TRAINING PROGRAMME FOR INFORMATION NETWORK ENGINEERS

[Professional Training to Cisco Certified Network Associate (CCNA)]

Course Code: 2641

The demand for a network-centric workforce is skyrocketing with the complexity surrounding the design, implementation, and maintenance of new economy computer networks. Earning an industry recognized Cisco certification is a key step to acquiring a promising career in the IT industry. This course is designed to equip the IT practitioners with the latest network technologies in relevant to their employment and to help them preparing for industry standard certifications, including Cisco Certified Network Associate (CCNA) and CompTIA Network+

Objectives

Upon successful completion of the course, participants are qualified to:

- Understand the international Network Cabling standard
- Identify the major components of the network system
- Recognize the functions or usage of a local area network (LAN) and wide area network (WAN)
- Understand various Network Operating Systems
- Acquire knowledge, functions and features on standard topologies and 7 layers of the OSI reference model
- Identify and described common routed and routing protocols
- Integrate Computer System by installing and configuring Cisco switches and routers in multiprotocol internetworks using LAN and WAN interfaces.

- Provide Troubleshooting service
- Managing your Network Environment, Improve network performance and Security

Mode of Instructions

- This course is offered by Centre for Multimedia Signal Processing of the Department of Electronic and Information Engineering of The Hong Kong Polytechnic University and supported by A-Solution Technology Development Limited.
- Whole course will be run in PolyU Computer Laboratory.
- Each student will be allocated a PC.
- Numerous Lab works on operating Cisco routers.
- Course content will be presented through lectures, demonstrations and hand-on exercises.
- Tutors are academic staff of PolyU and/or Cisco Qualified Academy Instructors.
- Primary medium of instruction is Cantonese.
- An official Cisco network academy curriculum will be provided for each student.
- PolyU will issue Certificate of Attainment for the students who achieve a satisfactory result in the examination and more than 70% attendance
Syllabus

A. Introduction to Operating System (4hrs)
Functions of an Operating System, its relations with computer hardware and software; Features of some popular OS's: Windows 98, NT and 2000, Macintosh and Linux; Performance benchmarks

B. Case studies in Windows NT and 2000 (4hrs)
Account policy; File systems; Registry and device drivers; RAID and backup issues

C. Networking with Windows (4hrs)
Basic terminology: protocol, topology, switching and types of networks; Modem: setup as client and server; Ethernet: connections and settings, subnetting and CIDR; Testing IP connectivity; DNS; Web Server

Sem 1 – The OSI Reference Model (48hrs)
Introduction to Computing
The OSI model
Local Area Networks (LANs)
Electronics & Signals
Layer 1: Media, Connections, and Collisions
Layer 2: Concepts
Layer 2: Technologies; Design and Documentation; Structured Cabling Project
Layer 3: Addressing and Routing; Routing and Protocols
Layer 4: The Transport Layer
Layer 5: The Session Layer
Layer 6: The Presentation Layer
Layer 7: The Application Layer

Sem 2 – Router Configuration (42hrs)
WANs and Routers
Router Command Line interface (CLI)
Router Components
Router Startup and Setup
Router Configuration 1
IOS Images
Router Configuration 2
TCP/IP
IP Addressing
Routing
Routing Protocols
Network troubleshooting

Sem 3 – Switch & VLAN; LAN Protocols & ACL (33hrs)
LAN Switching
Virtual LANs (VLANs)
LAN Design
Interior gateway Routing Protocol (IGRP)
Access Control Lists (ACLs)
IPX
Network Management

Sem 4 – WAN Protocols & Technologies (33hrs)
WANs
WAN Design
Point-to-Point Protocol (PPP)
Integrated services Digital network (ISDN)
Frame Relay
Network Management
**Course Schedule and Fee**

**Date:** 2001/9/25 – 2002/2/21  
**Time:** Tue, Thu at 6:30 – 9:30pm & Sat at 2:30 – 5:30pm  
**Duration:** 168hrs (Total 56 sessions)  
**Venue:** RM CF502 The Hong Kong Polytechnic University  
**Course Fee:** HK$17,000

**Application Form**

**Name:** (English) __________________________ (Chinese) ________________

**Correspondence Address**

__________________________

**Company name** ______________ **Position** ______________

**Tel (Mobile/Pager)** __________ **(Office)** _______ **(Fax)** _______

**E-mail address** __________________________

**Signature** __________________________ **Date** __________

Full course payment in HK Dollar crossed or cashier’s cheque should be made payable to "The Hong Kong Polytechnic University" and sent by postal to Dr. Daniel P.K. Lun, Department of Electronic and Information Engineering, The Hong Kong Polytechnic University, Hunghom, Kowloon, Hong Kong; or in person to A-Solution Technology Development Ltd., Rm 1607, 16/F., Telford House, 16 Wang Hoi Road, Kowloon Bay, Hong Kong.

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