



NATIONAL SKILLS QUALIFICATION

LEVEL 4

**TITLE:
E-COMMERCE DEVELOPMENT**

YEAR: 2024

NATIONAL SKILLS QUALIFICATION E-COMMERCE DEVELOPMENT

GENERAL INFORMATION

QUALIFICATION PURPOSE

This qualification aims to equip learners with knowledge and skills needed to build and manage E-Commerce applications using PHP and Content Management System (CMS).

QUALIFICATION OBJECTIVES

The learner should be able to: -

- i. Identify the fundamentals of e-commerce systems
- ii. Develop an E-Commerce website using PHP
- iii. Implement security measures
- iv. Set up an E-Commerce site on Content Management System
- v. Customize Content Management System themes for E-Commerce
- vi. Optimize E-Commerce applications for performance
- vii. Test and debug E-Commerce systems

Mandatory Units

Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
UNIT 01	ICT/ECD/001/L4	Occupational Health and Safety	2	20	LEVEL 4
UNIT 02	ICT/ECD/002/L4	Communication and Interpersonal Skills	2	20	LEVEL 4
UNIT 03	ICT/ECD/003/L4	Team Work	2	20	LEVEL 4
UNIT 04	ICT/ECD/004/L4	Information Technology and IT Ethics	2	20	LEVEL 4
UNIT 05	ICT/ECD/005/L4	Web Design	3	30	LEVEL 4
UNIT 06	ICT/ECD/006/L4	Database Concepts for E-Commerce	3	30	LEVEL 4
UNIT 07	ICT/ECD/007/L4	Introduction to E-Commerce using PHP	5	50	LEVEL 4
UNIT 08	ICT/ECD/008/L4	Introduction to E-Commerce using Content Management System (CMS)	4	40	LEVEL 4
UNIT 09	ICT/ECD/009/L4	User Experience Design (UI/UX)	3	30	LEVEL 4
UNIT 10	ICT/ECD/010/L4	B2B and B2C E-commerce Concepts	4	40	LEVEL 4
TOTAL			30	300	

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Unit 01: OCCUPATIONAL HEALTH AND SAFETY

Unit Reference Number: ICT/ECD/001/L4

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit specifies the competencies required to demonstrate understanding of safe work practices, it involves learning about workplace safety correct use of signs and symbols, Identifying and reducing risks of hazards in the work environment*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Professional Discussion (PD)
4. Reflect Journal (RJ)

UNIT 01: OCCUPATIONAL HEALTH AND SAFETY

[illegible]

Unit 02: COMMUNICATION AND INTERPERSONAL SKILLS

Unit Reference Number: ICT/ECD/002/L4

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit specifies the competencies required to demonstrate good communication and interpersonal skills. It involves the ability to read and understand documented instructions and the ability to know how to communicate respectfully when in a bad mood or under pressure.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Professional Discussion (PD)
4. Reflect Journal (RJ)

UNIT 02: COMMUNICATION AND INTERPERSONAL SKILL

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Know of the importance of good communication	1.1	State reasons why good communication is important								
	1.2	List ways to communicate effectively								
	1.3	Exhibit patience and a mild demeanor while communicating with colleagues, managers and clients								
	1.4	Demonstrate how to speak in a respectful manner								
	1.5	Use respectful body language even when in a bad mood or while under pressure								
LO 2: Demonstrate ability to follow documented instructions	2.1	Read and accurately follow steps in a web framework/plugins installation manual								
	2.2	Find specific Class definitions and Method descriptions in the programming language reference document.								
	2.3	Find feature descriptions in the plugin framework documentation, while using a plugins/framework,								

UNIT 03: TEAMWORK

Unit Reference Number: ICT/ECD/003/L4

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose:

This unit is aims to equip the learner with necessary skills, knowledge and understanding required to develop team spirit and positive working relationship with colleagues.

Unit Assessment requirement

Assessment of this unit must be at a real practical work environment; simulation is not allowed unless where indicated.

