

Apprenticeship  
Training Schedule

Schedule of “off the job” courses

Information Technology  
Network Technician

Trade Code: 634C

## Course Summary

### Level 1 - Common Core

S0791.0	Information Technology Contact Centre Environment
S0792.0	Communications
S0793.0	Information Technology Contact Centre Technologies
S0794.0	Workplace Professionalism
S0795.0	Customer Service

### Level 2 – Technical Support Agent

S0796.0	Computing Technologies
S0797.0	Desktop and Mobile Platforms
S0798.0	Operating Systems
S0799.0	Software Applications
S0800.0	Troubleshooting Techniques

### Level 3 Network Technician (Trade Code 634C)

S0801.0	Basic Electronics
S0808.0	LAN Fundamentals
S0809.0	Network Operating Systems
S0810.0	Cabling
S0811.0	Network Management
S0812.0	Network Installation and Configuration
S0813.0	Network Troubleshooting
S0814.0	Data Communication and Inter-Networking
S0815.0	Network Standards

# **INFORMATION TECHNOLOGY**

## **NETWORK TECHNICIAN**

### **COMMON CORE**

#### **LEVEL 1**

# **MTCU Code S0791.0 INFORMATION TECHNOLOGY CONTACT CENTRE ENVIRONMENT**

Duration: 30 Total Hours

Theory: 30 Hours

Practical: 0 Hours

Prerequisites: None

## **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## **S0791.1 Information Technology Contact Centre Environment**

Duration: Total Hours: 24

Cross Reference to On-the-Job Performance Objectives: 1.2, 1.3, 1.4, 1.8, 2.8

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to describe how an IT contact centre functions and the roles and responsibilities of customer service agents, sales agents and technical support agents within an IT contact centre environment.

### **LEARNING OUTCOMES**

- 1.1.1 Describe different types of contact centres.
  - inbound and outbound
  - in-house and outsourced
- 1.1.2 Describe the roles of customer service agents, sales agents and technical support agents.
- 1.1.3 Identify the workplace pressures specific to a contact centre.
- 1.1.4 Describe strategies for dealing with workplace pressures.
- 1.1.5 Identify the benefits of developing a network of peers and support resources.
- 1.1.6 Identify various types of products or services supported by a contact centre.
- 1.1.7 Identify the roles and responsibilities of support teams.
- 1.1.8 Define common contact centre terminology and metrics.
- 1.1.9 Describe IT contact centre software / hardware technology including:

- customer relationship management (CRM) / information management software
- knowledge management including on-line reference materials
- quality monitoring
- workforce management
- telephony
- network operations

## **S0791.2 Privacy and Security**

Duration: Total Hours: 6

Cross Reference to On-the-Job Performance Objectives: 1.8, 6.1, 6.2

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to recognize potential privacy and security issues within an IT contact centre environment.

### **LEARNING OUTCOMES**

- 1.2.1 Explain the significance of federal and provincial legislation that outlines the responsibilities of both employers and employees as it relates to privacy and security in an IT contact centre environment.
- 1.2.2 Explain the importance and relevance of compliance, security, privacy, confidentiality and disaster recovery policies within an IT contact centre environment.
- 1.2.3 Describe ethical issues related to information technology.
- 1.2.4 Outline personal and professional ramifications of unethical practices.

# MTCU Code S0792.0 COMMUNICATIONS

Duration: 45 Total Hours

Theory: 30 Hours

Practical: 15 Hours

Prerequisites: None

## Evaluation Structure:

Formative Assessment (Quizzes and Assignments) 45%

Practical Assessment 30%

Final Assessment 25%

## S0792.1 Effective Listening

Duration: Total Hours: 15

Cross Reference to On-the-Job Performance Objectives: 2.1, 2.3, 3.1, 3.2, 3.3, 3.4, 3.7

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### GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to use active listening skills when interacting with customers, colleagues, supervisors and industry representatives in an IT contact centre environment.

