

ICDL PROFESSIONAL BLOCKCHAIN

Syllabus 1.0



Syllabus Document

**Purpose**

This document details the syllabus for the Blockchain module. The syllabus describes, through learning outcomes, the knowledge and skills that a candidate for the Blockchain module should possess. The syllabus also provides the basis for the theory and practice-based test in this module.

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Blockchain Module

This module introduces blockchain, a technology which tracks the exchange of assets in a business network through the permanent storage of transaction records in a shared, distributed digital ledger.

Module Goals

Successful candidates will be able to:

- Understand the term blockchain, its origins and development.
- Identify the key principles of blockchain and the phases of a blockchain transaction.
- Recognise common blockchain examples including cryptocurrency, smart contracts and non-fungible tokens.
- Recognise the advantages and disadvantages of using blockchain.
- Consider the uses and benefits of blockchain for specific sectors.

CATEGORY	REF.	TASK ITEM
1 What is Blockchain?	1.1	Identify the need for the development of blockchain.
	1.2	Define the term blockchain.
	1.3	Recognise the key components of blockchain: distributed ledger, immutable records.
	1.4	Identify blockchain's key uses: cryptocurrency, smart contract, non-fungible token.
	1.5	Recognise the origins and development of blockchain.
2 How does Blockchain Work?	2.1	Identify the key principles of blockchain: distributed database, peer-to-peer network, computational logic, consensus protocol, immutable distributed ledger.
	2.2	Recognise how cryptography is used in blockchain.
	2.3	Define the term wallet.
	2.4	Define the term distributed ledger and identify its key characteristics like: decentralised, shared, distributed, consensus based.
	2.5	Recognise the main phases of a blockchain transaction.
	2.6	Recognise the need for consensus in blockchain.

CATEGORY	REF.	TASK ITEM
	2.7	Recognise examples of consensus mechanisms and their differences: proof of work, proof of stake, proof of authority.
3 Common Blockchain Examples	3.1	Recognise common examples of cryptocurrency and their uses.
	3.2	Recognise the concept of a smart contract and its uses.
	3.3	Recognise the concept of a non-fungible token and its uses.
4 Blockchain Adoption	4.1	Recognise some advantages of using blockchain like: improved security, enhanced transparency, traceability, increased efficiency and speed, automation.
	4.2	Recognise some disadvantages of using blockchain like: environmental impact, transaction limitations, market volatility, possible criminal uses.
	4.3	Consider potential uses, examples, and benefits of blockchain for different sectors like: healthcare, supply chain management, manufacturing, finance, retail.