SYSTEL

Systel was established in 1983 with the main objective of providing a leading technical and telecom services via its engineering services, in addition to business services via its in-house and outsourcing teams and it has legal entity in multiple countries such as Egypt where its headquarters, UAE, Saudi Arabia…, with continuous plans for expansion.

- 1983: *Systel* was established.
- 1992: *Systel* entered the retail business by selling and marketing **Motorola**'s pagers into the Egyptian market.
- 1994: *Systel* in cooperation with Telecom Egypt jointly operated the first public **Motorola** Trunking Network.
- 1995: *Systel* for trading and marketing was established.
- 1996: *Systel* introduced **Motorola** GSM mobile phones for the first time into the Egyptian market through Systel owned retail stores.
- 2006: *Systel* for Communications Construction was established.
- 2006: *Systel* established its office in **Dubai** known as *Systel* International Services.
- 2007: *Systel* established its office in **KSA** known as Saudi *Systel* for Integrated Telecommunications.
- 2007: *Systel* started its Technical Training Center in Smart Village for wireless communication technology and **Motorola**'s Solutions.
- 2010: Systel established its legal entity in Baghdad: Arabian company for integrated Communication (ACIC).
- 2013: Systel created its office in Kurdistan (ALYAF SYSEL).

SYSTEL TECHNICAL TRAINING CENTER

SYSTEL Technical Training Center has multiple parts under its umbrella:

1) MOTOROLA-SYSTEL Technical Training.
2) Cambium-SYSTEL Training Center.
3) FiberFab-SYSTEL Training Center.
4) SYSTEL Training Center (STC).

1) MOTOROLA-SYSTEL Technical Training:

Motorola-SYSTEL Technical Training is one of three training centers for Motorola in EMEA region (Europe, Middle East and Africa) with Basingstoke, UK and Berlin, Germany. It is based in Smart Village, 6th of October City, Cairo. The courses may be held in Smart-Village or Sharm El-Sheikh, it is operated by Systel Telecom (Motorola distributor in Egypt) and supervised by Motorola. SYSTEL instructors gather the sufficient field experience and training capabilities.

They are Motorola certified instructors in the training fields that are TETRA, MotoTRBO & Mesh Networks.

http://www.motorola.com/Business/XU-EN/Training+Home/EMEA+Training

Motorola Training Courses List

Code	Courses Title
TGTC01	NETWORKING FUNDAMENTALS
TGTC08	RF FUNDAMENTALS
TGTC06	TETRA OVERVIEW COURSE
TSYS01R71	DIMETRA IP R7.1 SYSTEM OVERVIEW
TBTS01	MTS 2/4 INSTALLATION, CONFIGURATION, TROUBLESHOOTING AND MAINTENANCE
TTER01	TETRA TERMINALS PROGRAMMING WORKSHOP
TTER08	MTP850 END-USER OPERATION
PCR014	MOTOTRBO CPS
PCR016	MOTOTRBO IP SITE CONNECT
WiBB10	Mesh Networks
AEL2304	Design and Deploy for Capacity Plus, Linked Capacity Plus and IP Site Connect

NETWORKING FUNDAMENTALS (TGTC01)

Course Overview:

This Instructor led course provides a detailed description of the fundamentals of system networking. Topics include the OSI seven-layer model, bridges and switches, IP and routing, applications and security.

Course Objectives:

- Elements and Interconnectivity of the Basic Network.
- OSI and TCP/IP Reference Models.
- Advantages of different Network Layout Options.
- Physical and Data-link Layers of the OSI and TCP/IP Reference Models.
- Network and Transport Layers of the OSI and TCP/IP Reference Models.
- Service Layers within the OSI and TCP/IP Reference Models.
- Secure Networking.

Prerequisites:

- Knowledge of Dimetra IP System
- Understanding of basic PC/Windows NT operations

Length: 5 Days

RF FUNDAMENTALS (TGTC08)

Course Overview:

This course emphasizes the concepts behind RF Systems theory and operation. Topics include basic radio transmitters and receivers, RF propagation, modulation, antenna systems, transmission lines and data-communications.

Course Objectives:

- Commonly terms used in two-way communication systems.
- Radio transmitter and receiver systems including super heterodyne receivers.
- Transmission lines and waveguide.
- Antenna systems including omnidirectional and directional types.
- Data-communications systems.

Prerequisites: None

Length: 5 Days

## TETRA OVERVIEW COURSE (TGTC06)

Course Overview:

This course will provide an introduction to TETRA as a precursor to proprietary TETRA and Dimetra solutions.

Course Objectives:

- TETRA in overview.
- TETRA Interfaces and Services.
- TETRA system parameters.
- Security and authentication within TETRA.
- Air interface and end to end encryption within TETRA.

Prerequisites: None

Length: 3 Days
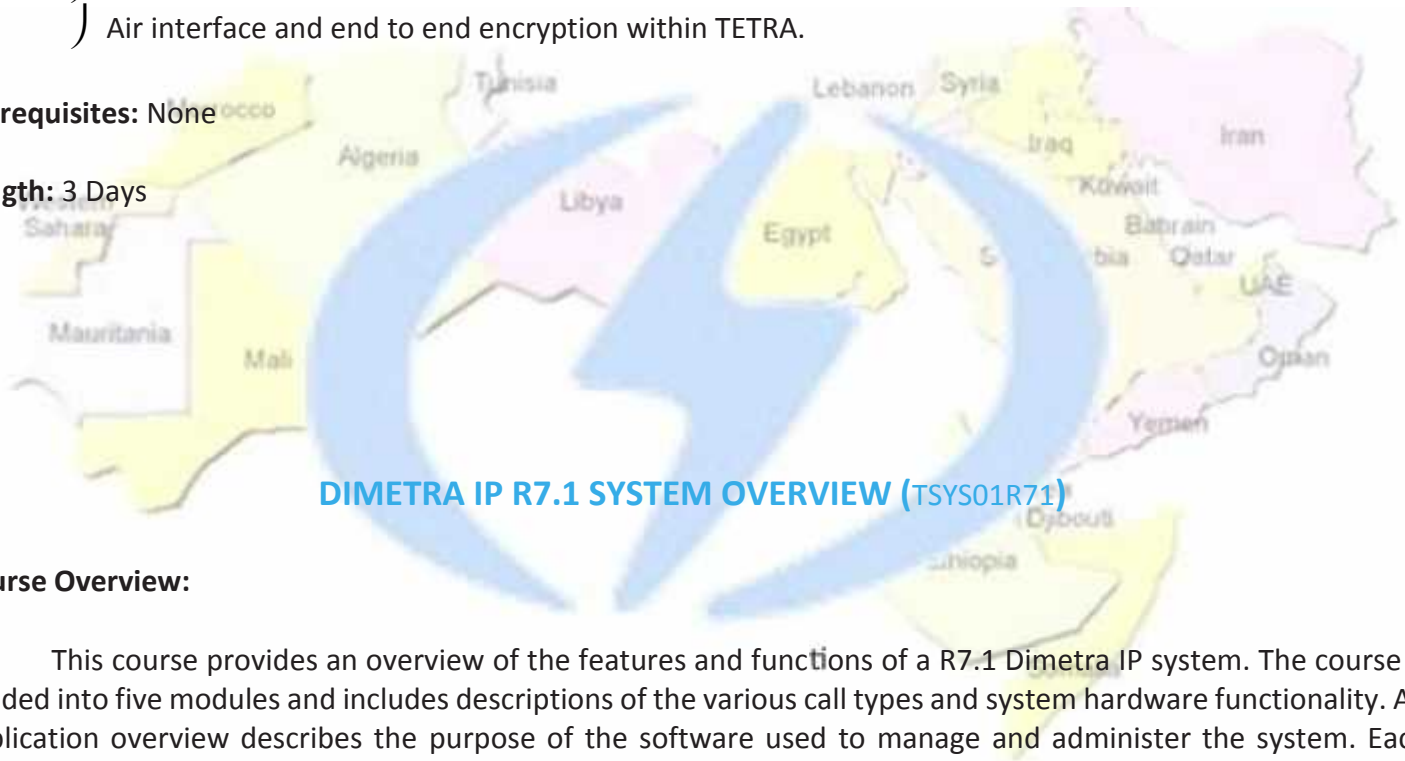
DIMETRA IP R7.1 SYSTEM OVERVIEW (TSYS01R71)

