

TEIT 1300 - Linux Foundations (2 Credits)

Course Description

Linux Foundations focuses on the installation, configuration, and process management of a Linux workstation. Students will explore shell programming, file system management, user accounts, access and permissions, and managing multiple concurrent processes to achieve higher utilization.

Course Objectives

- Install and maintain a Linux workstation.
 - Configure Linux from the GUI and command line.
 - Configure file and access permissions.
 - Perform maintenance tasks including user management, backup and restore, shut down, and reboot.
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Course Outline

- Linux Terminal and Installation
 - Software Installation
 - Users and Filesystem Management
 - System Monitoring
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Textbook & Reading Materials

TestOut Linux Pro, Test Out, ISBN: 9781935080381

Assignments and Assessments

Course Introduction and Standards
Meet Your Instruction Team
Rules of the Lab
CS Code of Conduct Policy
Submitting Assignments in Canvas
Taking a Screenshot
Orientation

Syllabus Agreement

0.1 - Course Introduction

0.1.3 - Manage Linux Files

0.1.4 - Practice Questions

0.2 - The TestOut Lab Simulator

1.1 - Linux Introduction

1.1.5 - Practice Questions

2.1 - The Linux Shell

2.1.7 - Practice Questions

2.2 - Linux Help

2.2.4 - Get Help

2.2.5 - Practice Questions

2.3 - Text Editors

2.3.5 - Create a New File

2.3.6 - Modify an Existing File

2.3.7 - Use the nano Editor

2.3.8 - Practice Questions

2.4 - Aliases

2.4.4 - Practice Questions

2.5 - Environment Variables

2.5.4 - View Environment Variables

2.5.5 - Practice Questions

2.6 - Shell Configuration Files

2.6.4 - Practice Questions

2.7 - Redirection, Piping and Command Substitution

2.7.8 - Practice Questions

2.8 - Directories

2.8.6 - Working with Directories

2.8.7 - Create Directories

2.8.8 - Delete Directories

2.8.9 - Practice Questions

Skills Check: SSH Terminal Connection

Checkpoint Meeting Module 1

Student Acknowledgement Statement Module 1

2.10 - Links

2.10.4 - Create a Hard Link

2.10.5 - Create a Symbolic Link

2.10.6 - Practice Questions

2.11 - Filesystem Hierarchy Standard (FHS)

2.11.3 - Practice Questions

2.12 - Locating and Searching Files

2.12.8 - Use grep

2.12.9 - Practice Questions

2.13 - Text Stream Processing

2.13.3 - Practice Questions

Skills Check: Linux Installation

5.1 - Graphical User Interfaces

5.1.3 - Practice Questions

5.2 - Linux Desktops

5.2.3 - Practice Questions

5.3 - Remote Desktop

5.4 - Accessibility

5.4.4 - Practice Questions

6.1 - Red Hat Package Manager (RPM)

6.1.4 - Install an RPM Package

6.1.5 - Remove an RPM Package

6.1.6 - Update an RPM Package

6.1.8 - Practice Questions

Checkpoint Meeting Module 2

Student Acknowledgement Statement Module 2

6.2 - Online Package Installation

6.2.5 - Use DNF to Install an RPM Package

6.2.6 - Use DNF to Remove an RPM Package

6.2.7 - Practice Questions

6.3 - Debian Package Manager (dpkg)

6.3.5 - Use apt

6.3.6 - Practice Questions

6.4 - Shared Libraries

6.4.4 - Practice Questions

7.1 - User and Group Overview

7.1.5 - View User Account Information

7.1.6 - View Group Membership Information

7.1.7 - Practice Questions

7.2 - User Management

7.2.5 - Create a User Account

7.2.6 - Rename a User Account

7.2.7 - Delete a User

7.2.8 - Change Your Password

7.2.9 - Change a User's Password

7.2.10 - Lock and Unlock User Accounts

7.2.11 - Practice Questions

7.3 - Group Management

7.3.4 - Rename and Create Groups

7.3.5 - Add Users to a Group

7.3.6 - Add a User to Additional Groups

7.3.7 - Delete a Group and Users

7.3.8 - Remove a User from a Group

7.3.9 - Remove a User from All Groups

7.4 - Troubleshoot User Issues

7.4.4 - Practice Questions

Skills Check: (WSL) Windows Subsystem for Linux

Checkpoint Meeting Module 3

10.1 - Processes

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10.1.9 - View Process Information

