

NOS 125 Linux/Unix Scripting

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This course is designed for IT professionals and students looking to master PowerShell and scripting across different platforms including Linux and Windows. Utilizing a combination of online resources, this course offers a deep dive into PowerShell syntax, scripting fundamentals, automation techniques, and the integration of PowerShell with cloud services such as AWS and Azure. Through a blend of theoretical lessons and practical exercises, participants will learn to automate routine tasks, manage system resources, and deploy scripts that interact with cloud infrastructures. By the end of the course, learners will be proficient in scripting for system administration, cloud management, and network operations.

Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

1. Understand the fundamentals of PowerShell and its application across different operating systems.
2. Write and execute PowerShell scripts to automate routine administrative tasks.
3. Integrate PowerShell with Windows Directory Services for advanced system management.
4. Apply scripting knowledge to manage Linux systems, utilizing bash and other shell scripting tools.
5. Deploy and manage cloud resources on AWS and Azure using PowerShell scripts.
6. Develop automation scripts for cloud infrastructure tasks, enhancing efficiency and scalability.
7. Analyze and troubleshoot scripts to ensure they meet operational requirements.
8. Demonstrate best practices in script security, efficiency, and readability.

OUTLINE OF INSTRUCTION:

- I. Introduction to Scripting and PowerShell
 - A. Overview of scripting languages
 - B. Getting started with Microsoft PowerShell
 - C. Basic PowerShell commands and syntax
- II. Advanced PowerShell Scripting
 - A. Functions, loops, and conditionals in PowerShell
 - B. PowerShell for Windows administration
 - C. Exploring Windows PowerShell Basics
 - D. Managing Active Directory with PowerShell
- III. Linux Scripting Fundamentals
 - A. Introduction to Linux shell scripting
 - B. Basic scripts for system administration
 - C. Engaging with Linux Essential Training
- IV. Advanced Linux Scripting
 - A. Automating tasks with advanced scripts
 - B. Integrating scripts with Linux services
 - C. Scripting for network management

V. Cloud Computing and Scripting

- A. Introduction to cloud computing fundamentals
- B. Managing cloud resources with scripts
- C. AWS and Azure scripting essentials
- D. Developing automation scripts for cloud infrastructure
- E. Implementing best practices for cloud resource management

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.