Course Overview:

This course provides an overview of the features and functions of a R7.1 Dimetra IP system. The course is divided into five modules and includes descriptions of the various call types and system hardware functionality. An application overview describes the purpose of the software used to manage and administer the system. Each module includes an assessment designed to test learning.

Course Objectives:

- Basic and Trunked Radio Concepts.
- Dimetra IP R7.1 Components and Subsystems
- Dimetra IP R7.1 Functions
- Dimetra IP R7.1 Features

Prerequisites: None. This course is a prerequisite to all other system courses.

Length: 2 Days

MTS 2/4 INSTALLATION, CONFIGURATION, TROUBLESHOOTING ANDMAINTENANCE (TBTS01)

Course Overview:

This course is divided into seven modules and includes the theoretical and practical aspects of configuring, maintaining and troubleshooting the MTS base station in a Dimetra IP system. The course includes the practical use of service software and the man-machine interface. Practical sessions include the removal and replacement of Field Replaceable Units (FRU).

Course Objectives:

) Function of the MTS in a Dimetra IP System.

) Field replaceable units (FRU) in the MTS.

) Main components of key FRU at block diagram level.

) Perform removal and replacement procedures for all MTS FRUs.

) FRU part numbers.

) Perform maintenance and testing procedures using Motorola TETRA BTS Service Software.

) Troubleshoot the MTS to FRU level.

Prerequisites:

) Dimetra IP System Overview (TSYS01) (an advantage but not essential).

) RF and Field or Bench service background.

Length: 4 Days

TETRA TERMINALS PROGRAMMING WORKSHOP (TTER01)

Course Overview:

This practical course will enable Tetra terminal users to diagnose terminal problems both locally and remotely, programme the terminal for end-user operations and provide first-line maintenance filter for suspected faulty Tetra terminals.

Course Objectives:

) Describe the advanced features and functions of the terminal.

) Determine if a potential problem is Terminal, Network or User related.

) Describe the function and purpose of the CPS software.

) Create a user profile and program a Motorola terminal for operation in a Dimetra IP R6.2SSR system.

Prerequisites:

) A working knowledge of MS Windows operating environment (for Customer Programming Software (CPS) module).

) RF and Field or Bench service background (an advantage but not essential)

Length: 3 Days

(Note: the duration may be reduced to 2 days if the attending students are already familiar with Tetra terminal operation.)

MTP850 END-USER OPERATION (TTER08)

Course Overview:

This course provides details of the features and functions of the Tetra MTP850 terminal. It includes an introduction to the terminal and how it operates and builds on theoretical instruction with practical exercises designed to reinforce the topics covered and confirm the delegates understanding of the terminal. All delegates will perform practical activities and exercises designed to reinforce learning.

Course Objectives:

- All available MTP850 controls.
- Perform Trunked Mode Call operations.
- Perform Direct Mode Group Call operations.
- Perform user configuration of the MTP850 terminals.
- Perform basic MTP850 user troubleshooting.

Prerequisites: A general knowledge of TETRA is desirable but not essential

Length: 1 Day

MOTOTRBO CPS (PCR014)

Course Overview:

This course teaches the skills required to programme the Motorola MOTOTRBO radio with the features such as: group calls, private calls, text, data, privacy and site roaming. This course also covers the programming requirements for IP site connect.

Course Objectives:

- ETSI DMR standards.
- Programme MOTOTRBO voice call features: group call, private call, all call, radio check, remote monitor, emergency and disable.
- Programme MOTOTRBO data features: text messaging, telemetry, packet data and the possible applications.
- Programme MOTOTRBO IP site connect and roaming. Programme privacy and colour code.

Prerequisites: Students need to be familiar with the product or must have attended one of PCR007, PCR008 or PCR009.

Length: 3 Days

MOTOTRBO IP SITE CONNECT (PCR016)

Course Overview:

This course discusses the design requirements and configuration for connecting multiple UDP/IP enabled devices in a MOTOTRBO radio network to provide wide area coverage.

Course Objectives:

- MOTOTRBO.
- IP site connect.
- UDP/IP overview.
- Configure the Master site.
- Configure peer sites.
- Add peer devices.
- Use RDAC

Prerequisites: Students must have an appropriate technical background.

Length: 3 Days

Mesh Network (WiBB10)

Course Overview:

This course is intended to provide a working knowledge of MESH Duo and Solo products including product overview, RF coverage considerations, Mesh network design, management and security. It also includes installation and deployment of Mesh Units.

Course Objectives:

- Explain the basic functions and architecture of mesh networks.
- Describe the architecture and components of MESH Duo and Solo units.
- Design a basic MESH Duo and Solo network.
- Installation and configuration of MESH Duo and Solo devices using the Element Management tools.
- Performing basic monitoring and troubleshooting on a MESH Network.

Prerequisites:

- Basic understanding of networking fundamentals.
- Basic understanding of RF fundamentals.

Length: 5 days.

Course Overview:

MOTOTRBO™ Design and Deploy training covers the key components and architectures of MOTOTRBO Capacity Plus, Linked Capacity Plus and IP Site Connect Radio systems. Participants will be able to describe the MOTOTRBO systems, their capabilities, system components, and data applications capabilities. Participants will also be able to describe various MOTOTRBO system topologies. Participants will learn how to design and deploy a MOTOTRBO radio system. This course will also cover how to configure a MOTOTRBO system using MOTOTRBO Customer Programming Software (CPS).

Note: this course does not include Connect Plus.

Course Objectives:

- Describe the MOTOTRBO Capacity Plus, Linked Capacity Plus and IP Site Connect systems, their capabilities, system components, and data application capabilities.
- Describe the MOTOTRBO theory of operation.
- Identify the available MOTOTRBO topologies.
- Configure a Capacity Plus, Linked Capacity Plus or IP Site Connect system using MOTOTRBO CPS to program the subscribers and repeaters.
- Design a Capacity Plus and Linked Capacity Plus system, given a sample case study.
- Explain the pre-deployment steps for MOTOTRBO.
- Explain the deployment steps for MOTOTRBO.

