ICDL
The Digital Skills Standard

ICDL PROFESSIONAL

INTERNET of THINGS

Syllabus 1.0

Syllabus Document

Purpose

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

Disclaimer

Although every care has been taken by ICDL Foundation in the preparation of this publication, no warranty is given by ICDL Foundation, as publisher, as to the completeness of the information contained within it and neither shall ICDL Foundation be responsible or liable for any errors, omissions, inaccuracies, loss or damage whatsoever arising by virtue of such information or any instructions or advice contained within this publication. Changes may be made by ICDL Foundation at its own discretion and at any time without notice.

Internet of Things Module

This module introduces the Internet of Things (IoT), which extends Internet connectivity from computers and related devices to other physical devices or common objects and leverages from technologies such as embedded systems, wireless sensors, and automation.

Module Goals

Successful candidates will be able to:

- Understand key concepts relating to Internet of Things (IoT), including common structure and requirements.
- Recognise examples of consumer, commercial, industrial, and infrastructural applications of IoT.
- Identify current trends in IoT, including the evolution of IoT components and the important role played by governance.
- Understand ethical, security, and interoperability considerations around adoption of IoT, and consider how IoT could be implemented in a given scenario.

CATEGORY	REF.	TASK ITEM
1 What is IoT	1.1	Define the term Internet of Things (IoT).
	1.2	Recognise the common structure of an IoT system: application, data processing, network, sensing.
	1.3	Identify physical components of an IoT system.
	1.4	Identify processing requirements in an IoT system.
	1.5	Recognise the origins and development of IoT.
2 IoT Examples	2.1	Recognise common examples of consumer and commercial IoT applications.
	2.2	Recognise common examples of industrial IoT applications.
	2.3	Recognise common examples of infrastructural IoT applications.
3 Trends in IoT	3.1	Recognise physical trends in the evolution of IoT like: miniturisation, ubiquity, scale.
	3.2	Recognise the increasing role of governance in the design of IoT systems.
4 IoT Adoption	4.1	Understand key ethical considerations that must inform adoption of IoT systems like: decision making, privacy.
	4.2	Understand security risks associated with adopting IoT systems.

CATEGORY	REF.	TASK ITEM
	4.3	Be aware of common interoperability challenges that may impact adoption of IoT systems.
	4.4	Consider the possible structure of an IoT system that could be implemented in a given scenario.