### LEARNING OUTCOMES

- 2.1.1 Identify the elements of active listening and their importance.
- 2.1.2 Outline the procedures for applying active listening skills.
- 2.1.3 Describe the use of minimal encouragers when applying active listening skills.
- 2.1.4 Identify core issues expressed by customers, colleagues, supervisors and industry representatives.
- 2.1.5 Interpret instructions and procedures.

## S0792.2 Verbal Communications

Duration: Total Hours: 15

Cross Reference to On-the-Job Performance Objectives: 3.1, 3.2, 3.3, 3.4, 3.7

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### GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to use professional business language and information gathering techniques when interacting verbally with customers, colleagues, supervisors and industry representatives in an IT contact centre environment.

## **LEARNING OUTCOMES**

- 2.2.1 Describe questioning techniques and when to use them.
- 2.2.2 Apply questioning techniques to gather information about the customer, customer issues or products using professional business language, speaking style, tone, volume and clarity.
- 2.2.3 Summarize detailed or complex information to confirm accurate interpretation and understanding of information provided.
- 2.2.4 Explain technical instructions within the context of resolving customer issues.

### **S0792.3 Written Communications**

Duration: Total Hours: 15

Cross Reference to On-the-Job Performance Objectives: 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 4.1, 4.2, 4.3

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## **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to use reading, comprehension and writing skills to interact with customers, colleagues, supervisors and industry representatives in an IT contact centre environment.

## **LEARNING OUTCOMES**

- 2.3.1 Describe the importance of reading, comprehension and writing skills within an IT contact centre environment.
- 2.3.2 Create written case notes that summarize the steps taken to address the issues and the outcomes of customer service.
- 2.3.3 Simplify detailed or complex written communications.
- 2.3.4 Prepare various types of internal correspondence using professional language in response to a variety of customer needs.

# **MTCU Code S0793.0 IT CONTACT CENTRE TECHNOLOGIES**

Duration: 36 Total Hours

Theory: 18 Hours

Practical: 18 Hours

Prerequisites: None

## **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 25%

Practical Assessment 50%

Final Assessment 25%

## **S0793.1 Technological Resources**

Duration: Total Hours: 12

Cross Reference to On-the-Job Performance Objectives: 1.4, 1.5, 1.8, 2.1, 3.6, 3.8, 4.1, 4.2, 4.3

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to use technology and on-line resources within an IT contact centre environment.

### **LEARNING OUTCOMES**

3.1.1 Use internet and intranet to research and obtain information.

3.1.2 Locate required information on approved websites.

3.1.3 Explain the use of key words and how search results are organized.

3.1.4 Describe features of different search portals.

3.1.5 Describe the characteristics of customer relationship management (CRM)/ information management systems and its relevance within a contact centre environment.

## **S0793.2 Technical Systems**

Duration: Total Hours: 12

Cross Reference to On-the-Job Performance Objectives: 1.3, 1.4, 1.8, 3.8, 4.1, 4.2, 4.3

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to use information management systems and technologies within an IT contact centre environment.



## LEARNING OUTCOMES

- 3.2.1 Describe the following telephony systems.
- interactive voice response (IVR)
  - automatic call distributor (ACD)
  - skills based routing
  - computer telephony integration (CTI)
  - predictive diallers
  - private branch exchange (PBX)
- 3.2.2 Use the basic features of customer relationship management (CRM)/information management systems.
- 3.2.3 List types of data stored in customer relationship management (CRM)/ information management systems.
- 3.2.4 Describe the relationship between customer data and transactional uses.
- 3.2.5 Describe the supporting contact centre systems that include:
- quality control monitoring
  - workforce management/scheduling
  - email management
  - statistics and report management
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### **S0793.3 Documentation**

Duration: Total Hours: 12

Cross Reference to On-the-Job Performance Objectives: 3.8, 4.1, 4.2, 4.3

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## GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to create and maintain documentation using information management systems and technological resources within an IT contact centre environment.