10.1.10 - Use pidof

10.1.11 - Practice Questions

10.2 - Process Management

10.2.10 - Stop a Zombie Process

10.2.11:-Srmg an Appllcation to t he Foreground

10.2.12 - Practice Questions

10.3 - Task Management

10.3.10 - Configure Crontab

10.3.11 - Practice Questions

10.4 - System Time Configuration

10.4.11 - Practice Questions

11.1 - System Logging

11.1.10 - View Log Files

11.1.11- Practice Questions

11.2 - Resource Monitoring

11.2.4 - Use Uptime

11.2.5 - Use top

11.2.6 - Practice Questions

12.1- 1Pv4 Overview

12.1.9 - Practice Questions

12.2 - Net work Interface Configuration

12.2.8 - Use ping and traceroute

12.2.9 - Start a NIC

12.2.10 - Stop a NIC

12.2.11- Configure IP Addresses

12.2.12 - Practice Questions

Student Feedback

Course Completion Checkpoint Meeting

End of Course Student Acknowledgement Statement

Subject to change. Please consult your Canvas course for the most current instructions and updates.

Classroom Hours

Mo, Tu, W, Th, Fr
8:00 AM - 11:00 AM
12:00 PM - 3:00 PM

For a full list of course hours visit: [Course Schedule](#)

Instructor Contact Information

Greg Davis — gdavis@stech.edu
Austin Prince — aprince@stech.edu

Office Hours: By appointment

Email is the preferred method of communication; you will receive a response within 24 hours during regular business hours.

Canvas Information

Canvas is the where course content, grades, and communication will reside for this course.

- stech.instructure.com
- For Canvas passwords or any other computer-related technical support contact Student Services.
- For regular Hours and Weekdays call (435) 586 - 2899.
- For after Hours & Weekends call (435) 865 - 3929 (Leave a message if no response).

Course Policies

All Students: This course is pass or fail. All assignments in this course require 100% score with unlimited submissions. All quizzes in this course require a minimum score of 80%. Each module of this course will contain at least one quiz. There is a student/teacher checkpoint meeting at the end of each module. You are required to keep your progress at a 67% minimum throughout the program. Progress is determined by the number of completed module hours (15 hours per module) divided by the number of enrolled hours.

Iron County High School Students: In addition to the above information, Iron County students have the following policies. Your progress grade will be submitted every Friday to PowerSchool. You must maintain a progress percentage of 67% or over to stay in the course. You will receive a No-Grade (NG) in the course until all course fees are paid.

Attendance All Students: You are required to keep your attendance at a 67% minimum throughout the program. Attendance is determined by the number of attended hours divided by the number of enrolled hours. You must complete this program within 150% estimated program length. You are permitted one 15 minute break every 90 minutes. If you take more than one break in a 90 minute period or your break lasts longer than 15 minutes, your attendance will be penalized. As per Southwest Tech policy, 10 consecutive absences will lead to being withdrawn from the program. Please notify your instructors about absences as soon as possible. If absence is due to illness, please email your instructors prior to end of day.

Iron County High School Students: In addition to the above information, Iron County students must maintain an attendance percentage of 67% or over to stay in the course. Cell Phone/Electronics Cell phones cannot be used during class time. In the lab, the PCs are reserved for students in IT courses. All students can use the iMacs, which run OSX, Windows, and Linux operating systems. You may bring your personal computers to class. You must be on topic in the lab while clocked-in. Industry Environment Computer Science typically is very sedentary. This means you may sit at a desk for long hours. Be sure to move and get what exercise you can.