Unit assessment requirements/evidence requirements

- Observation
- Work Product
- Professional Discussion
- Question and Answer

Unit 03: Teamwork

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1 Positive working relationship with colleagues	1.1	Identify the need for developing positive working relationship with colleagues								
	1.2	Recognize the importance of relating with other people in a way that makes them feel valued and respected								
	1.3	Assist team members when required.								
	1.4	Report to the appropriate personnel when request for assistance fall outside area of responsibility.								
	1.5	Communicate information to colleagues about individual work that may affect team work.								
LO 2 Take responsibility within the team	2.1	Recognize own role and responsibilities within a team								
	2.2	Perform individual tasks in line with the team's rules and regulations.								
	2.3	Participate effectively in teamwork.								
LO.3 Compliance with policy of organization	3.1	Explain organizational code of conduct								
	3.2	Work in line with organizational standard								
	3.3	Use organizational code of practice								
	3.4	Adhere strictly to instructions given by the Management								

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UNIT 04: INFORMATION TECHNOLOGY AND IT ETHICS

Unit Reference Number: ICT/ECD/004/L4

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit aims to provide learners with an understanding of fundamental IT concepts and ethical principles governing the use of technology*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
 2. Question and Answer (QA)
 3. Witness Testimony (WT)
 4. Assignment (ASS), etc.
- (This depends on the Trade Areas to be assessed)*

UNIT 04: INFORMATION TECHNOLOGY AND IT ETHICS

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Explain key concepts in Information Technology (IT) and their relevance in business processes	1.1	Define basic IT terminologies and principles								
	1.2	Identify the different categories of software and hardware								
	1.3	Discuss the role of IT in improving business processes								
	1.4	Outline the key components of information systems								
LO 2: Evaluate the ethical and legal implications of IT use in e-commerce	2.1	Analyze privacy concerns related to e-commerce platforms								
	2.2	Discuss data protection laws and their relevance to IT systems.								
	2.3	Evaluate the ethical issues surrounding intellectual property and digital rights								
	2.4	Outline ethical guidelines for the responsible use of IT.								
LO 3: Identify and apply best practices for IT security and user protection in e-commerce	3.1	Recognize common cybersecurity threats in e-commerce								
	3.2	Implement basic security measures for protecting sensitive data								
	3.3	Apply guidelines for secure user authentication								
	3.4	Assess the impact of security breaches on e-commerce businesses								

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UNIT 05: WEB DESIGN

Unit Reference Number: ICT/ECD/005/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: *This unit aims to equip learners with the skills and knowledge needed to design and develop functional and visually appealing E-Commerce websites.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 05: WEB DESIGN

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Design Effective Web Interfaces for E-Commerce Platforms	1.1	Design user-friendly navigation structures that guide customers effortlessly through the e-commerce site, using clear menus, breadcrumbs, and search functionality to enhance the user experience.		
	1.2	Create responsive designs that adapt seamlessly to different devices (e.g., mobile, tablet, desktop) using fluid grids, flexible images, and media queries to ensure a consistent user experience across platforms.		
	1.3	Implement a visually appealing layout that balances text, images, and white space, enhancing readability while emphasizing key products or calls-to-action (CTAs) to improve conversion rates.		
	1.4	Optimize website performance by compressing images, minifying CSS and JavaScript, and leveraging caching techniques, ensuring fast load times and a smooth user experience on e-commerce platforms.		
LO 2: Design a functional e-commerce website using HTML, CSS, and JavaScript.	2.1	Create a basic website structure using HTML5.		
	2.2	Style the website with CSS, ensuring it aligns with design best practices.		
	2.3	Implement JavaScript for dynamic content and improved user interaction.		
	2.4	Optimize the site for mobile responsiveness and cross-browser compatibility.		
LO 3: Integrate e-commerce functionality such as shopping carts and payment gateways.	3.1	Implement shopping cart functionality.		
	3.2	Integrate secure payment gateways into the website.		
	3.3	Demonstrate a smooth checkout process.		
	3.4	Optimize site performance to handle high traffic and transactions.		

