

Description

The City & Guilds 3667-02 Awards in Communications Cabling are suitable for those interested in becoming communication cabling installers or those currently doing the job and seeking certification.

Venue

Melksham, Wiltshire

Duration

Depending on units selected—Either 5 or 9 days

COURSE CONTENT OVERVIEW

**City & Guilds 3667-02 Unit 1 (Mandatory Core Unit)
Principles of Communication Cabling**

- ◆ Identify Safe working practices in communication systems
- ◆ Basic principles of SI units symbols
- ◆ Basic principles of communication systems
- ◆ Basic principles of data communication

**City & Guilds 3667-02 Unit 2 (Optional Unit) Fibre Optic
Cabling in an Internal Environment**

- ◆ Safety regarding working with fibre optics in an internal environment
- ◆ Recommended installation procedures and standards
- ◆ Preparation of cable/fibres for connectorisation & splicing
- ◆ Splicing of optical fibres
- ◆ Connector termination
- ◆ Testing of fibre optic links

**City & Guilds 3667-02 Unit 3 (Optional Unit) Fibre Optic
Cabling in an External Environment**

- ◆ Safety regarding working with fibre optics in an external environment
- ◆ Recommended installation procedures and standards
- ◆ Preparation of external cable-fibres for connectorisation & splicing
- ◆ Jointing and splicing of fibre optic cables
- ◆ Termination of fibre optics with pre-terminated pig tails
- ◆ Testing of fibre optic links

**City & Guilds 3667-02 Unit 4 (Optional Unit) Copper Ca-
bling in an Internal Environment**

- ◆ Safety regarding working with copper cabling in an internal environment
- ◆ Basic electrical theory and safety
- ◆ Recommended installation procedures and standards
- ◆ Termination of copper communication cabling
- ◆ Testing copper communication cabling e.g. UTP/FTP etc.

Description This unit is concerned with safe working practices and the basic principles of communications systems.

Venue Melksham, Wiltshire

Duration Depending on units selected—Either 5 or 9 days

COURSE CONTENT

Identify Safe working practices in communication systems

- ◆ Undertaking installation
- ◆ Carrying out preparation
- ◆ Precautions when carrying out a communications installation
- ◆ Terminating cable s

Basic Principles of SI Units Symbols

- ◆ Basic SI Units
- ◆ Names and symbols for preferred SI prefixes
- ◆ Waves and wave motion
- ◆ Amplitude, wavelength , frequency and the unit frequency
- ◆ Relationship between velocity, frequency and wavelength

Basic Principles of Communications Systems

- ◆ Types of communication systems
- ◆ Methods of communication
- ◆ Differences between analogue and digital signals
- ◆ Advantages & disadvantages of fibre versus copper

Basic Principles of Data Communication

- ◆ Advantages and disadvantages of digital versus analogue
- ◆ Types of computer networks
- ◆ Advantages and disadvantages of serial versus parallel data communication

Description

This unit is concerned with the installation, splicing, connectorisation, termination and testing of fibre optic cable in a typical internal datacomms environment,

Venue

Melksham, Wiltshire

Duration

Depending on units selected—Either 5 or 9 days

COURSE CONTENT

Working Safely with Optical Fibres in an Internal Environment

- ◆ Safe working procedures of installation of fibre cables
- ◆ Safe working in preparation of fibre cables
- ◆ Special precautions and safe working procedures in relation to splicing and termination

Terminating Fibre Optic Cable by Fitting Connectors

- ◆ Types and uses of common connectors
- ◆ Termination tools and materials
- ◆ Fitting procedures for connectors
- ◆ Common faults in termination
- ◆ Performance tests

Recommended Installation Procedures

- ◆ Use of fibre optics in LAN.s
- ◆ Types of optical fibres
- ◆ Fibre specifications and parameters
- ◆ Fibre and cable test methods and documentation
- ◆ Components within an optical fibre communication system
- ◆ Best practices and fibre management of installation

Testing Fibre Optic Links

- ◆ Measuring loss
- ◆ Test equipment and their features
- ◆ Testing procedures
- ◆ Operating test equipment
- ◆ Understanding and identifying test results

