

Course: Linux Essentials

Provider: Pinckney Cyber Training Institute

Content Standards: Michigan Career and Technical Education Standards and Expectations

Standards Built Into Entire Course

- ESS01.01.01 Identify training, education and certification requirements for occupational choice.
- ESS01.01.02 Participate in career-related training and/or degree programs.
- ESS01.02.06 Comprehend key elements of oral and written information such as cause/effect, comparisons/contrasts, conclusions, context, purpose, charts/tables/graphs, evaluation/critiques, mood, persuasive text, sequence, summaries, and technical subject matter.
- ESS01.04.02 Apply scientific methods in qualitative and quantitative analysis, data gathering, direct and indirect observation, predictions, and problem identification.
- ESS02.01.01 Determine the most appropriate reading strategy for identifying the overarching purpose of a text (i.e. skimming, reading for detail, reading for meaning or critical analysis).
- ESS02.01.02 Demonstrate use of content, technical concepts and vocabulary when analyzing information and following directions.
- ESS02.01.03 Select the reading strategy or strategies needed to fully comprehend the content within a written document (i.e., skimming, reading for detail, reading for meaning or critical analysis).
- ESS02.01.04 Interpret information, data, and observations to apply information learned from reading to actual practice.
- ESS02.01.06 Communicate information, data, and observations to apply information learned from reading to actual practice.
- ESS02.04.01 Use informational texts, Internet web sites, and/or technical materials to review and apply information sources for occupational tasks.
- ESS02.05.03 Use correct grammar, spelling, punctuation, and capitalization when preparing written documents.
- ESS03.01.02 Analyze elements of a problem to develop creative solutions.
- ESS03.01.06 Use structured problem-solving methods when developing proposals and solutions.
- ESS04.01.01 Manage personal schedules and contact information.
- ESS04.01.02 Create memos and notes.
- ESS04.02.01 Use information technology tools to manage and perform work responsibilities.
- ESS04.03.03 Use email to communicate within and across organizations.

Segment 1: Linux Unhatched

- ITC10.01.01 Explain the fundamentals of operating systems.
- ITC10.01.04 Describe elements and types of information processing.
- ITC10.02.01 Explain the key functions and applications of software.
- ITC10.06.02 Troubleshoot Internet connection problem
- ITC10.07.02 Verify that software to be installed is licensed prior to performing installation.
- ITC10.09.01 Configure/modify system as needed.
- ITC10.09.02 Use operating system principles to ensure optimal system function.
- ITC10.09.03 Use available reference tools as appropriate.
- ITC10.12.04 Configure systems to provide optimal system interfaces.
- ITPA01.03.09 Characterize the use of Network Operating Systems.
- ITPA01.04.02 Install a Network Operating System.
- ITPA01.04.03 Configure a Network Operating System.
- ITPD01.03.04 Summarize elements and types of information processing.
- ITPD01.04.02 Apply language specific programming tools/techniques.

Segment 2: Linux Essentials

Module 1: Introduction to Linux

- ITC10.01.01 Explain the fundamentals of operating systems.
- ITC10.14.01 Explain the history and standards of key quality management initiatives.
- ITPD01.03.03 Explain new and emerging classes of software.
- ITPB01.03.01 Identify the purpose of computer components.

Module 2: Open Source Applications and Licenses

- ITC10.01.01 Explain the fundamentals of operating systems.
- ITC10.07.01 Verify that hardware and software system components are compatible prior to performing installation.
- ITC10.07.02 Verify that software to be installed is licensed prior to performing installation.

Module 3: Using Linux

- ESS04.03.02 Identify the functions and purpose of email systems.
- ITC10.06.06 Explain cookies and adware on an internet connected computer system.
- ITC10.08.01 Explain the features and functions of Web browsing software.

Module 4: Command Line Skills

- ITPB01.04.01 Demonstrate knowledge of Operating System components in the building and deployment of computer systems.
- ITPB01.04.02 Demonstrate knowledge of Operating System components in the repair and maintenance of computer systems.
- ITPA01.03.09 Characterize the use of Network Operating Systems.

Module 5: Getting Help

- ITC10.13.01 Provide Help Desk service to computer users within the organization.
- ITPD01.01.05 Use available reference tools as appropriate.
- ITPB01.07.03 Troubleshoot problems

Module 6: Working with Files and Directories

- ITC10.01.01 Explain the fundamentals of operating systems.
- ITPD01.06.01 Explain programming language concepts
- ITPD01.06.04 Summarize program development methodology.

Module 7: Archiving and Compression

- ITC10.02.03 Summarize how data is organized in software development.
- ITC10.04.02 Explain data transmission codes and protocols.
- ITPD01.03.04 Summarize elements and types of information processing.

Module 8: Pipes, Redirection, and REGEX

- ITC10.02.01 Explain the key functions and applications of software.
- ITPD01.04.01 Employ tools in developing software applications.
- ITPD01.04.02 Apply language specific programming tools/techniques.

Module 9: Basic Scripting

- ITPD01.04.01 Employ tools in developing software applications.
- ITPD01.04.02 Apply language specific programming tools/techniques.
- ITPD01.06.01 Explain programming language concepts.

Module 10: Understanding Computer Hardware

- ITC10.01.03 Identify computer classifications and hardware.
- ITC10.01.06 Describe the function of CPUs.
- ITPD01.05.05 Explain computing/networking hardware and software architecture.

Module 11: Managing Packages and Processes

- ITC10.07.01 Verify that hardware and software system components are compatible prior to performing installation.
- ITC10.07.03 Perform installation accurately and completely, using available resources as needed.
- ITC10.07.05 Perform customization as requested.

Module 12: Network Configuration

- ITC10.05.02 Explain Domain Name Server (DNS).
- ITC10.05.03 Summarize Internet security issues and systems available for addressing them.
- ITC10.05.03 Summarize Internet security issues and systems available for addressing them.
- ITC10.06.02 Troubleshoot Internet connection problems.

Module 13: System and User Security

- ITC10.05.03 Summarize Internet security issues and systems available for addressing them.
- ITC10.11.04 Develop plans to address security threats.
- ITC10.11.05 Implement plans to address security procedures.

Module 14: Create a New User

- ITPB01.08.01 Perform general system administration tasks.
- ITPD01.04.01 Employ tools in developing software applications.
- ITPD01.04.02 Apply language specific programming tools/techniques.
- ITPD01.06.01 Explain programming language concepts.

Module 15: Ownership and Permissions

- ITPB01.08.01 Perform general system administration tasks.
- ITPB01.05.01 Describe basic network classifications, topologies and network operating systems (NOS)
- ITPD01.04.01 Employ tools in developing software applications.

Module 16: Securing Permissions, Links and File Locations

- ITC10.11.04 Develop plans to address security threats.
- ITC10.11.05 Implement plans to address security procedures.
- ITPB01.08.01 Perform general system administration tasks.
- ITPD01.04.01 Employ tools in developing software applications.