

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: ITN 254

Credits: 4

Course Title: Virtual Infrastructure: Installation and Configuration

Course Description (including lecture hours, lab hours, total contacts)

Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a virtual infrastructure, ESX Server, and Virtual Center. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability. Prerequisite: ITN 171 Unix I. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

General Course Purpose

Prepares students to install, configure, and manage a virtual infrastructure. Can lead to industry certification.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

ITN 171 Unix I

Course Objectives (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

- Install and configure ESX Server
- Configure ESX Server networking and storage
- Install and configure VirtualCenter
- Configure and manage the VMware infrastructure
- Control user access to the VMware infrastructure
- Deploy and manage virtual machines using VirtualCenter
- Allocate and monitor resources of virtual machines
- Ensure high availability of applications

Major Topics to be Included

- Virtual Infrastructure Overview
- Virtual Switches and Network Connections
- Storage Management
- Virtual Machine Creation and Management
- Virtual Machine Templates
- Virtual Infrastructure Access Control
- Administrator Rights Control
- Resource Management

- Resource Pools and VMware Distributed Resources Scheduler (DRS) cluster
- Resource Monitoring and Workload Assessment
- Monitoring with VMware VirtualCenter
- Backup Strategies
- Data and Availability Protection
- Virtual Infrastructure Deployment Planning

Effective Date of Course Content Summary (Month, Date Year): May, 2011