

Essentials of Optical Communications

"Highlighting the key concepts and terminology of the optical communications industry"

Overview

As telecommunications networks evolve there is a requirement to have competent staff that can plan the network, plan migration strategies, evaluate equipment, manage & troubleshoot the infrastructure and ensure that customers have a quality experience. This workshop will provide a brief overview of the capabilities and issues related to optical communications technology and how the network is evolving. It will highlight the relationships between the technical operation of the network and the business operations from a number of perspectives. All of the terminology and jargon is explained in a clear and precise manner as the course progresses by our highly skilled trainer.

You will be able to

- Understand the properties of light
- Explain the principles of fiber optics
- Explain what is WDM
- Identify the key different uses of fibre in communications networks
- Identify key components & terminology in fibre networks
- Understand how data is transported over fibre
- Describe how fibre networks support networking globally

Who can benefit

This workshop is designed for those who need a basic understanding of the key concepts and terminology that is prevalent in the industry, how the various technologies relate to each other and the impact on business operations

Pre requisite knowledge

None

Outline

Introduction

- What are the critical issues facing telecoms operators?
- How has the business environment changed?
- Increased local & international competition
- Saturation of the voice market
- Regulatory considerations & issues
- Disruptive services
- How does fibre play a role?

Overview of Optical Fiber Communication

- History of optical communications
- What is the electromagnetic spectrum
- Properties of light
- Guided light
- Free space optical communications
- How does fibre work?
- How do we get information into the fibre?
- Different types of fibre cables
- Singlemode & multimode cables
- Light sources: lasers & LEDs
- Optical receivers
- A typical optical network architecture
- Laser & fibre safety

Fibre Network Types

- Fibre Network Terminology
- Fibre in the telephone network
- What are PDH and SDH
- The Internet
- Submarine cabling
- Global fibre networks
- Malaysia's fibre architecture
- What is Fibre to the Home (FTTH)
- What are passive optical networks (PON)
- FTTH system architecture
- In-house networking
- Example FTTH implementations
- Key terms used
- Overview of SDH
- Network Protection Options
- Mapping of services to SDH

How is Fibre installed

- Typical deployments
- Tools & equipment
- Correct cable placement
- Preparing the installation environment
- Best practices in cable installation
- Installation safety & troubleshooting
- Example installations

DURATION	1 day
MAXIMUM CLASS SIZE	14