INFOSECTRAIN

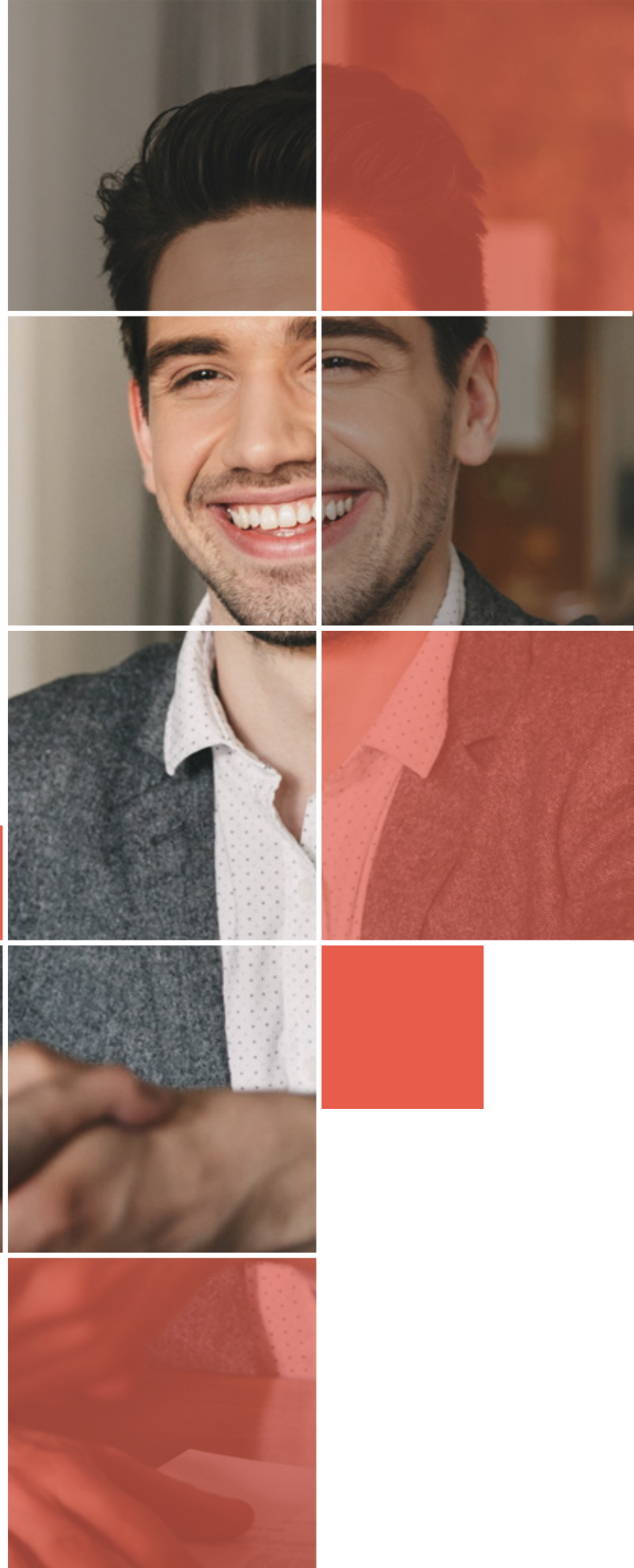# CYBER SECURITY

CAREER ORIENTATION

PROGRAM

FOUNDATION LEVEL

ENROLL NOW

LEARNING PATH

- **Level 1: A+**
- **Level 2: Introduction to Networks**
- **Level 3: Linux Fundamentals**
- **Level 4: Security & Cloud Essentials**

Hardware Fundamentals

• Personal Computer Components

• Storage Devices

• Mobile Digital Devices

• Connection Interfaces

• CPU, RAM, MOTHERBOARD, POWER SUPPLIES

Operating System Fundamentals

• PC and Mobile Operating Systems

• PC Operating System Tools and Utilities

Networking and Security Fundamentals

• Network Types

• Network Components

• Common Network Services

• Cloud Concepts

• Security Fundamentals

Safety and Operational Procedures

• Basic Maintenance Tools and Techniques

• Personal and Electrical Safety

• Environmental Safety and Materials Handling

• Professionalism and Communication

• Organizational Policies and Procedures

• Troubleshooting Theory

Working with Other Operating Systems

• The OS X Operating System

• The Linux Operating System

LEVEL 2: Introduction to Networks

Introduction to Networks

- What's a Network?
- The Local Area Network
- Common Network Components
- Wide Area Network
- Network Architecture: Peer-to-Peer or Client-Server?
- Physical Network Topologies
- Bus Topology
- Star Topology
- Ring Topology
- Mesh Topology
- Point-to-Point Topology
- Point-to-Multipoint Topology
- Hybrid Topology
- Topology Selection, Backbones, and Segments
- Selecting the Right Topology
- The Network Backbone
- Network Segments
- CAN

The Open Systems Interconnection Specifications

- Internetworking Models
- The Layered Approach
- Advantages of Reference Models
- The OSI Reference Model
- The Application Layer
- The Presentation Layer
- The Session Layer
- The Transport Layer
- The Network Layer
- The Data Link Layer
- The Physical Layer
- Introduction to Encapsulation

