-Week Classes with No Record
07/15/2021	Deadline for Clinical Teaching/Practicum Applications
07/23/2021	Deadline for Final Committee-Edited Theses with Committee Approval Signatures
07/23/2021	Deadline to Drop 10-Week Classes with a Quit (Q) or Withdraw (W)
07/30/2021	Classes End for 8-Week Session
07/30/2021	Deadline to Drop Second 5-Week Classes with a Quit (Q) or Withdraw (W)
07/30/2021	Deadline to Withdraw from the University for 8 -Week Classes
08/01/2021	Deadline for GRE/GMAT Scores to Graduate School Office
08/03/2021	Deadline for Faculty Submission of 8-Week Final Class Grades (due by 3pm)
08/13/2021	Summer Commencement Ceremony Bell County Expo 7 pm

TECHNOLOGY REQUIREMENTS AND SUPPORT

Technology Requirements.

You will need to store very large work files on your home computer. You can either bring your laptop work school or you can use an external USB disk drive. External USB drives may be available for you to check out from the Computer Information System (CIS) Department.

You will need to create Microsoft Word documents.

You will need to install VirtualBox on your PC at home. See: <http://www.virtualbox.org>

This course will use the A&M-Central Texas Instructure Canvas learning management system. We strongly recommend the latest versions of Chrome or Firefox browsers. Canvas no longer supports any version of Internet Explorer.

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>]. You will log in through our Microsoft portal.

Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help link, located at the bottom of the left-hand menu, for issues with Canvas. You can select "Chat with Canvas Support," submit a support request through "Report a Problem," or call the Canvas support line: 1-844-757-0953.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

A&M-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio also requires the Chrome web browser with their custom plug in

Other Technology Support

For log-in problems, students should contact Help Desk Central.

24 hours a day, 7 days a week:

Email: helpdesk@tamu.edu

Phone: (254) 519-5466

Web Chat: <http://hdc.tamu.edu>

Please let the support technician know you are an A&M-Central Texas student.

Technology issues are not an excuse for missing a course requirement – make sure your computer is configured correctly and address issues well in advance of deadlines.

COURSE AND UNIVERSITY RESOURCES, PROCEDURES, AND POLICIES

Drop Policy

If you discover that you need to drop this class, you must complete the Drop Request Dynamic Form through Warrior Web.

[<https://dynamicforms.ngwebsolutions.com/casAuthentication.ashx?InstID=eaed95b9-f2be-45f3-a37d-46928168bc10&targetUrl=https%3A%2F%2Fdynamicforms.ngwebsolutions.com%2Fsubmit%2FForm%2Fstart%2F53b8369e-0502-4f36-be43-f02a4202f612>].

Faculty cannot drop students; this is always the responsibility of the student. The Registrar's Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Registrar's Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar's Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Office of Student Conduct. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more information regarding the Student Conduct process,
[<https://www.tamuct.edu/student-affairs/student-conduct.html>].

If you know of potential honor violations by other students, you may submit a report,
[https://cm.maxient.com/reportingform.php?TAMUCentralTexas&layout_id=0].

Academic Accommodations

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier-free education. The Office of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the university's programs, services and activities. If you believe you have a disability requiring reasonable accommodations, please contact the Office of Access and Inclusion, WH-212; or call (254) 501-5836. Any information you provide is private and confidential and will be treated as such.

For more information, please visit our Access & Inclusion Canvas page (log-in required)
[<https://tamuct.instructure.com/courses/717>]

Important information for Pregnant and/or Parenting Students

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and related guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. Students should seek out assistance as early in the pregnancy as possible. For more information, please visit Student Affairs [<https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html>]. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these requirements and guidelines online, please visit the website [<http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf>].

Title IX of the Education Amendments Act of 1972 prohibits discrimination on the basis of sex and gender—including pregnancy, parenting, and all related conditions. A&M-Central Texas is able to provide flexible and individualized reasonable accommodation to pregnant and parenting students. All pregnant and parenting students should contact the Associate Dean in the Division of Student Affairs at (254) 501-5909 to seek out assistance. Students may also contact the University's Title IX Coordinator.

Tutoring

Tutoring is available to all A&M-Central Texas students, on a remote online basis. Visit the Academic Support Community in Canvas to view schedules and contact information. Subjects tutored on campus include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Student success coaching is available online upon request. If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, success coaching, or have any other question, contact Academic Support Programs at (254) 501-5836, visit the Office of Student Success at 212F Warrior Hall, or by emailing studentsuccess@tamuct.edu.

Chat live with a tutor 24/7 for almost any subject from on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log in and receive online tutoring support at no additional cost. This tool provides tutoring in over 40 subject areas except writing support. Access Tutor.com through Canvas.

University Writing Center

University Writing Center: The University Writing Center (UWC) at Texas A&M University–Central Texas (TAMUCT) is a free service open to all TAMUCT students. For the Summer 2021 semester, all services will be online as a result of the COVID-19 pandemic. The hours of operation are from 10:00 a.m.-4:00 p.m. Monday thru Thursday with satellite hours Monday thru Thursday from 6:00-9:00 p.m. The UWC is also offering hours from 12:00-3:00 p.m. on Saturdays.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. Whether you need help

brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via WOnline [<https://tamuct.mywconline.com/>]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC and/or need any assistance with scheduling.

University Library

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 400,000 eBooks and 82,000 journals, in addition to the 96,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our Library website [<http://tamuct.libguides.com/index>].

INSTRUCTOR POLICIES

Policies related to absence, grading, etc.

- You are responsible for all class material presented during an absence.
- All work is submitted through Canvas and due on the specified due date/time.
- A penalty of 5 points per day is applied to late Exams, Quizzes, and Assignments.
- Most assignments can be submitted multiple times, even after grading
- Late penalties are also applied to resubmitted items
- Missed exams, quizzes, and assignments will receive a grade of zero.

My Personal Statement

- You will receive feedback in the form of graded assignments within 7 days after the due date.
- I want you to read the feedback that I provide to you (your personal grading notes, Canvas emails, and Canvas discussion forums).
- I am almost always available via email and typically respond within 24 hours except on weekends.
- I prefer email over phone conversations

Copyright Notice.

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

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