Preparation for fibre connectorisation and Splicing

- ◆ Cable characteristics
- ◆ Constructional features of fibre optic cable
- ◆ Cutting and stripping tools
- ◆ Fibre preparation, cleaning and techniques used

Exam and Assessment Method

City & Guilds Multiple Choice Assessment

- ◆ Online 1 hour City & Guilds—Multiple choice

Splicing Together Optical Fibres

- ◆ Principles and methods of splicing
- ◆ Cleaving
- ◆ Fusion and mechanical splicing equipment and applications
- ◆ Performance in relation to industry standards
- ◆ Troubleshooting

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| Description | This unit is concerned with the installation, splicing, termination and testing of fibre optic cables, typically a multi-element, singlemode fibre cable of at least 24 fibres, used in an external environment |
| Venue | Melksham, Wiltshire |
| Duration | Depending on units selected—Either 5 or 9 days |

COURSE CONTENT

Working Safely with Optical Fibres in an External Environment

- ◆ Safe working procedures and regulations in regard to;
 - Installation
 - Splicing
 - Testing
 - Industry legislation/guidance

Recommended Installation Procedures

- ◆ Fibre optics in communication networks
- ◆ Fibre specifications and parameters
- ◆ Test and inspection methods
- ◆ Components and equipment
- ◆ Best practices and fibre management
- ◆ Testing methods
- ◆ Cable laying procedures

Preparing Fibre Optic Cable for Fibre Splicing

- ◆ Identifying Cables
- ◆ Constructional features of singlemode fibre
- ◆ Cable cutting and stripping tools
- ◆ Fibre cleaning materials and techniques
- ◆ Preparing cable for splicing

Joining Fibre Optic Cables by Splicing

- ◆ Cable jointing environment
- ◆ Working principles of splicing
- ◆ Preparing bare fibre
- ◆ Splicing fibres
- ◆ Sealing and cable retention for joint enclosure

Terminating Fibre Optic by Splicing on pre-terminated pigtails

- ◆ Suitable connectors for telecoms environment
- ◆ Cable termination
- ◆ Cleaving ,tools and techniques
- ◆ Splice management and protection systems

Testing Fibre Optic Links

- ◆ Test methods
- ◆ Testing equipment i.e ILM, OTDR.
- ◆ Understanding results
- ◆ Documenting and comparing results

Exam and Assessment Method

City & Guilds Multiple Choice Assessment

- ◆ Online 1 hour City & Guilds—Multiple choice
- ◆ Assessed practical exercises

Description This unit covers safe installation, procedures and testing of copper communication cables.

Venue Melksham, Wiltshire

Duration Depending on units selected—Either 5 or 9 days

COURSE CONTENT

Working Safely with Copper Cabling in an Internal Environment

- ◆ Safe working procedures in line with industry guidance and legislation regarding;
 - Installation
 - Preparation
 - Electrical safety
 - Battery/electrically powered test equipment
- ◆ Risk assessments

Basic Electrical Theory and Safety in Regard to Data Communications Cabling

- ◆ Electrical symbols and basic theory
- ◆ What are MHz and Mbits
- ◆ Testing parameters
- ◆ Copper communication signaling
- ◆ Management and rules of copper cable installation
- ◆ Copper cabling wiring diagrams

Installing Copper Communication Cabling

- ◆ Site surveys
- ◆ Cable laying procedures
- ◆ Cable types topologies for installation
- ◆ Classes, standards and categories of cabling
- ◆ Rules and special precautions observed for installation and site survey

Terminating Copper Communication Cabling

- ◆ Terminating hardware with manufacturers guidance
- ◆ Cable preparation and terminating tools
- ◆ What is IDC methods
- ◆ What is LJU's
- ◆ Rules and special precautions of termination
- ◆ Identifying appropriate situations and environments

Testing FTP, UTP and Multicore Copper Links

- ◆ FTP and UTP copper cable links
- ◆ Multicore installation
- ◆ Telephone cabling systems
- ◆ Testing cabling plant installations
- ◆ National and international testing standards
- ◆ Measurement methods
- ◆ Testing telephone cabling

Exam and Assessment Method

City & Guilds Multiple Choice Assessment

- ◆ Online 1 hour City & Guilds—Multiple choice
- ◆ Assessed practical exercises