## LEARNING OUTCOMES

- 3.3.1 Use customer relationship and information management systems to:
- create and maintain customer records
  - search databases for customer accounts
  - validate customer identities
  - edit and update customer information
  - create and maintain transactional functions
- 3.3.2 Use information management systems and technological resources including templates to create and maintain internal and external business documentation.

# **MTCU Code S07934.0 WORKPLACE PROFESSIONALISM**

Duration: 18 Total Hours

Theory: 18 Hours

Practical: 0 Hours

Prerequisites: None

## **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## **S0794.1 Teamwork**

Duration: Total Hours: 9

Cross Reference to On-the-Job Performance Objectives: 5.1, 5.2

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to interact with others to build professional relationships that help to meet performance objectives within an IT contact centre environment.

### **LEARNING OUTCOMES**

- 4.1.1 Describe the importance of a team approach to achieving objectives.
- 4.1.2 Outline strategies for fostering cooperation in a team environment.
- 4.1.3 Outline the importance of clear communication among team members.
- 4.1.4 Describe coaching and mentoring techniques within the workplace.
- 4.1.5 Outline the importance of increasing awareness of and sensitivity to workplace diversity issues.

## **S0794.2 Time Management**

Duration: Total Hours: 9

Cross Reference to On-the-Job Performance Objectives: 5.1, 5.2

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to manage time to maximize daily performance within an IT contact centre environment according to industry resources, procedures and standards.

## **LEARNING OUTCOMES**

- 4.2.1 Describe time management requirements within an IT contact centre environment including:
- agent schedule adherence in the achievement of service level
  - forecasting call volume and its impact on agent scheduling
  - average handle time and its impact on service level
- 4.2.2 Outline strategies to achieve targets for average handle time and after-call work.
- 4.2.3 Describe strategies for managing several tasks simultaneously.

## **MTCU Code S0795.0 Customer Service**

Duration: 21 Total Hours

Theory: 21 Hours

Practical: 0 Hours

Prerequisites: None

### **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

### **S0795.1 Customer Service**

Duration: Total Hours: 9

Cross Reference to On-the-Job Performance Objectives: 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.8

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#### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to use strategies for building customer relationships, identifying customer needs and providing quality customer service in an IT contact centre environment.

#### **LEARNING OUTCOMES**

- 5.1.1 Explain the importance of customer satisfaction and its impact on customer retention.
- 5.1.2 Describe the relative value of customer retention compared to the cost of new customer acquisition.
- 5.1.3 Identify the roles of customer service agents, sales agents and technical support agents in customer retention.
- 5.1.4 Identify the value of customer information for all service strategies.
- 5.1.5 Identify the relationship of customer needs to services provided.
- 5.1.6 Identify several strategies that build rapport and enhance customer relationships.
- 5.1.7 Explain common practices for identifying and validating customer needs.
- 5.1.8 Explain the value of identifying unstated customer needs.

### **S0795.2 Handling Difficult Customers**

Duration: Total Hours: 12

Cross Reference to On-the-Job Performance Objectives: 3.1, 3.2, 3.3, 3.4, 3.5, 3.7

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## **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to describe basic strategies and techniques for handling difficult customers within an IT contact centre environment.

## **LEARNING OUTCOMES**

- 5.2.1 Identify problem resolution techniques and resources.
- 5.2.2 Review customer data to identify history related to current issues.
- 5.2.3 Describe escalation strategies used for resolving customer issues.
- 5.2.4 Describe how an individual's behaviour impacts the behaviour of others.
- 5.2.5 Describe techniques used to control agent emotions during customer interactions.
- 5.2.6 Describe techniques used for calming customer emotions during customer interactions.
- 5.2.7 Identify common causes of customer dissatisfaction.

# **INFORMATION TECHNOLOGY**

## **NETWORK TECHNICAIN**

### **Level II**

# **MTCU Code S0796.0 COMPUTING TECHNOLOGIES**

Duration: 30 Total Hours

Theory: 30 Hours

Practical: 0 Hours

Prerequisites: Level 1

## **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## **S0796.1 Computer Systems, Platforms & Networks**

Duration: Total Hours: 30

Cross Reference to Training Standard: 7.1, 7.2, 8.1, 8.2

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to describe computing technologies as a foundation for supporting, servicing and troubleshooting computer systems.