Prerequisites :

- AAE1303 – Radio 101
- ASE1600 – MOTOTRBO Sales Enablement
- AAE1402 – MOTOTRBO Subscriber Portfolio Overview
- AEE1300 – RF Fundamentals
- AEE1301 – IP Fundamentals
- CEDMEL2000 – MOTOTRBO System Introduction for Technicians

Length: 5 days.

2) Cambium-SYSTEL Training Center:

Cambium networks has certified SYSTEL Training Centre since 2015 also Cambium networks has certified SYSTEL instructors to deliver several courses so now SYSTEL Training is delivering Cambium training by its certified instructors. SYSTEL can hold cambium courses inside its premises or the customers premises.

Cambium Training Courses List

Code	Courses Title
STC2D02	Cambium ePMP Certification Training
STC2D03	Cambium PMP450 Certification Training
STC2D04	Cambium PTP650 Certification Training
STC2D05	Cambium cnPilot Certification Training

Cambium ePMP Certification Training (STC2D02)

Course Overview:

Learn more about Cambium's ePMP in this technical certification course, which provides both an overview of the product and hands-on lab experiences using ePMP Units.

Course Objectives:

- Solution Overview
    - System Architecture & Components
    - Product Specs
- RF Technology Principles
    - Understanding RF Fundamentals
    - Understanding RF Scheduler & Synchronization
- Hardware Installation
    - AP and SM Unboxing & Pole Mounting
- Basic Configuration for Quick Initial Deployment
- In-Depth Feature & Configuration Topics
    - QoS & SLA
    - System Parameters
    - Security
- Network planning
    - Link Budget & Network Capacity Planning
- Management & Units Upgrade
- Certification Test (Optional)

Prerequisites:

- IP networks Fundamentals.
- RF fundamentals.

Length: 2 Days

Cambium PMP450 Certification Training (STC2D03)

Course Overview:

Learn more about Cambium's PMP450 in this technical certification course, which provides both an overview of the product and hands-on lab experiences using PMP450 Units.

Course Objectives:

- Solution Overview
    - System Architecture & Components
    - Product Specs
- RF Technology Principles
    - Understanding RF Fundamentals
    - Understanding RF Scheduler & Synchronization
- Hardware Installation
    - AP and SM Unboxing & Pole Mounting
- Basic Configuration for Quick Initial Deployment
- In-Depth Feature & Configuration Topics
    - NAT
    - Protocol & Port Filtering
    - PPPoE
    - VLAN
    - QoS & SLA
    - Security
- Network planning
    - Link Budget & Network Capacity Planning
- Management & Units Upgrade
- Certification Test (Optional)

Prerequisites:

- IP networks Fundamentals.
- RF fundamentals.

Length: 2 Days

Cambium PTP650 Certification Training (STC2D04)

Course Overview:

Learn more about Cambium's PTP650 in this technical certification course, which provides both an overview of the product and hands-on lab experiences using PTP650 Units.

Course Objectives:

- Solution Overview
    - System Architecture & Components
    - Product Specs
- RF Technology Principles
    - Understanding RF Fundamentals
- PTP Synchronization
- Hardware Installation
    - PTP Units Unboxing & Pole Mounting
- Basic Configuration for Quick Initial Deployment
- In-Depth Feature & Configuration Topics
    - Management VLAN
    - QoS
    - Security
    - Spectrum Expert
    - E1 Transmission using PTP650
- Network planning
    - Link planner
- Remote Management & Units Firmware Upgrade
- Certification Test (Optional)

Prerequisites:

- IP networks Fundamentals.
- RF fundamentals.

Length: 2 Days

Cambium cnPilot Certification Training (STC2D05)

Course Overview:

Learn more about Cambium's cnPilot in this technical certification course, which provides both an overview of the product and hands-on lab experiences using cnPilot Units.

Course Objectives:

- Wi-Fi Overview
- Cambium cloud-Managed WiFi portfolio
- Install, configure and monitor cnPilot R200 / R201
- Install, configure and monitor cnPilot E400 and ePMP1000 Hotspot
- Understand and deploy cnPilot features such as:
  - Guest access configuration
  - Bandwidth limiting
  - Scheduled access
  - NAT and ACLs
- Access Management (GUI / CLI)
- Troubleshooting Tools
- System Level Architecture Overview
- Monitor and operate cnPilot devices using cnMaestro
- Accounts and Device Claiming / Onboarding
- Certification Test (Optional)

Prerequisites:
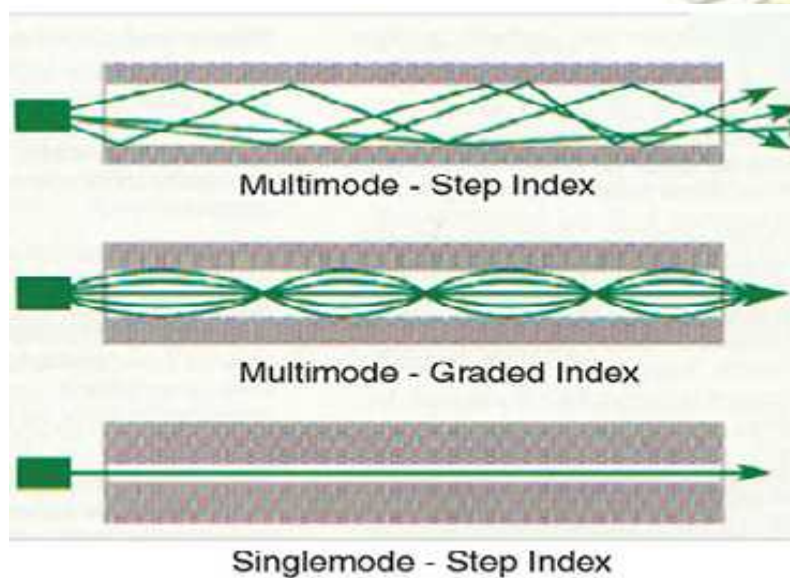
- IP networks Fundamentals.
- Wi-Fi fundamentals.

Length: 2 Days

3) FiberFab-SYSTEL Training Center:

FiberFab has certified SYSTEL Training Center since the beginning of 2017 for performing the different trainng services in telecommunications field and fiberoptics like the following training courses:

- A. Optical communications technology.
- B. Fiber Optics (installations, splicing, testing,…).
- C. Optical Communications Networks.

Multimode - Step Index

Multimode - Graded Index

Singlemode - Step Index

Fiber Optics 1-2-3

Course Overview:

This course and its hands-on training provides a fundamental understanding of fiber optics and the practical skills required to install and maintain fiber optic networks. It is a great class for those new to fiber as well as those looking to enhance their current skills. You will gain an understanding of fiber technology and disciplines through the instructor lecture that takes place the first two days of class. Then you will develop fiber optic installation and maintenance expertise in the two days of hands-on training. Specific skills exercises include fiber and cable preparation, fusion and mechanical splicing, connectorization, cleaning and inspection, and OTDR and loss testing.

