

Open Awards Qualification Unit



This unit forms part of a regulated qualification.

1 Unit Details

Unit Title:	Basic Principles of Telecommunications
Unit Reference Number:	J/618/8307
Level:	2
Credit Value:	3
Minimum GLH:	20

2 Learning Outcomes and Criteria

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Identify safe working practices in communications systems	1.1 State the rules for safe working including: <ul style="list-style-type: none"> • Undertaking installation • Preparing cutting and stripping tools • Safe handling and containment of cleaning materials • Disposing of waste materials • Terminating cables
2. Know the basic principles of SI units and symbols and electromagnetic waves	2.1 Identify basic SI units
	2.2 Identify names and symbols for preferred SI prefixes
	2.3 Identify waves and wave motion
	2.4 Define amplitude, wavelength, frequency and the unit of frequency
	2.5 State the relationship between velocity, frequency and wavelength
3. Know the basic principles of communications systems	3.1 List common terms used in communications systems
	3.2 Identify basic communications systems including information source, information destination and transmission/transfer link
	3.3 Outline the basic principles of cable systems

	3.4	Identify the properties of differing types of transmission links
	3.5	Identify passive and active equipment and networks
	3.6	Identify various methods of communicating over a channel
	3.7	Identify types of information carried by communications systems
	3.8	Categorise signals into audio, video and data types
	3.9	Distinguish between baseband and broadband
	3.10	Explain how analogue information can be converted to digital signals and vice versa
4. Know the basic principles of data communication	4.1	Explain the purpose of data networks
	4.2	Explain the advantages and disadvantages of analogue and digital communication
	4.3	Identify analogue and digital signals
	4.4	Explain the differences between bits and bytes
	4.5	Identify the type of coding typically used on digital networks
	4.6	Explain how to calculate the bit error rate (BER)
	4.7	Give typical figures for copper and optical fibre systems
	4.8	Explain the difference between serial and parallel methods of transmitting data
	4.9	State the main categories of computer networks
	4.10	Identify the basic topologies of computer networks