### **LEARNING OUTCOMES**

- 6.1.1 Identify the components of a computer system and how they interact.
- 6.1.2 Identify the key differences among computing platforms.
- 6.1.3 Explain the types and characteristics of storage media.
- 6.1.4 Identify the uses and characteristics of various types of software.
- 6.1.5 Explain how computers communicate with other devices over a network.
- 6.1.6 List common types of basic networking hardware.
- 6.1.7 Describe the purpose and use of how basic networking software operates.
- 6.1.8 List typical security risks in a modern networked computer system including wireless technology.
- 6.1.9 Describe best practices for password security.
- 6.1.10 Describe firewall technologies.

# MTCU Code S0797.0 DESKTOP AND MOBILE PLATFORMS

Duration: 27 Total Hours

Theory: 27 Hours

Practical: 0 Hours

Prerequisites: Level 1

## Evaluation Structure:

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## S0797.1 Configurations and Function of Components & Peripheral Devices

Duration: Total Hours: 27

Cross Reference to Training Standard: 7.1, 7.2

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### GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to explain setup, configuration and upgrades to desktop and mobile hardware.

### LEARNING OUTCOMES

- 7.1.1 Identify the configuration of computer components.
- 7.1.2 Explain the function of computer components.
- 7.1.3 Describe the function of communication ports and storage hardware.
- 7.1.4 Describe the difference between memory and hard disk storage.
- 7.1.5 Identify different types of mobile computing hardware.
- 7.1.6 Identify common hardware peripheral devices.
- 7.1.7 Describe the uses of common hardware peripheral devices.
- 7.1.8 Describe the hardware differences between desktops, notebooks and personal digital assistants (PDAs).



# MTCU Code S0798.0 OPERATING SYSTEMS

Duration: 18 Total Hours

Theory: 18 Hours

Practical: 0 Hours

Prerequisites:

Level 1

## Evaluation Structure:

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## S0798.1 Installations, Configuration and Maintenance

Duration: Total Hours: 18

Cross Reference to Training Standard: 7.1, 7.2, 8.1

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### GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to describe procedures for the installation, configuration and maintenance of computer operating systems.

### LEARNING OUTCOMES

- 8.1.1 Identify various operating systems.
- 8.1.2 Outline the uses and features of operating system software.
- 8.1.3 Describe the common core components of any operating system.
- 8.1.4 Describe procedures for basic system back-up and restoration of files.
- 8.1.5 Describe the installation and configuration procedures of operating systems.
- 8.1.6 Identify issues pertaining to maintaining and upgrading operating systems.

# **MTCU Code S0799.0 SOFTWARE APPLICATIONS**

Duration: 15 Total Hours

Theory: 15 Hours

Practical: 0 Hours

Prerequisites: Level 1

## **Evaluation Structure:**

Formative Assessment (Quizzes and Assignments) 75%

Final Assessment 25%

## **S0799.1 Software Installations, Configuration and Maintenance**

Duration Total Hours: 15

Cross Reference to Training Standard: 7.1, 7.2, 8.1, 8.2

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### **GENERAL LEARNING OUTCOME**

Upon successful completion the apprentice is able to describe procedures for installation, configuration and maintenance of computer software applications.

### **LEARNING OUTCOMES**

- 9.1.1 Explain basic features and operation of software applications.
- 9.1.2 Identify system requirements prior to installation of software.
- 9.1.3 Describe procedures for diagnostic testing of software using network and internet utilities.
- 9.1.4 Explain installation procedures of software applications.

