

# IT - NETWORKING AND SYSTEM ADMINISTRATION (150)

## 150-107 - IT Fundamentals 1

Investigates and applies concepts, terminology, software, hardware and theory expected of information technology learners. Focuses on gaining entry level concepts and terminology for the information technology field.

Credit for Prior Learning Available

3 Credit hours

54 Lecture hours

## 150-108 - IT Fundamentals 2

Investigates and applies advanced concepts, terminology, software, hardware and theory expected of information technology learners. Focuses on gaining advanced concepts and terminology for the information technology field. (Prerequisite: Completion of or concurrent enrollment in 150-107 IT Fundamentals 1) Credit for Prior Learning Available

3 Credit hours

54 Lecture hours

## 150-111 - Cloud Infrastructure and Virtualization

This course introduces students to the installation, configuration, and management of virtualization technologies. Students will learn to deploy and manage virtual machines. The course also covers cloud platforms, emphasizing the deployment and management of applications across global networks of managed data centers. Special focus is placed on Software as a Service (SaaS) models and their role in modern enterprise environments. (Prerequisite: 150-120 Microsoft Servers)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-115 - Emerging Innovations in Technology

Provides opportunities to explore emerging technologies. Emphasizes identifying, researching, and presenting current technological topics and explores important issues currently affecting the field of organizational computer systems and related emerging information technologies.

(Prerequisite: 150-191 Principles of Information Security or 150-192 Network Security Fundamentals or 154-117 Computer Hardware Support)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-120 - Microsoft Servers

Covers the user interface, installation, administration and troubleshooting of Microsoft server operating systems from the viewpoint of the support person. Students compare and contrast among Microsoft server network operating systems. (Prerequisite: 150-108 IT Fundamentals 2)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-126 - Internet of Things

Explores the importance of the Internet of Things (IoT) in society, the current components of IoT devices, Industrial IoT, and trends for the future. Students will gain proficiency in key components of networking to ensure connectivity of IoT devices to the Internet. (Prerequisite: Completion of or concurrent enrollment in 150-111 Cloud Infrastructure and Virtualization)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-130 - IT Administration and Microsoft 365 Administrator

Presents an overview of the management, network analysis, help desk, and upgrade aspects of IT administration with a focus on Microsoft 365. Students research security standards for Internet presence, mainframe, networks, firewall configuration and design, and they conduct security reviews for compliance. Using a fictitious company, students' budget, staff and establish policies from an administration viewpoint. (Prerequisite: 150-108 IT Fundamentals 2)

3 Credit hours

54 Lecture hours

## 150-141 - Computer Network Installation

Students design a structured cabling system for a computer network, install peer-to-peer computer networks, implement client-server computer networks, and provide wireless connectivity for a computer network.

(Prerequisite: 150-120 Microsoft Servers)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-143 - Linux Network Administration

Examines specifically how to perform network administration tasks for a Linux network operating system. Students have extensive hands-on practice carrying out administration tasks on a Linux server network. Students will also spend time securing Linux systems, installing software, and working in the BASH shell. (Prerequisite: 150-108 IT Fundamentals 2)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-145 - Active Directory/Group Policy Management

Covers the installation and administration of a Microsoft Active Directory infrastructure environment as well as Group Policy management. Also covers the configuration of DNS and DHCP servers. (Prerequisite: 150-120 Microsoft Servers)

3 Credit hours

36 Lecture hours

36 Lab hours

## 150-191 - Principles of Information Security

Develops security policies and strategies after exploring the concept of trustworthy computing and the important role that security plays with respect to people, processes and technologies in an organization. Course is structured around three phases of network security: planning, building and managing network security policies.

3 Credit hours

36 Lecture hours

36 Lab hours

**150-192 - Network Security Fundamentals**

Provides a detailed overview of the fundamentals of network security. Covers security topology, intrusion detection, firewalls, routers and their configuration, access lists, authentication and encryption, in addition to reviewing the different methods of attacks such as viruses, Trojan horses and worms. Also covers wireless technology security. The structure of the course assumes students have a solid understanding of LAN/WAN fundamentals. (Prerequisite: 150-191 Principles of Information Security)

3 Credit hours

36 Lecture hours

36 Lab hours

**150-193 - Network Attacks and Firewalls**

Students are introduced to the methods used to attack networks and likewise the protection mechanisms used by organizations to thwart those attacks. The course utilizes the Check Point Secure Academy courseware to give students the ability to experience installation, configuration and management of Check Point Security solutions, as well as exploring case studying the history and approaches used to compromise networks. (Prerequisite: 150-192 Network Security Fundamentals)

3 Credit hours

36 Lecture hours

36 Lab hours

**150-194 - Network Defense and Countermeasures**

As a continuation of Network Attacks and Firewalls (150-193), students are introduced to the methods used to attack networks and likewise the protection mechanisms used by organizations to thwart those attacks. The course utilizes the Check Point Secure Academy courseware to give students the ability to experience installation, configuration and management of Check Point Security solutions, as wells as exploring case studying the history and approaches used to compromise networks. (Prerequisite: 150-193 Network Attacks and Firewalls)

3 Credit hours

36 Lecture hours

36 Lab hours