Program Preview (Network & Security)

Course Name	Network Foundations	Security Foundations	Building Advanced Networks
Duration	2 weeks	2 weeks	2 weeks
Fee	N150,000	N150,000	N350,000
Delivery	Classroom, Live Online	Classroom, Live Online	Classroom, Live Online
Type			LIVE (Learning Integrated Vocational Experience)
Date Requirement for Completion of Course and award of certificate	Full attendance	Full attendance	Full attendance

Program Materials:

- Student Manuals
- Lab Manuals
- Simulator Software
- 24 x 7 Access to Lab Environment for 1 month
- Physical In-house Training
- Live Online Training

Program Details:

- In-depth training from expert trainers with extensive real-world industry experience
- Hands-on lab training using dedicated physical equipment and simulation lab (24/7 access)
- Includes course materials, easy-to-follow lab guide
- Get job ready, with our Learning Integrated Vocational Experience programs
- Free career planning, resume writing and job interview training

Learning Integrated Vocational Experience (LIVE)

This 8-week Networking internship program is a combination of pre-placement training and hands-on work experience. We work closely with our industry partners to identify recruitment needs so that we can devise a work integrated training curriculum to fill these gaps. Through our internship programs, students are able to spend time within our partner organizations, learning best practices, specific skills and tools, as well as assimilating to company culture.

Benefits of our LIVE training program

- Gain valuable local work experience as a Junior Network & Security Engineer
- On-the-job training and mentorship from industry experts
- Expert training from the industry's leading and experienced professionals.
- On-Field like experience and Internship program for proper integration into the industry.
- Hands-on training with emphasis on acquiring industry relevant skills.
- Internship Completion Certificate & Training Completion Certificate
- Employer Reference Letter
- Resume and interview training
- An opportunity for full-time or contract employment

Internship Responsibilities/Duties

You will be working as part of the Enterprise Infrastructure and Implementation Services team at Arravo. The EI team has pre-sales engineers who design enterprise solutions for Security, Collaboration, Enterprise Infrastructure and Service Provider environments. The Implementation Services team are field engineers who carry out the installations and support engineers at all levels who make sure our customers enjoy sterling services that is the Arravo badge of excellence.

Some of your responsibilities include:

Pre-Sales

- Provide solution designs, demos and proof-of-concept (POC) to meet customer requirements
- Scoping of the technical solution required to address customer requirements
- Provide responses to RFI/RFQ/RFP/Bid/Tender documents
- Technical defense of solutions through individual engagements and presentations with C-Level executives and other key stakeholders

Implementation

- Deployment of technical solutions for enterprise networks, wide area networks, virtual private networks, and wireless networks and other advanced technologies.
- End-User training of deployed technologies

Support

- Administration of enterprise LAN, WAN, Security, Data Center and Wireless Infrastructure solutions
- Data Center Administration
- Troubleshooting of enterprise infrastructures
- Provision of L1, L2, L3 support for customers

Requirements

To qualify for our internship program, you are expected to complete any of the following combinations of courses.

1. Security Foundation + Advanced Network Course
2. Network Foundation + Advanced Network Course

Students who only register for the Networking Foundation or Security Foundation Course will not qualify for internship.

- Interns may be required to work shifts depending on the requirement at the customer location. When this happens, interns will not work the regular 9am-5pm shift.
- Interns may also be required to travel out of state for installations.
- Interns who write and pass the CCNP certification exam will be given preference for employment on an opportunity basis.

Internship Structure

Duration: 8 weeks

Week	*Schedule*	*Description*	*Location*
1-2	9am – 5pm, Mon - Friday	Network/Security Foundation	Ikoyi, Online

3-4	9am – 5pm, Mon - Friday	Building Advanced Networks	Ikoyi, Online
5-12	9am – 5pm, Mon - Friday	Internship	Ikoyi (PreSales) Various partner locations (Implementation + Support)

Network Foundations Course Description

The course provides foundational networking knowledge such as how to install, operate, configure, and verify a basic IP network, including configuring a LAN switch, configuring an IP router, connecting to a WAN, and identifying basic security threats. You will also learn how to perform basic troubleshooting steps in enterprise branch office networks.

