VERMONT TECH
CONTINUING EDUCATION & WORKFORCE DEVELOPMENT

Training Pathway Opportunities: Information and Communications Technology (ICT)

INTRO COURSE for incumbent workers, new trainers and new installers

FTTx for Installers and Technicians

This four-day instructor-led course is designed to provide useful technical knowledge of fiber optics relating to FTTx applications, as well as the skills needed to install and test the physical layer for active Ethernet and passive optical networks (PON). Students will gain practical knowledge and hands-on skill in all aspects of FTTx deployments including specific issues—such as testing splitters, WDM devices, measuring reflectance, and bidirectional testing—that are unique to FTTx networks

Audience: Beginner and experienced technicians, or supervisors

Prerequisite: Fiber Foundations recommended, but not required

Course Outline

Classroom (2 Days)

FTTx Introduction
FTTx Methodology
 Passive Optical Networks
 Active Ethernet
 RF Overlay • RFoG
Fiber Theory for FTTx
Optical Fiber
Optical Cable
 Outside Plant Cables
 Indoor/Outdoor Cables
Termination Options
 Connector Types and Polishes
Splitters
 Splitter Types
 Splitter Scenarios

Panels and Closures
 Outside Plant Storage
 Inside Plant Storage
WDM in FTTx Applications
Active Devices
OLTs and ONTs
Loss Budgets
Cable Installation Techniques
Testing FTTx Systems
 OTDR Testing
 Optical Loss Testing
Maintenance and Restoration
 Typical Causes of Failure
 Troubleshooting Techniques

Hands-on (2 Days)

Safety Meeting
Cable Management
 Cable Preparation
 Mid-Entry Practices
 Closure Preparation
 Panel Dressing
 Splitter Installation
 Splice Tray Fiber Routing
Splicing
 Strip and Cleave Processes
 Inline and Pigtail Splicing
 FTTx Splicing
 Fixed V-groove Splicers
 Core Alignment Splicers

OTDR Testing
 OTDR Use in FTTx Installations
 FTTx OTDR Signatures
 Measuring Reflectance
 Testing Splitters
Optical Loss Testing
 FTTx Test Equipment
 Testing OLT/ONT Power Levels
 Test Points in FTTx Installations
 Upstream/Downstream Testing
 Troubleshooting
 FTTx Documentation

Training Pathway Opportunities: Information and Communications Technology (ICT)

BROADBAND INSTALLER APPRENTICESHIP PROGRAM

IN101: BICSI Installer 1 Training – Pre Apprenticeship/ WBL

This course is designed to provide entry-level installers with the background, knowledge and basic skills needed to function safely and effectively as part of a cabling installation team. The BICSI Installer 1 Training course is the introductory course of the Installation Program series.

IN225: BICSI Installer 2, Copper Training – Apprenticeship

This course sets the foundation of a copper-based structured cabling system installation. The course begins with an overview of professionalism, copper transmission principles and general safety practices associated with working with copper cabling. A significant amount of course time will then be spent on BICSI best practices for the installation, termination and testing of copper cable.

IN250: BICSI Installer 2, Optical Fiber Training – Apprenticeship

This course sets the groundwork for optical fiber-based structured cabling system installation. The course will open with an overview of professionalism, fiber transmission principles and the general safety practices related to optical fiber cabling. A significant amount of course time will then be spent on installation, splicing, termination and testing of optical fiber cable.

TE350: BICSI Technician Training – Advanced

This course provides the necessary skillset of a structured cabling systems technician. A significant amount of course time will be spent on troubleshooting copper and optical fiber cable installations. In addition, this course will cover project planning and implementation at the technician level. Additional topics will include site safety, site surveys, blueprint reading, bonding and grounding (earthing) and firestopping practices.

VERMONT TECH
CONTINUING EDUCATION & WORKFORCE DEVELOPMENT

Training Pathway Opportunities: Information and Communications Technology (ICT)

B.S. in Electrical Engineering Technology (120 credits)

B.S. in Applied Business Management (120 credits)

B.S. in Computer Information Technology (120 credits)

A.E. in Electrical Engineering Technology (64 credits)

A.S. in General Engineering Technology (60 credits)

A.S. in Computer Information Technology (62 credits)

FFTX training 45 Hours

ADVANCED TRAINING CEU's:
Data Center Design
Project Management
Advanced Outside Plant
Distribution Design

Computer Networking Certificate (19 credits)

ICT INSTALLER PRE Apprenticeship 45 hours

ICT INSTALLER Apprenticeship 120-140 hours

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