IP Networking for Security: Basic Networking Course Outline
Course Time: 1 hour

Course Description
In this course, we will begin by defining what a network is, show you the various ways a network can be constructed and, in general terms, how data is sent from one point to another.

Course Objectives:
When you complete this course, you should be able to do the following:

- Identify the various network classifications,
- Describe common network topologies,
- Differentiate the key protocols used on an Ethernet network,
- Dissect IP addresses and identify the two versions, and
- Compare and contrast the commonly used network operating systems.

Course Outline

- What IS a network?
- Network Classifications
  - PAN/HAN
  - LAN
  - WAN
  - CAN/MAN
  - SAN
- Network topologies
  - Point-to-Point
  - Bus
  - Ring
  - Star
  - Extended Star
  - Tree
  - Mesh
  - Partially Connected Mesh
  - Hybrid
- Basic Administration Network Models
  - Peer-to-peer
  - Client/Server
- Network Protocols
  - What is a protocol?
  - Common Protocols – Overview
  - Common Protocols

    - Ethernet
      - Ethernet
      - Fast Ethernet
      - Gigabit Ethernet
    - Collisions – CSMA/CD
    - TCP/IP Overview
    - TCP
    - IP
    - IP Addresses
    - UDP

  - IP Addresses
  - IPv4 and IPv6 Overview
  - IPv4 Address Basics
  - Interpreting IPv4 Addresses
  - IPv6 Address Basics

- o Interpreting IPv6 Addresses
- Communications
  - o IP Packet Structure Overview
  - o IPv4 Packet Structure
  - o IPv6 Packet Structure
  - o Reassembly
- Network Operating Systems
  - o Windows Server
  - o UNIX
    - ▪ Linux
    - ▪ BSD
  - o Mac OS