Prerequisites

None

Course Outline

- Networking Fundamentals
- Cisco IOS Command Line Interface Basics
- IP Addressing and Subnetting
- IP Routing Fundamentals
- Static Routing
- Dynamic Routing Protocol: OSPF
- VLAN, Trunking and VLAN Routing
- Link Aggregation
- Spanning Tree Protocol
- Access Control list
- Wide Area Network Technologies
- Network Address Translation
- IPv6 Addressing
- IPv6 Routing
- Wireless LAN Technologies

Security Foundations Course Description

This course develops the skills required to support a security infrastructure, recognize threats and vulnerabilities to networks and systems, and mitigate security threats. You will learn security concepts, secure access, VPN, secure routing and switching, Cisco firewall technologies, content and endpoint security and intrusion prevention technologies.

Prerequisites

None

Course Outline

Security Concepts

- Common security principles
- Common security threats
- Cryptography concepts

Secure Access

- Secure management
- AAA concepts
- 802.1X authentication
- BYOD

VPN

- VPN concepts
- Remote access VPN
- Site-to-site VPN

Securing Routing and Switching

- Security on Cisco routers

- Securing routing protocols
- Securing the control plane
- Common Later 2 attacks
- Mitigation procedures
- VLAN security

Firewall Technologies

- Describe operational strengths and weaknesses of the different firewall technologies
- Compare stateful vs. stateless firewalls
- Implement NAT on firewalls
- Implement zone-based firewall
- Advanced firewall features

Building Advanced Networks – Course Description

This course develops the skills required to install, implement and troubleshoot LAN and WAN in enterprise networks. This course includes advanced routing technologies, such as EIGRP, OSPF, Routing Redistribution and Selection, BGP, as well as advanced topics in switching technologies, such as Campus design, VLAN, Trunking, Spanning Tree, Layer 3 Switching, High Availability Technologies.

Prerequisites

Completion of Network Foundations Course or Valid CCNA certification

Course Outline

Enhanced Interior Gateway Routing Protocol

- EIGRP Fundamentals
- EIGRP Neighborships
- Building the EIGRP Topology Table
- Building the IP Routing Table
- Optimizing EIGRP Convergence
- Routing Filtering
- Default Routes

Open Shortest Path First

- OSPF Overview
- OSPF Neighbors and Adjacencies on LANs and WANs
- The Database Exchange Process
- Choosing the Best OSPF Routes
- LSA and OSPF Link-State Database

- Routing Filtering
- Route Summarization
- Default Routes and Stub Areas

Route Redistribution and Selection

- Route Redistribution Basics
- Redistribution into OSPF
- Redistribution Filtering
- Issues with Multiple Redistribution Points
- Cisco Express Forwarding
- Policy-Based Routing
- IP Service-Level Agreement
- VRF-Lite

Border Gateway Protocol

- Introduction to BGP
- Outbound Routing Towards the Internet
- The Basics of Internet Routing and Addressing
- External BGP for Enterprises
- Verifying BGP Table
- Injecting Routes into BGP for Advertisement to the ISPs
- Internal BGP Between Internet-Connected Routers
- Avoiding Routing Loops When Forwarding Towards the Internet
- BGP Route Filtering

- BGP Path Attributes and Best-Path Algorithm
- Influencing an Enterprise's Outbound Routes
- Influencing an Enterprise's Inbound Routes with MED

Designing and Building Campus Network

- Hierarchical Network Design
- Modular Network Design
- L2 Switch Operation
- Multilayer Switch Operation
- VLAN and Trunking
- VLAN Trunking Protocol

Working with Redundant Links

- IEEE 802.1D Overview
- Types of STP
- STP Root Bridge
- Tuning Spanning Tree Convergence
- Redundant Link Convergence
- Protecting Against Unexpected BPDUs
- Protecting Again Sudden Loss of BPDUs
- Filtering BPDUs to Disable STP on a Port
- Rapid Spanning Tree
- Multiple Spanning Tree
- Switch Port Aggregation with EthChannel

- EtherChannel Negotiation Protocols
- EtherChannel Configuration

Multilayer Switching

- Switched Virtual Interface
- L3 Routed Port
- Configure a DHCP Server
- Configure a DHCP Relay

Implementing High Availability

- Leveraging Logical Switches
- Gateway Redundancy Protocols