Course Outline:

A- Classroom: (2 days):
- Introduction to Fiber Optics
- Fiber Theory
- Optical Fibers
- Fiber Optic Cables
- Fiber Optic Connectors
- Splicing
- Fiber and Cable Management
- Installation
- Test Equipment
- Optical Testing
- Restoration
- Safety
- Communication System Basics
- Loss Budgets

B- Hands-On (2 days):
1. **Splicing**
   - Fusion / Mechanical / Pigtail Fiber
   - Handling and Cleaving

2. **Connectorization**
   - Multiple Bonding Methods
   - Visual Inspection / Cleaning
   - Cable Assembly Testing

3. **Cable Preparation**
   - Loose Tube Cable Preparation
   - Breakout and Distribution Cable Preparation
   - Patch Panel and Splice Closure Preparation
   - Mid-Entry Practices

4. **OTDR Operation**
   - Acceptance Testing
   - Reflection Testing
   - Span Testing and Splice Loss
   - Emergency Restoration • Troubleshooting

5. **Optical Loss Testing**
   - Link Loss Measurement
   - Transmit and Receive Power
   - Variable and Fixed Attenuators

Length: 4 Days

Fiber Optic Cable

While in Cairo … Do not Miss

The Pyramids & the Sphinx

Discover one of the world's most spectacular sights: the Pyramids. Face the imposing Sphinx. The Pyramids of Ancient Egypt were built as tombs for Kings and Queens. The Great Sphinx is one of the most recognizable constructions in history.

The Egyptian Museum

Its collection of artifacts dates back to 4000 B.C. and includes the treasures of the tomb of Tutankhamun and the Royal Mummies Room.

Khan El-Khalili

Explore the bazaar of Khan El Khalili, alive with the timeless sounds and excitement of bargaining and trade. Then you can discover the graceful architecture of Islamic Cairo's historic mosques

Coptic Cairo

It's a part of Old Cairo which encompasses the Babylon Fortress, the Coptic Museum, the Hanging Church, the Greek Church of St. George and many other Coptic churches and historical sites. It is believed that the Holy Family visited this area and stayed at the site of Saints Sergius and Bacchus Church, Abu Serga.

Sand boarding

When it comes to sand dunes then leave it to Egypt. Hold your breath because you will fly down the dunes with a speed more than 60 km/h where you will feel the adrenaline rush. So prepare yourself for the journey of your life and Take your mark for enjoying the sand.

Dinner at Nile Cruise

Dine in Nile cruise and enjoy the unforgettable belly dancing, music and folkloric shows. Enjoy a spectacular evening gliding elegantly down the river Nile, made brilliant by the city lights.

While in Sharm El-Sheikh ... Do not Miss

Beaches

Enjoy Sea and Sun on one of the most marvelous beaches in the world, and other activities like banana boat, wind surfing and others

Glass Boat

Excursions to enjoy the viewing different coral reefs & Colored fish with availability of snorkeling for 10 minutes with Glass bottom boat trips. No need to get in the water to enjoy the spectacular coral reefs of the Red Sea near Sharm.

Tiran Snorkling

Escape the desert of Sinai for a day of relaxation around Tiran Island. Luxury cruise Trip to Tiran Island, Snorkeling Boat Tour to Tiran Island. Excursions To Tiran island From Sharm gives you the chance to a great snorkeling, there will be 3 stops, as we are obtaining the best three areas for those who love jumping to enjoy the coral reefs.

St. Catherine

Travel to the most important religious site in Sinai with Sharm El Sheikh Excursions. St. Catherine Monastery Excursions & Dahab Shopping, tours to Sinai monastery, trips to St. Catherine Monastery in Sinai from Sharm. Booking our tour to St. Catherine monastery & Dahab shopping from Sharm El Sheikh Hotels.

Moses Mountain

See the sun rise over the desert on an unforgettable visit to the place where Moses received the 10 Commandments. Moses Mountain night excursions, Tours to St. Catherine Monastery & Mount Sinai, adventure trips to climb the mountain up, experience the fantastic sunrise, descent towards St. Catherine Monastery then back to Sharm.

Desert Safari

Transfer from your hotel to the camel camp where you will meet your friendly camel that will take you on a 40-minute journey through the Sinai desert. View the majestic desert scenery while travelling on traditional desert transportation.

Bedouin Night

After your journey it's time to relax and enjoy dinner at a traditional Bedouin tent. Sample the herbal tea and try the famous Egyptian Shisha Pipe. Watch your hosts while they bake their bread. Dine on authentic Bedouin food, freshly made and served in the traditional way. Dinner is followed by live music by local Bedouin musicians and belly dancers

4) SYSTEL Training Center:

Systel **T**raining **C**enter was opened at Smart-Village (6th October City) in 2007 for practical training on the wireless communication systems and the communications basics & Technologies, **STC** scopes are:

-) Raising the SYSTEL Technical staff capabilities and knowledge. Make them up-to-date with the new technologies.
-) Fulfill SYSTEL Customers and Arab region technical staff with their needs to be familiar with communication systems & technologies.
-) Train the universities and institutes students of communications (Community Service).

SYSTEL Training Courses List

Code	Courses Title
STC1A01	Wireless Communication Implementation Basics
STC1B01	Wireless Communication Technologies
STC1C11	N+ [Networking Basics]
STC1C21	CCNA [Cisco Certified Network Associate]
STC1C51	CCNP – IP Route
STC1C61	CCNP – IP Switch
STC1C71	CCNP – IP TSHOOT
STC1D11	Linux [Basic]
STC1D21	Linux [Advanced]
STC1C41	VoIP [Voice over Internet Protocol]
STC4A01	Mobile Package [GSM, GPRS, EDGE & UMTS/CDMA]
STC4B01	LTE - Advanced [Long Term Evolution]
STC2C01	RFID [Radio Frequency ID]
STC2A01	MW [Microwave]
STC2D01	WiBB [Wireless Broadband]
STC1C01	CWNA [Certified Wireless Network Administrator]
STC2B01	GPON Technologies [Gigabit Passive Optical Network]
STC3A01	Public Safety Communication/PTT [Conventional/Trunk] Basics
STC1E21	Technical Report Writing
STC1E11	PMP [Project Management Professional]

Note: we are capable of deliver customized courses on technologies, systems & equipment.

