

PLI-07-090

FTTP NETWORK CONSTRUCTION & COMMISSIONING

Designed for people with moderate optical fibre network construction skill levels

OPTICAL



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

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

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for full details



This course provides all the information required to confidently construct the unique elements of Telstra's FTTP environment and validate FTTP network quality. Attendees will be introduced to all components of an FTTP architecture as well as build relevant components and test the performance of the optical path. Attendees will also be introduced to live FTTP optical network validation procedures.

It is suggested that attendees have already completed Telstra approved splicing and network testing training courses within the last 3 years (E.g. CMT-05-001 – Fibre Optic OTDR, Commissioning & Reporting and/or CMT-06-020 – Fibre Optic splicing and joint enclosure).



BOOK ONLINE

Information is subject to change
For the most current information and training schedule, please visit : www.perpetual.edu.au/book



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



Basics of FTTP Architecture

- What is FTTx
- Benefits of FTTP Networks
- FTTP Network Architecture Overview
- What is PON
- Overview of GPON
- Understanding FTTx Transport Wavelengths
- Single Fibre Working Systems
- Basics of FTTP Service Delivery Capability
- Optical Connectors and Pigtails (FTTP Specific)
- Laser Safety and OH&S
- Fibre Optic Connector and ONT Cleaning Principles
- Operating Optical Microscopes
- Operating Traffic Identifiers
- Operating Visual Fault Locators

FTTP Architecture in Detail

- Detailed Overview of FTTP Architecture
- Detailed Overview of POLT
- Detailed Overview of VOLT
- Detailed Overview of WDM
- Detailed Overview of FDH
- Detailed Overview of Optical Splitter
- Detailed Overview of Multiport Hardware
- Detailed Overview of Lead-in Cable Technology
- MDU Design Overview (internal and external)
- Detailed Overview of PSU for Internal and External ONTs
- Detailed Overview of External ONT-O
- Detailed Overview of Internal ONT-I
- Telecommunications Demarcation Boundaries
- Network Naming and Numbering Conventions within the FTTP Network
- Practical Exercise to Reinforce above Elements

FTTP Fault Methodology - Detailed

- Assessing Service Delivery Performance of the ONT
- Active FTTP Network Testing Overview
- Basics of FTTP Fault Methodology
- Optical Loss Threshold Overview for FTTP
- Measuring Optical Power on a live FTTP Network
- 6. Practical – Measure Optical Power at the FDH, ONT &
- DLM using a PON Power Meter

FTTP Fibre Optic Cable Construction

- Assembly Methodologies for Egerton 24/72 Joint Enclosure
- Assembly Methodologies for Corning UCNCP 9-24 MAX Joint Enclosure
- Assembly Methodologies for Distribution Lead-in (DLM) Enclosure
- Assembly Methodologies for Lead-In (LM) Enclosure
- Installation Methodologies FDH including Splitter Replacement
- Manhole Requirements for FTTP Network Elements
- Installation Methodologies for Lead-In Cables
- MDU Hardware Installation
- ONT Installation Methodology (internal and external)
- In-home Cabling Standards for FTTP
- Practical Exercises and Assessment of each of the Items Discussed

Evaluating the Overall FTTP Optical Link Quality

- Basics of Evaluating Optical Link Quality
- Calculating Optical Loss Budgets
- Reasons for Excessive Optical Loss
- Measuring Insertion Loss
- Practical – Calculate and Measure the Optical Loss between FDH and ONT
- Basics of OTDR Technology
- Analysing OTDR Traces
- Identifying Optical Fibre Cable Faults using an OTDR
- Creating a Professional and Accurate Optic Link Performance Report using the Telstra Workbook and how this relates to Multiman
- Understanding how Optical Network Faults effect FTTP Service Delivery
- 11 Understanding Telstra DBor Environments as they relate to FTTP

FTTP Fault Methodology - Detailed

- Warren & Brown 2 draw internal cable subrack
- FOSC 400 (DJL)
- Corning ORS (Brank DJL / AJL)
- Flexible Joint Location (FJL)
- Optical splitters into FJL
- Breakout Joint Location (BJL)

Course Assessment

- 1. Theoretical Assessment
- 2. Practical Assessment

INDUSTRY PROBLEM

- With the deployment of the nbn™, Australia now needs additional skilled workers to construct the different network architectures.
- 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

Learners are required to complete a portfolio of evidence to achieve certification of Units of Competency listed below.

Included:

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

1 week phone support.