# MTCU Code S0800.0 TROUBLESHOOTING TECHNIQUES

Duration: 30 Total Hours

Theory: 21 Hours

Practical: 9 Hours

Prerequisites: Level 1

## Evaluation Structure:

Formative Assessment (Quizzes and Assignments)	45%
Practical Assessment	30%
Final Assessment	25%

## S0800.1 Hardware and Software Technical Support

Duration: Total Hours: 30

Cross Reference to Training Standard: 9.1, 9.2, 9.3, 9.4

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### GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to identify and describe the causes and solutions of hardware and software failures.

### LEARNING OUTCOMES

- 800.1.1 Explain the causes of common hardware and software failures.
- 800.1.2 Identify and isolate the probable cause of technical issues.
- 800.1.3 Decode and interpret error messages.
- 800.1.4 Describe how to use diagnostic software to test for errors.
- 800.1.5 Resolve customer technical issues using manuals and knowledge management systems.
- 800.1.6 Outline the procedures to confirm the resolution of hardware and software failures.
- 800.1.7 Identify preventative maintenance techniques for optimal performance of hardware and software technologies.

# **INFORMATION TECHNOLOGY**

Network Technician

Level III

Trade Code 634C

# **MTCU Code S0801.0 Basic Electronics**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe basic electrical principles and concepts, identify and explain the use of electrical measuring devices, power supplies and microcomputer electronic components. The apprentice is also able to describe safe work practices.

## **Learning Outcomes**

1. Describe basic electrical principles, key terms and concepts.
2. Identify different measuring devices and explain their use.
3. Identify and explain the function of different power supplies.
4. Identify and explain different electronic components used in microcomputers.
5. Describe safe work practices as apply when working with electronic components.

## **Units**

### ***S0801.1 Basic Electronics Concepts***

1. Electronics Building Blocks
2. Electrical Units
3. Measuring Devices
4. Power Supplies

### ***S0801.2 Computer Electronics***

1. The Electrical Sphere
2. Electronics in the Computer
3. Troubleshooting Electrical System
4. Safety Practices with Electrical Systems

# **MTCU Code S0808.0 LAN Fundamentals**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe the evolution of networks and the development of LAN architectures, recognize different network topologies and explain the use of hardware elements in a network.

## **Learning Outcomes**

1. Describe the history and development of LAN architectures.
2. Describe various network topologies and their advantages.
3. Explain Ethernet frames.
4. Describe modern Ethernet standards.

## **Units**

### ***S0808.1 LAN Concepts***

1. Networks Evolution
2. Types of Networks
3. Network Topologies
4. Early Ethernet Networks

### ***S0808.2 LAN Devices***

1. Extending Ethernet Networks
2. Modern Ethernet
3. Hardware Elements of a Network
4. Switches and Hubs for Ethernet Networks

# **MTCU Code S0809.0 Network Operating Systems**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe common network operating systems and how they operate and explain common network models such as client/server and peer-to-peer.

## **Learning Outcomes**

1. Describe the characteristic of a network operating system (NOS).
2. Identify different network operating system including Novell NetWare, Windows servers, Unix and Linux.
3. Explain the client/server network model.
4. Explain the peer-to-peer network model.

## **Units**

### ***S0809.1 Concepts and Models***

1. NOS Basic Concepts
2. Client/Server Model
3. Peer-to-Peer Model
4. Sharing Resources

### ***S0809.2 Principal Network Operating Systems***

1. Windows Server
2. Unix
3. Linux
4. Novel NetWare

# **MTCU Code S0810.0 Cabling**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe different types of network cabling and how they are used in a network.

## **Learning Outcomes**

1. Categorize standard cable types and their properties including: coaxial, twisted pair and fiber optic.
2. Identify common connector types.
3. Outline wiring distribution installation.
4. Describe networking industry standards.

## **Units**

### ***S0810.1 Topology and Cable Types***

1. Network Topology
2. Coaxial Cable
3. Twisted Pair
4. Fiber-Optic

### ***S0810.2 Cables Building and Standards***

1. Other Cables
2. Building Twisted Pair Cables
3. Distance Limitation
4. Networking Industry Standards



# **MTCU Code S0811.0 Network Management**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe the procedures required to manage and maintain a network including documentation, techniques for monitoring performance and connectivity and network performance and optimization.