Wireless Communication Implementation Basics (STC1A01)

Course Overview:

The wireless communications systems are widely deployed today as the need of it is increasing every day; we learn here what is the basics of wireless communications, basics of wireless sites implementation and its main components.
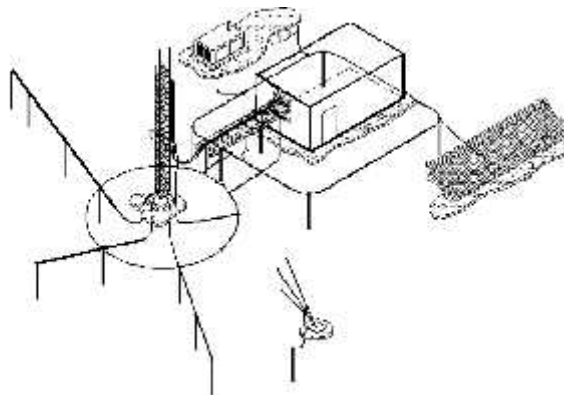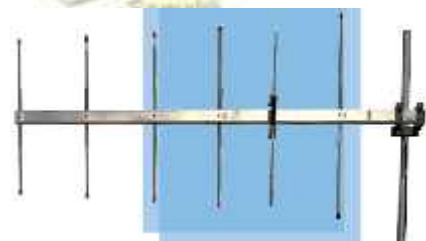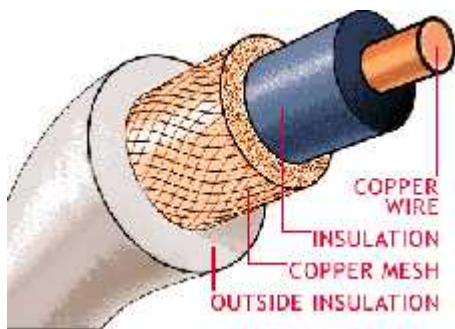
Course Objectives:

- Introduction to telecommunications
- Radio Frequency Spectrum
- Modulation
- Multiplexing
- Transceivers
- Digital VS Analog

- Antennas
- Instruments & Measurements
- Site Installation & R-56 Motorola Standard
- Antenna System
- Cables & Connectors

Prerequisites:

- Communications Basics.

Length: 5 Days

Wireless Communication Technologies (STC1B01)

Course Overview:

Wireless communications are the future of communications and there is now a lot of it, we take in this course an overview about the most used wireless communications technologies, we look at its protocols, equipment's, standards and a lot about each technology.

Course Objectives:

- Course Overview & Introduction
- Wi-Fi
- Bluetooth
- Wi-Max
- ZIGBEE
- IR
- RFID
- VoWLAN
- Broadband (Mobile, MW & Canopy [PTP & PMP])
- Two Way Communications (Conventional & Trunk)

Prerequisites:

- Communications basics.

Length: 5 Days

Networking Basics (STC1C11)

Course Overview:

The IP is dominants the world of communications now, here we learn what is it and what is the OSI Model and its seven layers, what we mean by IP network and a lot more about IP Networking.
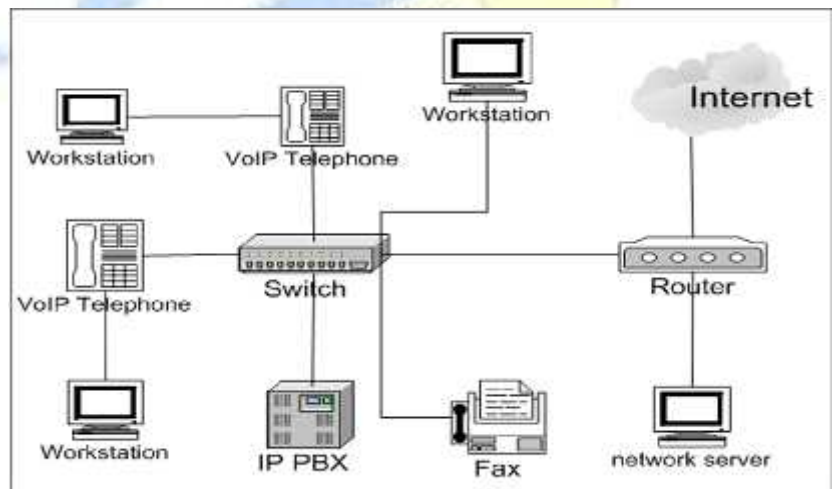
Course Objectives:

⟩ History of Networks
⟩ OSI and TCP/IP reference Models
⟩ Physical Topologies and connection options
⟩ Physical and Data link layers

⟩ Network and Transport layers
⟩ Session, Presentation and Application Layers
⟩ Securing Networks

Prerequisites:

⟩ Communication Basics.

Length: 3 Days

CCNA [Cisco Certified Network Associate] (STC1C21)

Course Overview:

IP networks became the backbone of most communications networks today and Cisco had become a leader in the IP World, in this course we take the first step in CISCO career certified courses to become a Cisco Certified Network Associate that understand well the IP Concept and all its related Protocols, and can deal with various CISCO equipment like switches, routers and access points and able to implement a complete IP Network.
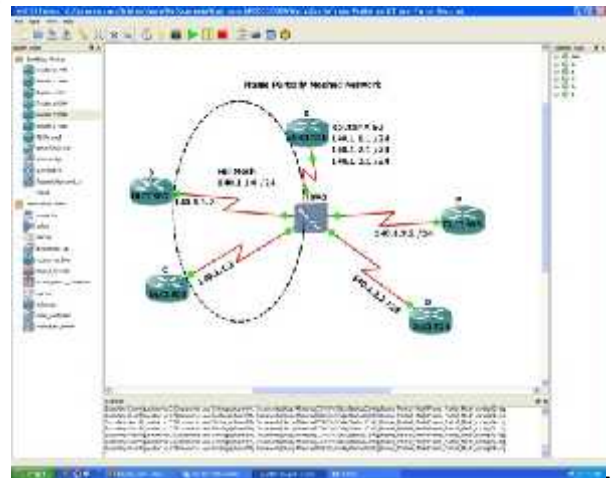
Course Objectives:

) Networking Concept.
) Cisco Devices.
) Wireless Networks.
) LAN Implementation.
) Subnetting.
) WAN Implementation.
) Advanced Switching.

) Access Lists.
) IP Routing
) Troubleshooting Routing
) Frame Relay.
) Advanced TCP/IP Configuration.
) Network Security

Prerequisites:

) Communications Basics.

Length: 12 Days

CCNP – IP Route (STC1C51)

Course Overview:

In this course you learn how to implement more router in your network and make them interconnecting with different protocols flavors, we insure your understanding through lot of labs and real life scenarios.

Course Objectives:

- Plan and document the configuration and verification of routing protocols and their optimization in enterprise networks
- Identify the technologies, components, and metrics of EIGRP that are used to implement and verify EIGRP routing in diverse, large-scale internetworks that are based on requirements
- Identify, analyze, and match OSPF multi-area routing functions and benefits for routing efficiencies in network operations to implement and verify OSPF routing in a complex enterprise network.
- Implement and verify a redistribution solution in a multiprotocol network that uses Cisco IOS Software features to control path selection and provides a loop-free topology according to a given network design and requirements.
- Evaluate common network performance issues and identify the tools that are needed to provide Layer 3 path control that uses Cisco IOS Software features to control the path.
- Implement and verify a Layer 3 solution using BGP to connect an enterprise network to a service provider

Prerequisites:

- Cisco Certified Network Associate Course

Length: 5 Days

CCNP – IP Switch (STC1C61)

Course Overview:

In this course you learn how to implement complex enterprise network and make it redundant and got the load balancing feature, we insure your understanding through lot of labs and real life scenarios.

