

## **COURSE DURATION**

14 hours

## **COURSE SYNOPSIS**

This course is targeted towards those in the manufacturing sector. The learners will learn about key technological advances that are impacting or will impact the sector. There will be interactive experiences for learners to engage with technologies e.g. chatbots, 3D printing, Virtual Reality using goggles and mobile apps usage. Learners will be introduced to security risks associated with using emerging technologies and how they can mitigate these risks.

Learners will understand and apply digital tools for the manufacturing sector such as additive manufacturing, augmented reality, use analytics to understand operational insights and to use AI and robotic tools in a manufacturing environment.

## **LEARNING OUTCOMES**

By the end of this course, learners will be able to:

- State the jobs and digital skills required in the current and future digital economy
- Describe the work requirements in a technology-rich environment and know the associated cybersecurity risks
- Identify various digital applications and tools in work applications, including widely applicable national and sectoral platforms
- Suggest how data and information can be used
- Perform functional outcomes such as the use of digital tools and software to access various learning paths and content
- Develop a post-course action plan to continue learning (i.e., to identify courses that would allow participants to further deepen their skills in the four key areas).

## **TRAINING METHODOLOGY**

- Interactive lecture
- Group discussion
- Hands-on activity
- Tech-enabled learning through Chatbots and Online Quiz

## **ASSUMED SKILLS**

- Learners must be able to read, write, speak and understand English at Secondary school level
  - Learners to have minimum GCE 'O' level or ITE certificate education
  - Learner should have at least 1 year's working experience in any industry
  - Learners must be able to operate a personal computer, use keyboard and mouse
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## **COURSE CONTENT**

### **Learning Unit 1: Data Analytics**

- Introduction
- Importance of Data Analytics in the current and future digital economy for the Manufacturing Sector
- Ensuring data is stored anonymously
- Digital Skills and Jobs Awareness for the Manufacturing Sector

### **Learning Unit 2: Automation**

- Introduction to Automation in The Manufacturing Sector
- Programmable Automation
- Using Power Automate to improve workflow productivity
- Application of Artificial Intelligence in The Manufacturing Sector
- Generative Artificial Intelligence such as ChatGPT
- Conversational Automation in The Manufacturing Sector
- Autonomous Robots Use for Manufacturing Sector

### **Learning Unit 3: Cybersecurity Risk**

- Introduction to Cybersecurity Risk
- Areas of cybersecurity risk and its implication and effect to the individual and manufacturing sector
- How to mitigate cybersecurity risks? (physical, software, policy and regulatory)

### **Learning Unit 4: In-demand Digital Tools**

- Introduction to Digital Tools for The Manufacturing Sector
- Nationally Launched Applications
- Using VR and AR
- Enhancing Productivity and Efficiency with Autonomous Visual Recognition Robot
- Introduction to Digital Banks
- Explore Upcoming Digital Technology and Impact on How We Work, Live and Interact