COURSE DURATION

14 hours

COURSE SYNOPSIS

This course is targeted towards those working in the Built Environment sector. We will cover the technological advances that are impacting or will impact the sector. In this course, we will help learners to understand the implication of various technology advancement and digital tools that will affect how the built environment sector operates and how it affects the manpower skills required.

Learners will be introduced to competencies such as analytics to understand construction defects and to use digital tools regarding additive manufacturing like 3D printing for construction, augmented reality using goggles at the worksite.

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

COURSE CONTENT

Learning Unit 1: Data Analytics

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

Learning Unit 2: Automation

- Introduction to Automation in the Built Environment sector
- Programmable Automation (3D printing and additive manufacturing tools)
- Using Power Automate to improve work process productivity
- Artificial Intelligence in the Built Environment sector
- Generative Artificial Intelligence such as ChatGPT
- Conversational Automation
- Autonomous Robots
- Future trends for automation in the Built Environment sector

Learning Unit 3: Cybersecurity Risk

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

Learning Unit 4: In-demand Digital Tools

- Introduction to Additive Built Environment
- Nationally launched applications
- How the tools are used in Built Environment industry
- Introduction to Digital Banks
- Explore upcoming digital technology and impact on how we work, live and interact