Course Objectives:

- Analyze campus network designs
- Implement VLANs in a network campus
- Implement spanning tree
- Implement inter-VLAN routing in a campus network
- Implement a highly available network
- Implement high-availability technologies and techniques using
- multilayer switches in a campus environment
- Implement security features in a switched network
- Integrate WLANs into a campus network
- Accommodate voice and video in campus networks

Prerequisites:

- Cisco Certified Network Associate Course

Length: 5 Days

CCNP – IP TSHOOT (STC1C71)

Course Overview:

In this course you learn how to troubleshoot complex networks among with learning how to troubleshoot each technology individually as we here focus on troubleshooting strategies that result in resolving networks problems quickly and effectively, we insure your understanding through lot of labs and real life scenarios.

Course Objectives:

- Plan and document the most commonly performed maintenance functions in complex enterprise networks
- Develop a troubleshooting process to identify and resolve problems in complex enterprise networks
- Select tools that best support specific troubleshooting and maintenance processes in large, complex enterprise networks
- Maintenance procedures and fault resolution in switching-based environments
- Maintenance procedures and fault resolution in routing-based environments
- Maintenance procedures and fault resolution in a secure infrastructure
- Troubleshoot and maintain integrated, complex enterprise network

Prerequisites:

- Cisco Certified Network Associate Course
- CCNP – IP ROUTE Course
- CCNP – IP SWITCH Course

Length: 5 Days

Linux [Basic] (STC1D11)

Course Overview:

Linux is very similar to other operating systems, such as Windows and OS X. But something sets Linux apart from these operating systems; The Linux operating system represented a $25 billion ecosystem in 2008. Since its inception in 1991, Linux has grown to become a force in computing, powering everything from the New York Stock Exchange to mobile phones to supercomputers to consumer devices, in this course we learn the basics of it and how we can start using it.

Course Objectives:

- Introduction to Operating System Concept
- Linux Fundamentals
- Linux file structure
- Linux Installation
- Lab Exercises

- Browsing Linux File system
- Linux Editors
- Shell Programming
- Customizing user Environment

Prerequisites:

- Operating system concepts

Length: 5 Days

Linux [Advanced] (STC1D21)

Course Overview:

This course provides all users of Linux system with a basic introduction to the Linux OS environment Administrating and its use including the features of its user command interface [the shell], in addition the course provides an introduction to the most important Linux user utilities at both basic and advanced level

Course Objectives:

- Basic system configuration
- Linux Documentation
- Editing Files
- Working with Files and Directories
- The Linux GUI
- Advanced Linux Installation
- Connecting to the Internet

- File and Directory Permissions
- Working with Processes
- Shell Basics and Shell Scripting
- Using the System and A Tour through Linux

- The Yum Package Management Tool
- Linux admin Tools
- Integrating Linux in a Windows Environment

Prerequisites:

- Linux Basics.
- Network essentials.

Length: 5 Days

VoIP [Voice over Internet Protocol] (STC1C41)

Course Overview:

The IP had conquered all the systems, almost all Communications systems are now based on it so the future of the telephony service is Voice over Internet Protocol (VoIP), here in this course we learn how the voice traffic transferred over an IP Network, what is the protocols related, which devices we use for speaking and listening, what is the IP Phone and how it works, how we can make a complete VoIP system and connect it to other telephony system moreover we can learn about VoIP here.

Course Objectives:

- Introduction to VoIP
- VoIP elements
- VoIP Fundamentals
- Quality of Service [QoS]
- VoIP Protocols
- VoIP Implementation
- VoIP Gateways
- Carrier Interconnect
- VoIP Planning Keys

Prerequisites:

- Communication Basics.
- Networking Basics.

Length: 5 Days
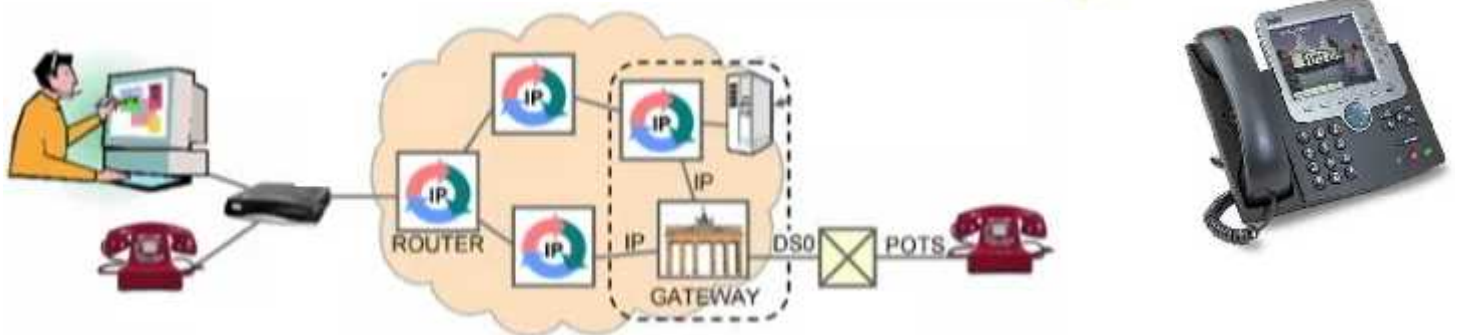
Mobile Package [GSM, GPRS, EDGE & UMTS/CDMA] (STC4A01)

Course Overview:

Now all of us use the mobile to communicate with each other, we learn here what is the various standards and technologies in the mobile world, what is the differences between 1G, 2G, 3G, advantages and disadvantages of each technology, air interface and a lot more about each one.
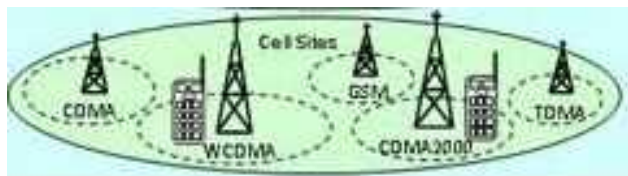
Course Objectives:

- Principles of Cellular Telecommunications
- Features of GSM
- GSM Network Components
- GSM Terrestrial Interfaces
- Channels on the Air Interface
- Radio Interface Optimization
- Call and Handover Sequences
- Introduction to Microcellular

- GSM Review
- GPRS Introduction
- GPRS Terrestrial Interfaces
- GPRS Air Interface
- GPRS Signaling
- EDGE
- UMTS Introduction
- UMTS Network Architecture
- UMTS Network Services

- UMTS Protocols
- UMTS Terrestrial Interfaces
- W-CDMA Theory
- UMTS Physical Layer
- UMTS User Equipment
- UMTS Radio Resource Management Functions
- UMTS Signaling Flow

Prerequisites:

- Communications Basics.

