Course Name	***CCNA 2: Routing and Switching Essentials (PCP)***
Course Overview	This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality.
Course Objective	Upon completion of this course, students should be able to: • Describe enhanced switching technologies such as VLANs, VLAN Trunking Protocol (VTP), Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Protocol (PVSTP), and 802.1q • Configure and troubleshoot basic operations of a small switched network • Configure and verify static routing and default routing • Configure and troubleshoot basic operations of routers in a small routed network • Configure and troubleshoot VLANs and inter-VLAN routing • Configure, monitor, and troubleshoot ACLs for IPv4 and IPv6 • Configure, monitor, and troubleshoot ACLs for IPv4 and IPv6
Target Audience	This course is suitable for any individuals who are seeking entry-level jobs in the ICT industry or hope to fulfil prerequisites to pursue more specialized ICT skills. It provides an integrated and comprehensive coverage of networking topics, from fundamentals to advanced applications and services, while providing opportunities for hands-on practical experience and career skills development.
Course Outline	

		Day 1	**9 am – 12.30 noon** *10 am – 10.15 am* - *Tea break* *12.30 noon – 2.00 pm* - *Lunch* ********** **2.00 pm – 5.00 pm** *4.00 pm – 4.15 pm* - *Tea Break*	**1. INTRODUCTION TO SWITCHED NETWORKS** - Introduction - LAN Design - Switched Environment **2. BASIC SWITCHING CONCEPTS AND CONFIGURATIONS** - Introduction - Basic Switch Configuration - Switch Security: Management and Implementation **3. VLANs** - VLAN Segmentation - VLAN Implementation - VLAN Security and Design ********** **1. PRACTICAL AND CHAPTER ONLINE TEST**
		Day 2	**9 am – 12.30 noon** *10 am – 10.15 am* - *Tea break* *12.30 noon – 2.00 pm* - *Lunch*	**1. INTER-VLAN ROUTING** - Routing Concepts - Initial Configuration of a Router - Routing Decisions - Router Operation **2. ROUTING CONCEPTS** - Inter-VLAN Routing Configuration

				- Troubleshooting Inter-VLAN Routing - Layer 3 Switching **3. static routing** - Static Routing Implementation - Configure Static and Default Routes - Review of CIDR and VLSM - Configure Summary and Floating Static Routes - Troubleshoot Static and Default Route Issues ********** **1. PRACTICAL AND CHAPTER ONLINE TEST**
			********** **2.00 pm – 5.00 pm** *4.00 pm – 4.15 pm* *Tea Break*	
		Day 3	**9 am – 12.30 noon** *10 am – 10.15 am* - *Tea break* *12.30 noon – 2.00 pm* - *Lunch*	**1. ROUTING DYNAMICALLY** - Dynamic Routing Protocols - Distance Vector Dynamic Routing - RIP and RIPng Routing - Link-State Dynamic Routing - The Routing Table **2. SINGLE AREA OSPF**

				- Characteristics of OSPF - Configuring Single-area OSPFv2 - Configure Single-area OSPFv3 **3. ACCESS CONTROL LIST** - IP ACL Operation - Standard IPv4 ACLs - Extended IPv4 ACLSs - Contextual Unit: Debug with ACLs - Troubleshoot ACLs - Contextual Unit: IPv6 ACLs ********** 1. **PRACTICAL AND ONLINE TEST**
			********** **1.00 pm – 5.00 pm** *4.00 pm – 4.15 pm* - *Tea Break*	
		Day 4	**9 am – 12.30 noon** *10 am – 10.15 am* - *Tea break* *12.30 noon – 2.00 pm* - *Lunch*	**1. DHCP** - Introduction - Dynamic Host Configuration Protocol v4 - Dynamic Host Configuration Protocol v6

				2. NETWORK ADDRESS TRANSLATION FOR IPv4 - NAT Operation - Configuring NAT - Troubleshooting NAT - ********** **1. PRACTICAL AND ONLINE TEST**
			********** **2.00 pm – 5.00 pm** *4.00 pm – 4.15 pm* - *Tea Break*	
		Day 5	**9 am – 12.30 noon** *10 am – 10.15 am* - *Tea break* *12.30 noon – 2.30 pm* - *Lunch* **********	**1. SKILL-BASED EXAM** **********
			2.30 pm – 5.00 pm *4.00 pm – 4.15 pm* *Tea Break*	**1. FINAL ONLINE TEST**
	**Note: Topics proposed are subjects to changes*			
Duration	5 Days			