



The Digital Skills Standard

# ICDL PROFESSIONAL ARTIFICIAL INTELLIGENCE

Syllabus 1.0



**Syllabus Document**

**Purpose**

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

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# Artificial Intelligence Module

This module introduces the potential of artificial intelligence – the intelligence demonstrated by a machine when it perceives its environment and takes actions that maximise the likelihood of achieving specific goals.

## Module Goals

Successful candidates will be able to:

- Understand the term artificial intelligence (AI) and the steps in its evolution.
- Identify the key principles underlying it, and understand the terms machine learning, neural network, and deep learning.
- Recognise the utility of AI in organisations and society, and recognise common examples relating to data mining, image recognition, natural language processing, and decision making.
- Recognise the limits of AI, ethical considerations around its use, and the social and economic impact of AI.
- Consider the implications of AI for specific sectors and how it could be implemented in a given scenario or situation.

CATEGORY	REF.	TASK ITEM
<b>1 What is Artificial Intelligence (AI)</b>	1.1	Define the term artificial intelligence.
	1.2	Recognise three stages of artificial intelligence: narrow, general, super.
	1.3	Recognise key milestones in the development of artificial intelligence
<b>2 How does AI Work</b>	2.1	Identify key principles underpinning artificial intelligence: algorithms, complexity, heuristics.
	2.2	Define the term machine learning, and identify its key characteristics.
	2.3	Define the term neural network, and identify its key characteristics.
	2.4	Define the term deep learning, and identify its key characteristics.
<b>3 Common AI Examples</b>	3.1	Identify the need for artificial intelligence in organisations and society.
	3.2	Recognise common examples of how artificial intelligence supports data mining.
	3.3	Recognise common examples of how artificial intelligence supports image recognition.

CATEGORY	REF.	TASK ITEM
<b>4 AI Adoption: Challenges and Potential</b>	3.4	Recognise common examples of how artificial intelligence supports natural language processing.
	3.5	Recognise common examples of how artificial intelligence supports decision making.
	4.1	Recognise limits to artificial intelligence.
	4.2	Recognise ethical guidelines that should inform the operation of artificial intelligence: clarity and desirability of purpose, transparency, competence in operations.
	4.3	Recognise the social and economic impact of artificial intelligence.
	4.4	Consider the potential and implications of artificial intelligence for different sectors like: healthcare, law, journalism, finance.
	4.5	Consider the implications of adopting artificial intelligence in a given scenario.