Course Prefix and Number: <u>ITN 254</u>   Credits: <u>4</u>

Course Title: <u>Virtual Infrastructure: Installation and Configuration</u>

Course Description:

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 170. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. 4 credits

General Course Purpose:

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

Course Prerequisites and Co-requisites:

Prerequisite: ITN 170

Student Learning Outcomes:
Upon completing the course, the student will be able to

- Install and configure ESX Server;
- Configure ESX Server networking and storage;
- Install and configure Virtual Center;
- Configure and manage the VMware infrastructure;
- Control user access to the VMware infrastructure;
- Deploy and manage virtual machines using Virtual Center;
- Allocate and monitor resources of virtual machines; and
- 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 Virtual Center
- Backup strategies
- Data and availability protection

- Virtual infrastructure deployment planning

Effective Date/Updated: March 22, 2019