Length: 12 Days

LTE – Advanced [Long Term Evolution] (STC4B01)

Course Overview:

Data networking has become as important as voice communications, along with that, the need of new mobile technology that is able to satisfy our requirements in data networking is critical. Here in this course we learn a lot about the 4G and its technologies and how it enables us to reach high data rates (1 GB/s) and how it satisfied our needs.
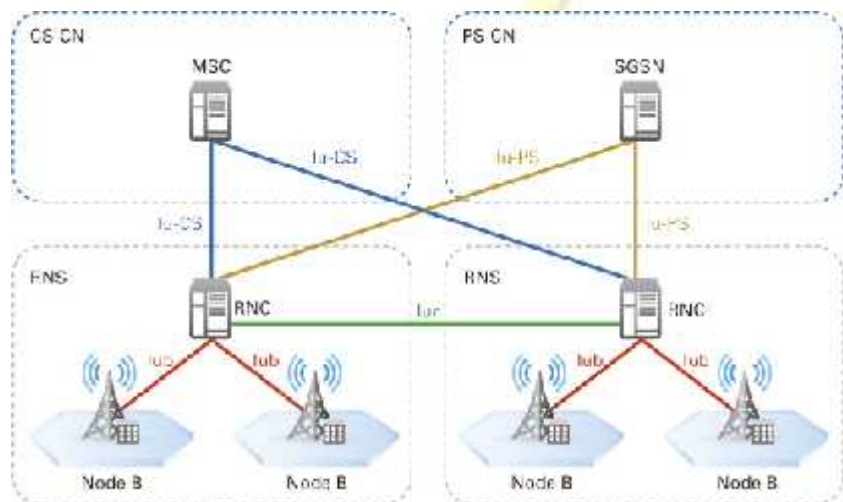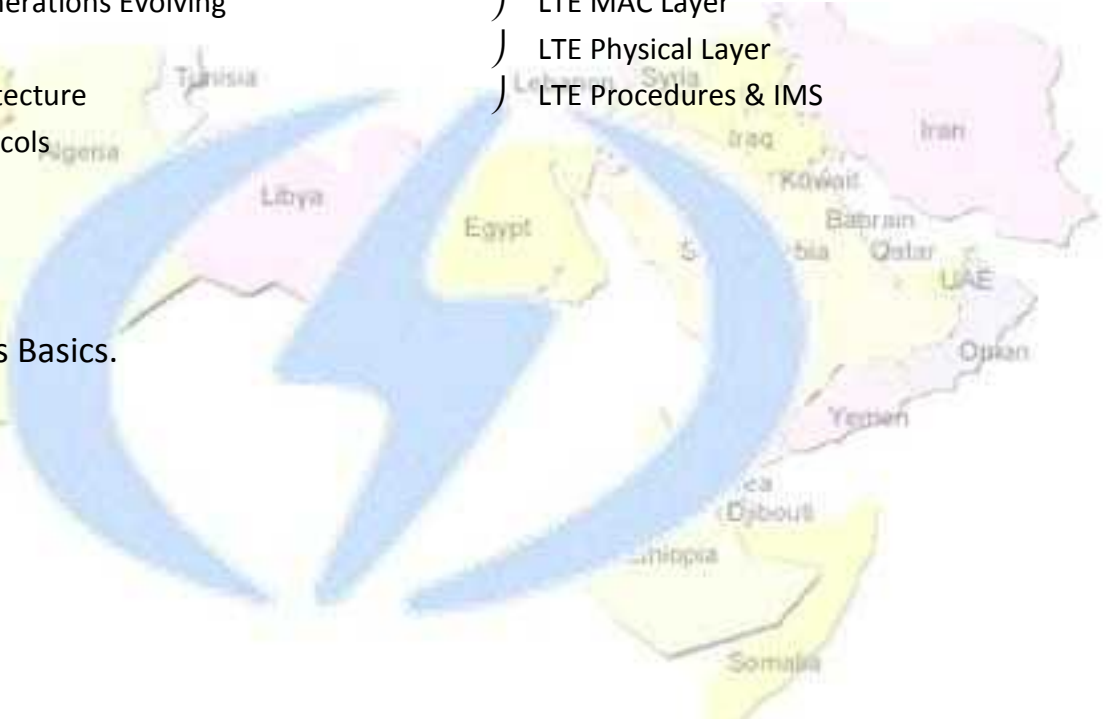
Course Objectives:

- Introduction & Generations Evolving
- LTE Technologies
- LTE Network Architecture
- LTE Signaling Protocols
- LTE MAC Layer
- LTE Physical Layer
- LTE Procedures & IMS

Prerequisites:

- Communications Basics.
- Mobile Package.

Length: 5 Days

RFID [Radio Frequency ID] (STC2C01)

Course Overview:

The currents auto identification technologies (e.g. barcode, fingerprint…) inherits from them a lot of problems like queuing and slowing the processes that depends on them, RFID solved all these problems and gave us a lot newer facilities, here we learn all about RFID, its system and applications, concept and how we use it in any kind of business to implement a complete project.

Course Objectives:

- Introduction to RFID
- RFID Physics
- RFID in Business
- RFID HW selection

- Complete RFID System
- RFID & Security
- Create your Systems
- System Error & Troubleshooting

Prerequisites:

- Communications Basics.

Length: 5 Days

MW [Microwave] (STC2A01)

Course Overview:

The need now to connect two sites or more is critical, like all the mobile network sites are connected together using microwave links or a company has multiple branches connected together using PTP Links, in this course we learn a lot about MW, what is the concept of operation, standard, equipment, installation and a lot more about their networks.

Course Objectives:

⌡ Network Overview
⌡ MW Fundamentals
⌡ MW Installations

⌡ Hands on Lab
⌡ Link Planner software

Prerequisites:

⌡ Communications Basics.

Length: 5 Days

WiBB [Wireless Broadband] (STC2D01)

Course Overview:

The need now to connect two sites or more is critical, like all the mobile network sites are connected together using microwave links or a company has multiple branches connected together using PTP Links, in this course we learn a lot about WiBB, what is the concept of operation, standard, equipment, installation and a lot more about their networks.

Course Objectives:

⌡ Introduction to Broadband Solutions
⌡ Introduction to PMP Networks
⌡ Installation and configuration of PMP 100 Series
⌡ Lab experiment for a PMP Network
⌡ Introduction to PTP Links

⌡ Link Planner software
⌡ Installation and configuration of PTP Units
⌡ Lab experiment for a PTP network.
⌡ Introduction to Mesh Networks

Prerequisites:

⌡ Communications Basics.