High School Power School Grades: Quarter student grades will be determined by student progress percentage. Faculty will use the higher percentage of either 1) quarter progress, or 2) cumulative progress for the current training plan year. The progress percentage will be used with the grading scale to determine the minimum grade. High School Grade Scale: The following grading scale will be used to determine a letter grade from the progress percentage:

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|-----------------|-----------------|-----------------|-----------------|
| • A : 94 - 100% | • B : 83 - 86% | • C : 73 - 76% | • D : 63 - 66% |
| • A- : 90 - 93% | • B- : 80 - 82% | • C- : 70 - 72% | • D- : 60 - 62% |
| • B+ : 87 - 89% | • C+ : 77 - 79% | • D+ : 67 - 69% | • F : 0 - 59% |

Additional Information

InformaCast Statement: Southwest Tech uses InformaCast to ensure the safety and well-being of our students. In times of emergency, such as weather closures and delays, this app allows us to promptly deliver notifications directly to your mobile devices. To stay informed and receive real-time updates, we encourage all students to sign up for notifications. Your safety is our priority, and staying connected ensures a swift response to any unforeseen circumstances. More information and directions for signing up are available at: <https://stech.edu/emergency-notifications/>

Internet Acceptable Use Policy: The student is expected to review and follow the Southwest Technical College Internet Safety Policy at: <https://stech.edu/students/policies/>

Student Code of Conduct Policy: The student is expected to review and follow the Southwest Technical College Student Code of Conduct Policy at: <https://stech.edu/students/policies/>

Accommodations: Students with medical, psychological, learning, or other disabilities desiring accommodations or services under ADA, must contact the Student Services Office. Student Services determines eligibility for and authorizes the provision of these accommodations and services. Students must voluntarily disclose that they have a disability, request an accommodation, and provide documentation of their disability. Students with disabilities may apply for accommodations, based on an eligible disability, through the Student Services office located at 757 W. 800 S., Cedar City, UT 84720, and by phone at (435) 586-2899. No diagnostic services are currently available through Southwest Technical College.

Safety and Building Maintenance: The College has developed and follows a variety of plans to ensure the safe and effective operation of its facilities and programs. The following plans are available online:

1) Facilities Operations and Maintenance Plan; 2) Technical Infrastructure Plan; and 3) Health and Safety Plan.

Withdrawals and Refunds: Please refer to the Southwest Technical College Refund Policy at: <https://stech.edu/students/policies/>

Any high school or adult student, who declares a technical training objective is eligible for admission at Southwest Technical College (Southwest Tech). Program-specific admissions requirements may exist and will be listed on the Southwest Tech website. A high school diploma or equivalent is not required for admission but is mandatory for students seeking Title IV Federal Financial Aid.

Non-Discriminatory Policy: Southwest Technical College affirms its commitment to promote the goals of fairness and equity in all aspects of the educational enterprise, and bases its policies on the idea of global human dignity.

Southwest Tech is committed to a policy of nondiscrimination. No otherwise qualified person may be excluded from participation in or be subjected to discrimination in any course, program or activity because of race, age, color, religion, sex, pregnancy, national origin or disability. Southwest Technical College does not discriminate on the basis of sex in the education programs or activities that it operates, as required by Title IX and 34 CFR part 106. The requirement not to discriminate in education programs or activities extends to admission and employment. Inquiries about Title IX and its regulations to STECH may be referred to the Title IX Coordinator, to the Department of Education, and/or to the Office for Civil rights.

If you believe you have experienced discrimination or harassment on our campus, please contact the Title IX Coordinator, Cory Estes: cestes@stech.edu, (435) 865-3938.

For special accommodations, please contact the ADA Coordinator, Cyndie Tracy: ctracy@stech.edu, (435) 865-3944.

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