# BCS Foundation in Artificial Intelligence Training

Duration: **3 Day**

BILGINC
IT Academy
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The BCS accredited Certificate in Artificial Intelligence Foundation course is our latest Artificial Intelligence training course. The course builds upon the basic knowledge of AI. Over the 3 days the course will take you from a basic understanding of AI to the ability to create your own AI product.

## Prerequisites

There are no entry requirements for this training

## What You Will Learn

1 Ethical and Sustainable Human and Artificial Intelligence (20%). Candidates will be able to:

- Recall the general definition of Human and Artificial Intelligence (AI)
- Describe the concept of intelligent agents.
- Describe a modern approach to Human logical levels of thinking using Robert Dilt's Model.
- Describe what are Ethics and Trustworthy AI
- Recall the general definition of Ethics.
- Recall that a Human Centric Ethical Purpose respects fundamental rights, principles and values
- Recall that Ethical Purpose AI is delivered using Trustworthy AI that is technically robust.
- Recall that the Human Centric Ethical Purpose Trustworthy AI is continually assessed and monitored.
- Describe the three fundamental areas of sustainability and the United Nation's seventeen sustainability goals.
- Describe how AI is part of 'Universal Design,' and 'The Fourth Industrial Revolution'.
- Understand that ML is a significant contribution to the growth of Artificial Intelligence.
- Describe 'learning from experience' and how it relates to Machine Learning (ML) (Tom Mitchell's explicit definition).
- Artificial Intelligence and Robotics (20%)
- Demonstrate understanding of the AI intelligent agent description
- List the four rational agent dependencies
- Describe agents in terms of performance measure, environment, actuators and sensors
- Describe four types of agent: reflex, model-based reflex, goal-based and utility-based.
- Identify the relationship of AI agents with Machine Learning (ML).
- Describe what a robot is.
- Describe robotic paradigms
- Describe what an intelligent robot is.
- Relate intelligent robotics to intelligent agents.
- Applying the benefits of AI – challenges and risks (15%)
- Describe how sustainability relates to human-centric ethical AI and how our values will drive our use of AI will change humans, society and organisations.
- Explain the benefits of Artificial Intelligence
- List advantages of machine and human and machine systems.
- Describe the challenges of Artificial Intelligence, and give the general ethical challenges AI raises, along with examples of the limitations of AI systems compared to human systems.
- Demonstrate understanding of the risks of AI project
- Give at least one a general example of the risks of AI
- Describe a typical AI project

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- Describe a domain expert
- Describe what is ‘fit-of-purpose’.
- Describe the difference between waterfall and agile projects.
- List opportunities for AI.
- Identify a typical funding source for AI projects and relate to the NASA Technology Readiness Levels (TRLs).
- Starting AI how to build a Machine Learning Toolbox – Theory and Practice (30%)
- Describe how we learn from data – functionality, software and hardware.
- List common open source machine learning functionality, software and hardware
- Describe introductory theory of Machine Learning.
- Describe typical tasks in the preparation of data.
- Describe typical types of Machine Learning Algorithms.
- Describe the typical methods of visualising data.
- Recall which typical, narrow AI capability is useful in ML and AI agents’ functionality.
- The Management, Roles and Responsibilities of humans and machines (15%)
- Demonstrate an understanding that Artificial Intelligence (in particular, Machine Learning) will drive humans and machines to work together.
- List future directions of humans and machines working together.
- Describe a ‘learning from experience’ Agile approach to projects
- Describe the type of team members needed for an Agile project.