

Linux+ Powered by LPI Course Syllabus

**Worcester Technical High School
Telecommunications Department
Senior Related Theory Q1-Q4**

Course Description: This course is intended for students who want to learn about the Linux operating system and prepare to pass the Linux+ certification exam from CompTIA (Powered by LPI). It does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides comprehensive coverage of topics related to Linux certification, including Linux distributions, installation, administration, X-Windows, networking, and security.

This course has been approved as CompTIA Authorized Quality Curriculum (CAQC) for the CompTIA Linux+ certification. The CAQC program assures students that all test objectives for the CompTIA Linux+ certification exam are covered in the course materials.

This course will help the student prepare for the following CompTIA Certified Professional exam:

1. Exam XKO-103, Linux +

The course duration is one semester, beginning in the student's senior year.

Prerequisites

1. Before attending this course, students must have one year of experience managing Client OS or have equivalent knowledge and skills.
2. The completion of this course requires the following:
 - a. Reading Age Level (RAL) of 13

Instructional Philosophy: This course requires extensive student reading, completion of written assignments and completion of hands-on laboratory projects. There will be a balance of lecture and demonstration throughout the course. The course is comprised of the following learning styles:

1. Weekly Module Reading Assignments
2. Daily Lectures Covering Module Material
3. Weekly Hands-On Lab Assignments Covering Module Material
4. Weekly Review Lectures
5. Weekly Test Assessments

The course presentation is designed to continually reinforce the material covered each week on approximately a module per week schedule. First there is a daily lecture covering the material in the module and paced with the reading and homework

assignments. Second, the students independently read the material as a first pass at self-learning the material. The Third re-enforcement is the completion of weekly hands-on laboratory assignments directly related to the module material. Typically 4 or 5 labs are completed for each module and each lab has a set of review questions used to evaluate the completion of the lab. The last re-enforcement is a comprehensive review of the material presented during the week and an open question and answer session to finalize the material learned. A final test assessment is completed the day following the review. The weekly assessment for the course is a module test.

Course Goals

This instructor-led course provides students with the knowledge and skills to begin supporting network security within an organization. Students who complete this course will be able to identify security threats and vulnerabilities, and help respond to and recover from security incidents.

Major Course Projects and Assignments

Specific topic coverage includes:

- Introduction to Linux
- Linux Installation and Usage
- Exploring Linux Filesystems
- Linux Filesystem Management
- Linux Filesystem Administration
- Advanced Installation
- Working with the BASH Shell
- System Initialization and X Windows
- Managing Linux Processes
- Common Administrative Tasks
- Compression, System Backup, and Software Installation
- Network Configuration
- Configuring Network Services
- Troubleshooting, Performance, and Security

1. Technical Performance Projects. Module Laboratory Assignments will be completed throughout the duration of the course:

2. Applied Academics Projects. For each of the modules, the student's will be responsible for reading the Module and completing reading assignments. Daily lectures, a weekly review and a test are completed to finalize the material in each module. Completing course Linux+ is an important step toward achieving Linux certification.

3. Problem Solving Projects. The student's will develop and practice their problem solving skills by supporting the computers throughout the school. The various problems and issues that are presented serves as an effective means for the students to develop broad-based, practical troubleshooting skills required to tackle any networking issue.

Course Assessment Plan

Performance Standards: Grades for the course will be based on the following levels of performance:

Grade Performance Standard

A Independent Learner

Did research, designed and planned; applied academic skills; evaluated work and made adjustments; did quality work; needed little help from the teacher; sought and found resources independently; displayed a positive attitude; demonstrated knowledge with a grade of 90 or higher.

B Semi-Independent Learner

Did research, designed and planned; needed some help from the teacher; did quality work with a few flaws; needed feedback from the teacher to realize work could use improvement; redid work to meet standards; displayed a generally positive attitude; demonstrated knowledge with a grade of 80 or higher.

C Dependent Learner

Needed help to research, design and plan or had to be given a plan; relied a great deal on the teacher; had to be given procedures for performing tasks; required significant help to produce a quality product; needed help to evaluate a product; final product still did not meet standards; attitude displayed could use improvement; demonstrated knowledge with a grade of 70 or higher.

D Highly Dependent Learner

Needed significant help to research, design and plan or had to be given a plan; relied a solely on the teacher; had to be given procedures for performing tasks; could not produce a quality product independently; needed help to evaluate a product; final product still did not meet standards; poor attitude; demonstrated knowledge with a grade of 65 or higher.

F Failure

Did not complete assignments; if assignments were completed, they were of such low quality that they did not pass; failed to follow procedures; did not show criteria for determining quality; behavioral problem; scored less than 65 on knowledge tests; produced a poor or no portfolio.

Assessment Description	Percent of Grade
Tests	80
Homework	20

Tests will be scheduled on the assessment server for 7 days each week with appropriate time limits. It is the student's responsibility to take, or in some cases re-take, scheduled tests.

The instructor reserves the right to change any portion of this syllabus at any time.