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UNIT 06: DATABASE CONCEPTS FOR E-COMMERCE

Unit Reference Number: ICT/ECD/006/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: *This unit aims to equip learners with skills and knowledge of fundamental database concepts, focusing on their application in e-commerce platforms.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 06: DATABASE CONCEPTS FOR E-COMMERCE

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Understand Relational Database Design and Structure	1.1	Design a database schema using entity-relationship diagrams (ERD) to represent the relationships between products, customers, and transactions.								
	1.2	Normalize database tables to eliminate redundancy and ensure efficient storage of data.								
	1.3	Define primary and foreign keys to establish relationships between database tables (e.g., linking customer and order data).								
	1.4	Use SQL queries to retrieve, insert, update, and delete data from the database.								
LO 2: Implement Database Management for E-Commerce Platforms	2.1	Set up a relational database (e.g., MySQL, PostgreSQL) to manage customer, product, and order data.								
	2.2	Use indexing techniques to speed up query performance and improve the responsiveness of e-commerce platforms.								
	2.3	Ensure the database is optimized for large-scale e-commerce operations, handling large volumes of product and transaction data efficiently.								
	2.4	Implement backup and recovery plans to protect data in case of system failures or cyber-attacks								
LO 3: Ensure Database Security and Integrity	3.1	Use database encryption techniques to protect sensitive customer data, such as personal information and payment details.								
	3.2	Implement user roles and permissions to restrict access to sensitive data and prevent unauthorized database modifications.								
	3.3	Perform regular database audits to detect and address potential security vulnerabilities.								
	3.4	Ensure data integrity by enforcing validation rules and constraints on database fields (e.g., ensuring product prices are positive).								

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UNIT 07: INTRODUCTION TO E-COMMERCE USING PHP

Unit Reference Number: ICT/ECD/007/L4

NSQ Level: 4

Credit Value: 5

Guided Learning Hours: 50

Unit Purpose: *This unit aims to equip learners the skills to development of e-commerce platforms using PHP, a popular server-side scripting language.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 07: INTRODUCTION TO E-COMMERCE USING PHP

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Understand the fundamentals of PHP and its use in developing e-commerce platforms.	1.1	Explain the syntax and structure of PHP programming.		
	1.2	Write basic PHP scripts to handle form data and user interactions.		
	1.3	Integrate PHP with HTML to create dynamic web pages.		
	1.4	Test and debug simple PHP scripts to ensure functionality.		
LO 2: Develop an e-commerce site using PHP and MySQL.	2.1	Set up a MySQL database to store product and customer information.		
	2.2	Create and manage product listings, shopping carts, and user accounts using PHP.		
	2.3	Implement a secure user authentication system.		
	2.4	Test the e-commerce functionality and troubleshoot common issues.		
LO 3: Integrate payment processing systems and ensure transaction security.	3.1	Implement payment gateways using PHP (e.g., PayPal, Stripe, Paystack, Flutter, etc.).		
	3.2	Secure sensitive user data with encryption and secure protocols.		
	3.3	Set up transaction logs to track orders and payments.		
	3.4	Ensure compliance with e-commerce regulations regarding data privacy and payment security.		

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**UNIT 08: INTRODUCTION TO E-COMMERCE USING CONTENT
MANAGEMENT SYSTEM (CMS)**

Unit Reference Number: ICT/ECD/008/L4

NSQ Level: 4

Credit Value: 4

Guided Learning Hours: 40

Unit Purpose: *This unit aims to equip learners with skills and knowledge to build and manage e-commerce platforms using a content management system (CMS).*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 08: INTRODUCTION TO E-COMMERCE USING CONTENT MANAGEMENT SYSTEM (CMS)