Length: 5 Days
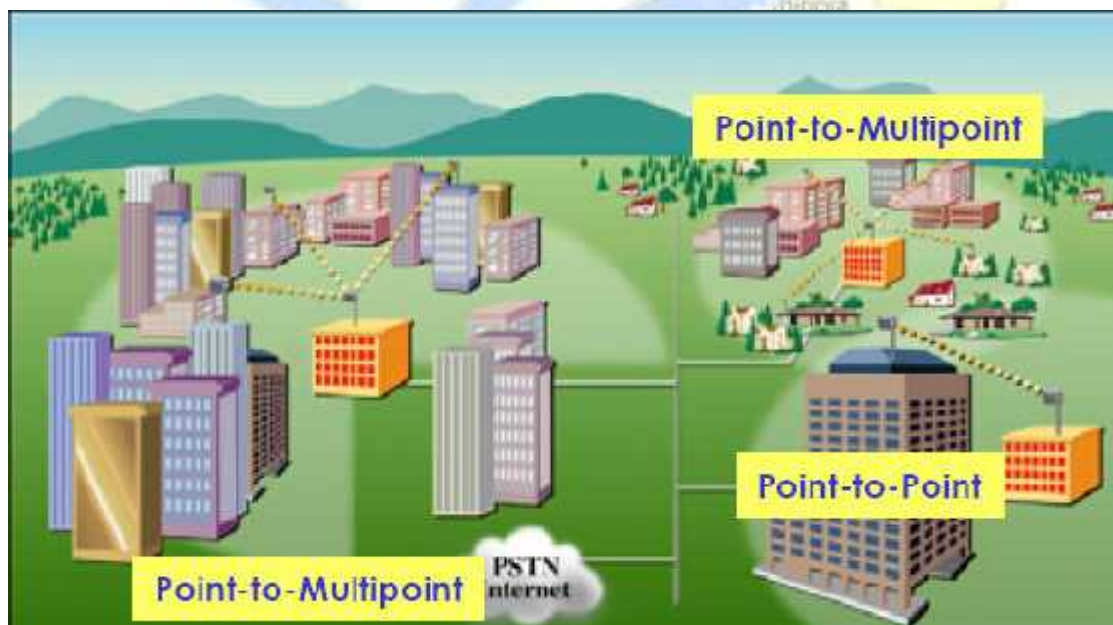
CWNA [Certified Wireless Network Administrator] (STC1C01)

Course Overview:

Wi-Fi networks are now founded in almost everywhere, home, work, cafes and a lot other places. We learn here the concept and standards of operations of wireless LANs and how we can implement, operate and troubleshoot them, even more you will be a certified administrator for Wireless Networks.

Course Objectives:

- Introduction to Wireless LANs
- RF Fundamentals
- Spread Spectrum Technology
- Wireless LAN Infrastructure Devices
- Antennas and Accessories
- Organizations and Standards

- 802.11 Network Architecture
- MAC and Physical Layer
- Troubleshooting Wireless LAN
- Wireless LAN Security
- Site Survey Fundamentals

Prerequisites:

- Communications Basics.

Length: 5 Days

GPON Technologies [Gigabit Passive Optical Network] (STC2B01)

Course Overview:

This course is designed to provide an introduction to GPON /FTTH and understanding the difference between ACTIVE and Passive Optic Networks (PONs). It will explain the difference of the two systems and how they provide the many Services in FTTH applications. This course provides the knowledge and skills to help students Design, install, test and maintain Active and Passive Optical Networks (PONs) / Fiber-to the-Home (FTTH) systems.

Course Objectives:

- Drivers behind FTTx
- Basic FTTx terminology
- Fiber to the home
- Fiber to the business/building
- Why use fiber optics?
- Defining CAPEX and OPEX
- FTTH and FTTB CAPEX items
- Design impacts

- Who's implementing FTTH
- Triple play network characteristics
- Fiber technology evolution
- The evolution from POTS to fiber
- FTTH PON evolution and development
- Network architecture
- Broadband PON
- Gigabit

Prerequisites:

- Communications Basics.

Length: 4 Days

Public Safety Communication/PTT [Conventional/Trunk] Basics (STC3A01)

Course Overview:

The public safety communication is one of the most important communications systems as all the critical missions are dependents on it like police men, ambulances, armed force and a lot other, in this course we learn all about it; basics, types and even more we will practice on this equipment to figure out what is the differences between them.

Course Objectives:

- Fundamentals of Wireless Communications.
- Conventional Communications.
- Digital Conventional Communication.
- Trunking Communications.
- TETRA.

Prerequisites: None

Length: 5 Days

PMP [Project Management Professional] (STC1E11)

Course Overview:

PMI's Project Management Professional (PMP) ® credential is the most important industry-recognized certification for project managers. Globally recognized and demanded, the PMP® demonstrates that you have the experience, education and competency to successfully lead and direct projects.

This recognition is seen through increased marketability to employers and higher salary; according to the PMI Project Management Salary Survey–Seventh Edition, certification positively impacts project manager salaries.

Course Objectives:

- Project Management Framework.
- Project Management Processes
- Project Management Knowledge Areas
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resources Management
- Project Communications Management
- Project Risk Management
- Project Procurement management
- Project Integration Management
- Ethical and Code of Conduct

Prerequisites: None

Length: 5 Days
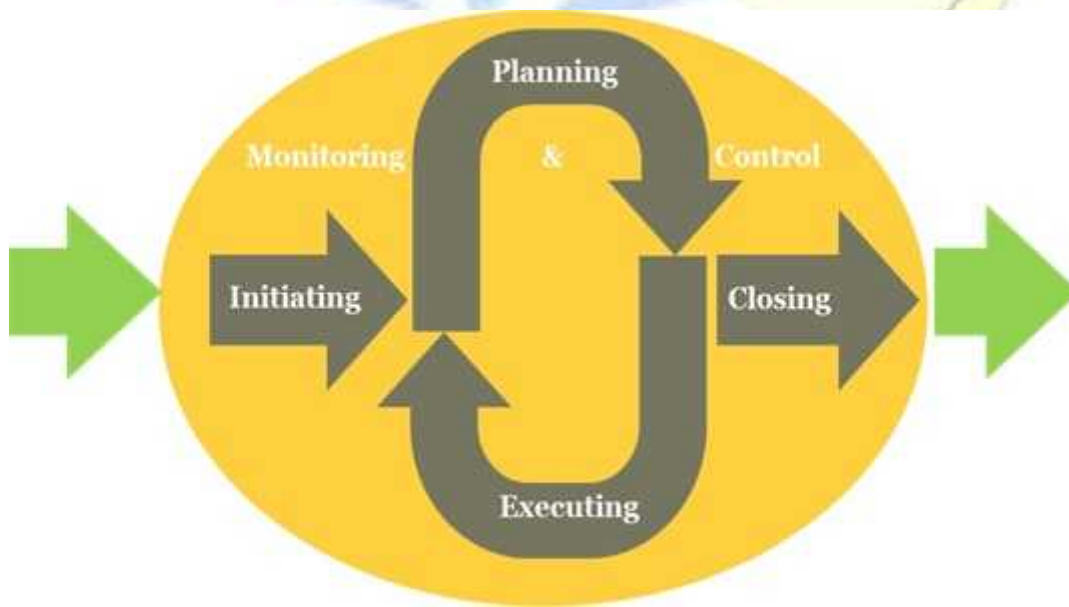
Technical Report Writing (STC1E21)

Course Overview:

This course is about the art of writing a technical report; it helps the students as well as engineers to be able to write a good report, letter and resume. Besides it enables the engineers to have and give very good features for general presentation and discussion for their projects, researches and reports.

Course Objectives:

- Types of Reports
- How to Write Reports
- Computer Reports
- Anatomy of a Report
- Sales Proposals
- Future of Reports

Prerequisites: None

Length: 3 Days