City & Guilds 3667-02
Unit 1 Principles of Communications Cabling

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

City & Guilds 3667-02
Unit 2 Fibre Optic Cabling in an Internal Environment

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

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

Preparation for fibre connectorisation and Splicing

♦ Cable characteristics

♦ Constructional features of fibre optic cable

♦ Cutting and stripping tools

♦ Fibre preparation, cleaning and techniques used

Splicing Together Optical Fibres

♦ Principles and methods of splicing

♦ Cleaving

♦ Fusion and mechanical splicing equipment and applications

♦ Performance in relation to industry standards

♦ Troubleshooting

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

Testing Fibre Optic Links

♦ Measuring loss

♦ Test equipment and their features

♦ Testing procedures

♦ Operating test equipment

♦ Understanding and identifying test results

Exam and Assessment Method

City & Guilds Multiple Choice Assessment

♦ Online 1 hour City & Guilds—Multiple choice

City & Guilds 3667-02
Unit 3 Fibre Optic Cabling in an External Environment

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

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