

Certified Optical Network Associate Training Course

COURSE DESCRIPTION:

In this 5 day course, you'll immerse yourself in the intricate world of direct detection fibre optic networks, from mastering single-channel setups to navigating cutting-edge multiple-channel technologies.

Participants will learn to explore practical strategies for optimising performance in optical networks, diving into crucial factors such as fibre quality, attenuation, and dispersion. Engaging case studies will provide multifaceted perspectives, enriching your understanding and fostering meaningful discussions.

WHO SHOULD ATTEND?

Tailored for a spectrum of telecoms professionals, including optical network planners, operations staff, WAN Service Engineers, data centre operations engineers, and specialists in optical communications or fibre optics for data centres, this course offers a comprehensive foundation for career advancement.

COURSE OBJECTIVES:

- Plan optical links that provide high capacity, typically up to 10 or 25Gb/s per channel and up to 80 channels per fibre
- Specify the components that are required to build a transmission link and explain how they should be configured
- Plan links for good performance and testability
- Calculate whether chromatic dispersion compensation is required for a link and if so specify an appropriate DCM
- Verify that a link design is viable in terms of power levels, chromatic dispersion limits and PMD levels

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- Assess the quality of existing fibre infrastructure and its suitability for different systems
- Decide when and where optical amplifiers are needed and identify suitable products
- Determine the optical power budget of different transmission systems
- Calculate the optical loss budget for a transmission link

CONTENT:

- INTRODUCTION
- CASE STUDY
- UNDERSTANDING LIGHT
- MANAGING LIGHT
- INTRO TO MULTIPLEXING
- LIGHT IN OPTICAL FIBRES
- INFRASTRUCTURE
- OPTICAL FIBRES FOR TELECOMS NETWORKS
- SPECIFYING FIBRE OPTIC CABLES
- JOINTING EXTERNAL CABLES
- TERMINATING EXTERNAL CABLES
- CONNECTORS
- POLARITY ISSUES
- INFRASTRUCTURE TESTING
- SYSTEMS & SYSTEMS PERFORMANCE
- POWER LEVELS IN LOSS
- LIMITED SYSTEMS
- OPTICAL AMPLIFIERS
- TRANSCEIVERS
- DISPERSION
- CHROMATIC DISPERSION
- CD MANAGEMENT
- PMD
- OPTICAL NETWORKING
- PHOTONIC NETWORKS

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- PRACTICAL IMPLEMENTATION
- ON SYSTEMS TESTING
- ASSIGNMENT

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