Hewlett Packard Enterprise

Artificial Intelligence Foundation HQ7H8S

HPE course number	HQ7H8S
Course length	3 Days
Delivery mode	ILT, VILT
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*Realize Technology Value with Training, IDC Infographic 2037, sponsored by Hewlett Packard Enterprise, 2019

Artificial Intelligence (AI) is a methodology for using a non-human system to learn from experience and imitate human intelligent behavior.
This training covers the potential benefits and challenges of ethical and sustainable robust Artificial Intelligence (AI); the basic process of Machine Learning (ML) – Building a Machine Learning (ML) Toolkit; the challenges and risks associated with an AI project, and the future of AI and Humans in work. This course prepares for the EXIN BCS Artificial Intelligence Foundation certification

Audience

The EXIN BCS Artificial Intelligence Foundation certification is focused on individuals with an interest in (or need to implement) AI in an organization—especially those working in areas such as science, engineering, knowledge engineering, finance, education or IT services.

Course objectives

In this course, students will learn to:

- Describe how artificial intelligence (AI) is part of 'Universal Design' and 'The Fourth Industrial Revolution'
- Demonstrate understanding of the artificial intelligence (AI) intelligent agent description
- Explain the benefits of artificial intelligence (AI)
- Describe how we learn from data—functionality, software and hardware
- Demonstrate an understanding that artificial intelligence (AI) (in particular, machine learning—ML) will drive humans and machines to work together
- Describe a 'learning from experience' Agile approach to projects

Certifications and related examinations

The EXIN BCS Artificial Intelligence Foundation certification tests a candidate's knowledge and understanding of the terminology and general principles of AI. This Foundation certificate includes and expands on the knowledge taught in the EXIN BCS Essentials Certificate in Artificial Intelligence.

Detailed course outline

Introduction and Course Outline	• Course overview and structure • Exam information	• Daily schedule
Human and Artificial Intelligence—Part 1	• General definition of AI • Ethics • Sustainability	• AI as part of Universal Design and The Fourth Industrial Revolution • Challenges and risks
Exercise 1	• Opportunities for AI	
Human and Artificial Intelligence—Part 2	• Learning from experience • Applying the benefits of AI	• Opportunities
Ethics and Sustainability – Trustworthy AI—Part 1	• Roles and responsibilities of humans and machines	
Ethics and Sustainability – Trustworthy AI—Part 2	• Trustworthy AI	
Sustainability, Universal Design, Fourth Industrial Revolution and Machine Learning	• Learning from data, functionality, software and hardware	
Exercise Two	• Ethics and sustainability	
Artificial Intelligent Agents and Robotics	• AI intelligent agent description • What a robot is	• What an intelligent robot is
Being Human, Conscious, Competent and Adaptable	• AI project teams	• Modelling humans
Exercise Three	• Human plus machine mindmap	
What is a Robot?	• Definition of a robot	• Robot paradigm
Applying the Benefits of AI	• Benefits, challenges and risks	
Applying the Benefits of AI	• Opportunities and funding	
Building a Machine Learning Toolbox	• How do we learn from data?	
Building a Machine Learning Toolbox	• Types of machine learning	
Exercise Four	• Define a simple ML problem	
Building a Machine Learning Toolbox – Two Case Studies		

Building a Machine Learning Toolbox	• Introduction to probability and statistics	
Building a Machine Learning Toolbox	• Introduction to linear algebra and vector calculus	
Building a Machine Learning Toolbox	• Visualising data	
A Simple Neural Network Schematic	• Introduction to neural networks	
Exercise Five	• Maturity and funding of an AI system	
Open Source ML and Robotic Systems	• Open source software for AI and robotics	
Machine Learning and Consciousness	• Introduction to machine learning and consciousness	
The Future of Artificial Intelligence	• The human + machine	• What will drive humans and machines to work together
Exercise Six	• Explore the future opportunities for AI and human systems	
Learning from Experience	• Agile projects	
Conclusion		
Exam Practice and Preparation		
Examination		

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