

PLI-18-950

TELSTRA CWB

This course is designed to provide attendees with advanced knowledge to complete Telstra Customer Wideband fibre optical connections (CWB)

OPTICAL



PERPETUAL LEARNING INSTITUTE provides a comprehensive syllabus that addresses critical practices pertaining to Optical technologies within the Telecommunications optical access networks.

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LEARNING
INSTITUTE is
a Nationally
Approved Training
Provider of
Telstra™ & nbn™

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Module A

Optical network connectivity

Each attendee will construct a minimum of 6 Telstra certified low and high fibre count joint enclosures. These are chosen to incorporate all the disciplines needed to confidently assemble most joint enclosures available and splice fibre optic cores without causing fault conditions.

Attendees will also learn the techniques specifically centric to working on a live network and the associated validation techniques to ensure activities do not cause service outage events.

This module also includes all commissioning and DBOR processes required to complete each job.

Module B

Equipment activation & Transmission

Each attendee will learn the basics of transmission technology theory, equipment activation and commissioning techniques and associated fault assessments of a range of Telstra CBW service types



ACCREDITATIONS

Perpetual Learning Institute Pty. Ltd. is a nationally Registered Training Organisation (RTO code: 40809)

Perpetual Learning Institute Pty. Ltd is also a Nationally Approved Training Provider (ATP) of nbn™ & Telstra™



APPROVED

COURSE OUTLINE

Module A (5 days)



Telstra Optical Network Architecture

- Understanding telecommunications network architecture – IEN & CAN connection specifics
- Detailed overview of Telstra joint enclosures
- Detailed overview of optical fibre cable termination in an exchange
- Singlemode cable types, naming and colour codes with the Telstra CAN
- Cable markings and definition
- Overview of optical connectors

Techniques for Working on a live network

- Fibre optic cleaning principles
- Operating optical microscopes/VIPs
- Operating traffic identifiers
- Operating visual fault locators
- Techniques for identifying fibres in a live network
- Splicing techniques when operating in a live network and acceptable operational limits

CWB lead in Techniques

- Cable access techniques for customer premises (limits & guidelines)
- Cable termination processes and guidelines
- Short haul cable techniques and guidelines

Telstra Process Overview

- Overview of JSA, SWMS and MOPS
- Overview of Multiman
- Overview of TRAC

Fibre Optic Joint Enclosure Assembly Principles

- Assembly techniques for corning 24F OJ joint enclosure
- Assembly techniques for FOSC 400B joint enclosure
- Assembly techniques for TYCO Tap 2 (internal) joint enclosure
- Assembly techniques for Warren & Brown 72 fibre splice patch draw ODFD enclosure
- Assembly techniques for corning UCNCP 7-20/9-20 joint enclosures
- Assembly techniques for corning UCNCP MAX joint enclosure • Practical exercises to reinforce above elements 9-24

CBW Optical Link Commissioning

- Telstra commissioning thresholds and standards- TM00044
- Advanced Optical Trace Interpretation
- Bi-directional result variance
- Loss modes (splice loss, 2 point, 2 point attenuation corrected, dB/km)
- Event identifiers, editing events and manipulation
- Horizontal and vertical offsets
- Manual vs automatic event measurements
- Creating OTDR splice loss templates
- Bi-directional trace analysis
- Creating line diagrams from OTDR traces
- Generating accurate Telstra workbook reports
- Practical exercises and assessment for each of the items discussed



COURSE OUTLINE

Module B (5 days)



Telstra CPE & Transmission Activation

Optical Transmission

- Understanding telecommunications transmission and data networks - IEN & CAN
- Overview of DWDM and system components
- Understanding SFP/XFP modules
- Calculating laser module loss budgets

Overview of SDH

- SDH Technical Principles
- What is SDH and its advantages
- International standards - SDH/SONET
- Deployment strategies using SDH
- SDH multiplexing concepts
- Bit rates and frame structure (up to 40G)
- Transporting application data using virtual containers and Concatenation – LCAS & GFP
- NG-SDH - FEC G.709
- SDH circuit protection and redundancy functions
- SDH network management
- Overview of SDH commissioning and acceptance testing - BERT: G.821/G.826

Overview of Ethernet including switches and router technology

- Protocols and data network
- Seven layers of the OSI model
- TCP/IP
- Carrier sense multiple access / collision detection
- Ethernet communications: Unicast, Multicast and Broadcast
- Ethernet frames and frame sizes
- MAC addresses and MAC address table
- IP addressing and classes
- Types of network addresses
- Subnet masks – defining the network group
- Static and dynamic addressing
- Overview of network elements – Switches and Routers
- Overview of WiFi technologies
- Overview of traffic prioritisation – COS, TOS, VLAN etc.
- Overview of MPLS
- Performing performance measurements on an Ethernet circuit – RFC2544 / RFC 2889

Configuring CPE equipment

- CPE cabling standards and limitations
- CPE fixed installation and naming conventions
- CPE Activation
- CPE Alarm overview
- Service commissioning



INDUSTRY PROBLEM

- With the ever increasing demand for broadband connectivity carriers are looking to connect each customer with a reliable high speed optical fibre connection. The challenges and complexities to achieve these connections is driving the need for improved knowledge to ensure each connection is completed in accordance with published standards.
- New network architectures and technologies require the development of new skills and knowledge to ensure success.



PERPETUAL LEARNING SOLUTION

- Working as an nbn™ Approved Training Provider, PERPETUAL LEARNING INSTITUTE has enhanced our traditional courses to align directly to the skills needed for the nbn™ rollout.
- The development of carefully constructed skill based programs is where we excel – the art of training.
- Unlike other training organisations which focus primarily on technology, PERPETUAL LEARNING INSTITUTE is structured toward Field Operations staff. Technology theory is combined with large quantities of practical exercises to reinforce the learning process.
- PERPETUAL LEARNING INSTITUTE is the market leader with regards to hands on practical training that is supported by our real world learning simulators – “We bring the field environment to you”.

COURSE INFORMATION

Course Locations:

Melbourne, Adelaide,
Sydney, Hobart,
Canberra,
Cairns,
Brisbane,
Darwin and Perth



Location and timing will be advised at enrolment

Class Size: 10 - 12 students

Duration: 10 days (module A&B)

Included:

All materials used for practical exercises, technical manuals for each attendee, test equipment, emulation environment.

1 week phone support.