Networking Devices

- Network Interface Card
- Hub
- Bridge
- Switch
- Router
- Firewall
- IDS/IPS
- Access Point
- Wireless Range Extender
- Contention Methods

- Dynamic Host Configuration Protocol Server
- Multilayer Switch
- Load Balancer
- Domain Name Service Server
- Proxy Server
- Encryption Devices
- Analog Modem
- Packet Shaper

IP Addressing

- IP Terminology
- The Hierarchical IP Addressing Scheme
- Network Addressing
- Private IP Addresses
- IPv4 Address Types
- Layer 2 Broadcasts
- Layer 3 Broadcasts
- Unicast Address
- Multicast Address (Class D)
- IP Subnetting

- Internet Protocol Version 6 (IPv6)
- Why Do We Need IPv6?
- The Benefits of and uses for IPv6
- IPv6 Addressing and Expressions
- Shortened Expression
- Address Types
- Special Addresses
- Stateless Autoconfiguration (EUI-64)
- DHCPv6 (Stateful)
- Migrating to IPv6

WAN Infrastructure

- WAN basics
- WAN Connectivity methods

Troubleshooting Network Issues

- Network Troubleshooting Methodology
- Network troubleshooting tools
- Wired and Wireless Connectivity and Performance issues

LEVEL 3: Linux Fundamentals

Exploring Linux Command-Line Tools

- Understanding Command-Line Basics
- Exploring Your Linux Shell Options
- Using a Shell
- Exploring Shell Configuration
- Using Environment Variables
- Getting Help
- Using Streams, Redirection, and Pipes
- Exploring Types of Streams
- Redirecting Input and Output
- Piping Data Between Programs
- Generating Command Lines
- Processing Text Using Filters
- File-Combining Commands
- File-Transforming Commands
- File-Formatting Commands
- File-Viewing Commands
- File-Summarizing Commands

Managing Files

- File Naming and Wildcard Expansion Rules
- File Commands
- File Archiving Commands
- Managing Links
- Directory Commands
- Managing File Ownership
- Assessing File Ownership
- Changing a File's Owner
- Changing a File's Group
- Configuring Routing
- Using GUI Configuration Tools
- Using the ifup and ifdown Commands
- Configuring Hostnames
- Diagnosing Network Connections
- Testing Basic Connectivity
- Tracing a Route
- Checking Network Status
- Examining Raw Network Traffic

Administering the System

- Managing Users and Groups
- Understanding Users and Groups
- Configuring User Accounts
- Configuring Groups
- Tuning User and System Environments
- Using System Log Files
- Setting Logging Options
- Manually Logging Data
- Rotating Log Files
- Reviewing Log File Contents
- Maintaining the System Time
- Linux Time Concepts
- Manually Setting the Time
- Using NTP
- Running Jobs in the Future
- Understanding the Role of cron
- Creating System cron Jobs
- Creating User cron Jobs
- Using at

Writing Scripts, Configuring E-mail, and Using Databases

- Managing the Shell Environment
- Reviewing Environment Variables
- Understanding Common Environment Variables
- Using Aliases
- Modifying Shell Configuration Files
- Writing Scripts
- Beginning a Shell Script
- Using Commands

- Using Variables
- Using Conditional Expressions
- Using Loops
- Using Functions
- Managing E mail
- Understanding E mail
- Choosing E mail Software
- Managing E mail
- Securing Your E-mail Server

LEVEL 4: Security & Cloud Essentials

Understanding Threat Actors & Threat Intelligence

• Vulnerability, Threat, and Risk

• Internal/External

• Types of Hackers

• Threat Research Sources

• Tactics, Techniques, and Procedures and Indicators of Compromise

Understanding Security Assessments

• Assess Organizational Security with Network Reconnaissance Tools

     - ipconfig, ping, and arp

     - Nmap

     - Wireshark

• Understanding Security Concerns with General Vulnerability Types

     - Zero-Day and Legacy Platform Vulnerabilities

     - Weak Host Configurations

     - Weak Network Configurations

     - Impacts from Vulnerabilities

     - Common Vulnerabilities and Exposures

     - Penetration Testing Concepts

Social Engineering and Malware

• Familiarity/Liking

• Social Proof

• Scarcity and Urgency

• Dumpster Diving, Tailgating & Shoulder Surfing

• Phishing, Vishing & SMiShing

• Spear phishing, Whaling & Watering Hole Attack

• Pharming

• Typosquatting

• Credential Harvesting

• Malware Classification

Understanding Authentication Controls

- Authentication Factors
- Multifactor Authentication
- Authentication Attributes
- Implement Authentication Technologies

Understanding Identity and Account Management Controls

- Identity Management Controls
- Background Check and Onboarding Policies
- Personnel Policies for Privilege Management
- Offboarding Policies

- Security Group-Based Privileges
- Understanding Account Policies
- Account Password Policy Settings
- Account Restrictions
- Account Lockout and Disablement

Understanding Physical Security

Cloud Essentials

- An Introduction to Cloud Computing Configurations and Deployments
- Cloud Operations
- Disaster Recovery, Business Continuity & Ongoing Maintenance
- Cloud Management