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Understand the basics of Content Management System and its application in e-commerce.	1.1	Install and configure Content Management System (CMS) for e-commerce purposes.								
	1.2	Choose and customize a Content Management System (CMS) theme for an online store.								
	1.3	Install essential plugins such as WooCommerce for product management.								
	1.4	Ensure proper website navigation and usability.								
LO 2: Set up an e-commerce platform using Content Management System and WooCommerce.	2.1	Add product listings, including product categories, prices, and images.								
	2.2	Set up shopping carts and integrate payment gateways.								
	2.3	Manage customer accounts and order tracking.								
	2.4	Apply SEO best practices to optimize the e-commerce platform for search engines.								
LO 3: Customize the e-commerce site for performance and security.	3.1	Implement security plugins to protect against vulnerabilities.								
	3.2	Optimize website speed and performance through caching and image optimization.								
	3.3	Use Content Management System analytics tools to monitor site traffic and user behavior.								
	3.4	Customize checkout processes to improve user experience and conversion rates.								

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UNIT 09: USER EXPERIENCE DESIGN (UI/UX)

Unit Reference Number: ICT/ECD/009/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: *This unit aims to equip learners with the skills and knowledge to design a prototype of user-friendly interfaces that enhance the customer experience.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 09: USER EXPERIENCE DESIGN (UI/UX)

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Understand the principles of user interface (UI) design and user experience (UX) in e-commerce.	1.1	Identify the core principles of UI/UX design, such as simplicity, consistency, and accessibility.								
	1.2	Analyze case studies of successful e-commerce platforms from a UI/UX perspective.								
	1.3	Apply heuristics to assess the usability of an e-commerce website.								
	1.4	Outline the importance of user-centered design in e-commerce applications.								
LO 2: Design visually appealing user interfaces for e-commerce platforms.	2.1	Create wireframes and prototypes for the user interface of a website.								
	2.2	Implement design elements such as buttons, navigation menus, and forms that align with UX best practices.								
	2.3	Ensure visual hierarchy and consistency across the website for ease of use.								
	2.4	Apply design patterns that facilitate a seamless user journey from browsing to checkout.								
LO 3: Optimize user experience for improved e-commerce performance.	3.1	Conduct usability tests to gather feedback on the design.								
	3.2	Analyze user behavior and interaction data to identify pain points.								
	3.3	Implement changes based on feedback to improve usability and conversion rates.								
	3.4	Optimize the website's user interface for speed and performance to enhance the user experience.								

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UNIT 10: B2B AND B2C E-COMMERCE CONCEPTS

Unit Reference Number: ICT/ECD/010/L4

NSQ Level: 4

Credit Value: 4

Guided Learning Hours: 40

Unit Purpose: *This unit aims to learners with skills and knowledge of fundamental differences between Business-to-Business (B2B) and Business-to-Consumer (B2C) E-Commerce models.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 10: B2B AND B2C E-COMMERCE CONCEPTS

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Understand the key concepts and characteristics of B2B and B2C e-commerce models.	1.1	Differentiate between B2B and B2C business models in e-commerce.		
	1.2	Identify common industries and businesses operating in B2B and B2C environments.		
	1.3	Discuss the unique challenges and opportunities in both B2B and B2C e-commerce.		
	1.4	Explore case studies of successful B2B and B2C platforms.		
LO 2: Analyze the marketing strategies used in B2B and B2C e-commerce.	2.1	Compare and contrast marketing techniques such as content marketing, SEO, and email campaigns for B2B and B2C.		
	2.2	Identify buyer personas and customer journeys specific to each model.		
	2.3	Design a marketing strategy that targets either B2B or B2C customers.		
	2.4	Analyze the impact of digital advertising and social media on both business models.		
LO 3: Implement an e-commerce platform for B2B or B2C operations.	3.1	Set up an e-commerce platform tailored to B2B or B2C customers.		
	3.2	Integrate features such as bulk ordering (B2B) and personalized offers (B2C).		
	3.3	Monitor and manage transactions while ensuring compliance with business-specific regulations.		
	3.4	Optimize the user experience based on the needs of B2B or B2C buyers.		

PARTICIPANT FOR CRITIQUE WORKSHOP

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