## **Learning Outcomes**

1. Explain the importance of network management and documentation.
2. Identify types of configuration management documentation.
3. Evaluate network based on configuration management documentation.
4. Explain network monitoring and how to identify performance and connectivity issues using network monitoring utilities and logs.
5. Outline best practices for network performance optimization.

## **Units**

### ***S0811.1 Network Management***

1. Network Management Concepts
2. Types of Network Documentation
3. Network Monitoring
4. Network Performance Optimization

### ***S0811.2 Network Management Standards***

1. ISO and FCAPS Model
2. SNMP
3. Command-line Interface (CLI)
4. Windows Management Instrumentation (WMI)

# **MTCU Code S0812.0 Network Installation and Configuration**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to explain the functions of basic components in a structured cabling system and describe the process of installing structured cable and a network interface card and perform a basic troubleshooting on a structures cable network.

## **Learning Outcomes**

1. Identify and describe the functions of basic components in a structured cabling system.
2. Describe the process of installing structured cable.
3. Install a network interface card.
4. Describe basic troubleshooting on a structured cable network.

## **Units**

### ***S0812.1 Network Installation***

1. Structured Cabling
2. Structured Cable Network Components
3. Structured Cabling Installation Preparation
4. Installing Structured Cabling

### ***S0812.2 Network Configuration***

1. NIC
2. Diagnostics and Repair
3. Wireless Networking
4. Protecting Your Network

# **MTCU Code S0813.0 Network Troubleshooting**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe network troubleshooting processes, actions and tools and provide solutions to common network problems.

## **Learning Outcomes**

1. Describe network troubleshooting methodology.
2. Identify and describe appropriate troubleshooting tools and their functions.
3. Outline basic and advanced troubleshooting actions.
4. Tackle variety of troubleshooting scenarios.

## **Units**

### ***S0813.1 Troubleshooting Procedures and Scenarios***

1. The Troubleshooting Process – Identification, action plan, solution
2. Common Connectivity Problems - Physical & Logical
3. Problems to Escalate
4. Troubleshooting Scenarios

### ***S0813.2 Troubleshooting Tools and Actions***

1. Software Tools for Troubleshooting
2. Hardware Tools for Troubleshooting
3. Troubleshooting Actions
4. Advanced Troubleshooting Actions

# **MTCU Code S0814.0 Communication and Inter-Networking**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe the seven-layer model for networks and its applications and compare it with TCP/IP models.

## **Learning Outcomes**

1. Describe the OSI seven-layer model.
2. Explain the function of each layer of the OSI model.
3. Describe the function of TCP/IP suite.
4. Explain how layers work together.

## **Units**

### ***S0814.1 Data Communication***

1. The OSI Model
2. Physical Layer
3. Data Communications Protocols
4. The Internet Protocol Suite

### ***S0814.2 Inter-Networking***

1. Application Layer
2. Network Naming
3. Securing TCP/IP
4. Remote Connection

# **MTCU Code S0815.0 Network Standards**

50 Hours

Units 2

Quizzes: 8

Final Assessment: 2 exams

Prerequisites: Level 1, 2

## **General Learning Outcome**

Upon successful completion the apprentice is able to describe the need for network standards and the role of the IEEE committees in creating network technology standards.

## **Learning Outcomes**

1. Explain the need for standards.
2. Identify different standard organizations and their role.
3. Explain the characteristics specified in IEEE802 standards.
4. Describe the IEEE 802.3 and 802.11 standards.

## **Units**

### ***S0815.1 Network Standards***

1. Standards and their Importance
2. Standards Organizations
3. Open System Standards
4. Proprietary System Standards

### ***S0815.2 IEEE and Networking Standards***

1. IEEE and Networking Standards
2. The IEEE 802.3 Ethernet
3. The IEEE 802.5 Token Ring
4. The IEEE 802.11 Wi-Fi