

# Topic Synopsis

## 1. Certificate in Essential Skills to Enhance Employability

This certificate covers essential communication areas which include emotional intelligence (EQ), digital marketing and essential job search skills. It introduces key concepts in the areas of data and visual analytics using Power BI, statistics and cyber security. It introduces key concepts in the areas of data and visual analytics using Power BI, statistics and cyber security.

### **Topic 1: Emotional Intelligence (EQ) for Career Decision Making**

This 2 days' workshop is an enhanced training in which participants will acquire job-seeking related skills, capabilities and the ability to expand employment opportunities.

Emotional Intelligence (EQ) facilitates career decision-making process and leads to decisions that can achieve greater satisfy career-related interests, values, and aspirations. Emotions experienced during this process have implications for the perception of risk related to specific career options, the kind of self-exploration individuals will engage in, and how information related to career choice will be processed.

Through EQ, participants will be able to cope and learn to manage one's self-awareness which affect their overall well-being and decision making.

### **Topic 2: Getting ready for Your Next Job**

This course equips participants with the essential job search skills, knowledge and tools that will allow them to present themselves positively on paper, in person and on professional networking sites.

Participants will learn how to craft resumes that get the attention of prospective employers and recruiters and pivot their experiences to succeed and leave a good impression at job interviews (face-to-face or digital). This course also helps jobseekers to get started on using the popular professional networking site, LinkedIn, to create a professional brand for job search and networking.

### **Topic 3: Digital Marketing with Personal Branding**

This course introduces students to tools for establishing a personal brand online and importance of establishing digital marketing strategy to promote their own personal brand.

### **Topic 4: Visual Analytics using Power BI**

The course aims to equip the participant with the following:

**Knowledge and Understanding:** An understanding of how a dashboard works; its advantages and disadvantages and how it will be useful at workplaces.

**Intellectual skills:** How to apply the knowledge received during the course in developing the dashboard and using DAX functions, filters etc.

**Practical skills:** Participants will be developing their own dashboard. This exercise will enable them to show their creativity, skills obtained from the course and a satisfaction from attending the Power BI course.

Transferable skills and personal qualities: The knowledge and skills acquired from this course can be used at workplaces especially for those involved in KPI reporting, dashboard development or someone who have regular management meetings.

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

- Upload data & and create data models
- Use DAX functions to enhance dashboards
- Associate links between variables for visual and descriptive analytics
- Find hindsight and insights from dashboard

### **Topic 5: Cyber Security for Non-IT Professionals**

The objectives of the course is to create awareness and understanding of common cyber threats, both at home and at work. Typical mitigation methods will be discussed to help participants make better use of the available cyber security tools to protect themselves against cyber adversaries.

Upon completion of this course participants will be able to:

- Relate what is Cyber Security what are at stake
- Examine common threats (e.g. Phishing, malware)
- Use common mitigation methods
- Use basic wireless and smartphone security
- Outline security related laws (e.g. PDPA, CMA)

## **2. Certificate in Electrical & Digital Circuit Fundamentals**

It covers the fundamentals of electrical and digital principles to provide foundation knowledge for subsequent modular certificates.

### **Topic 1: Electrical Principles**

Covers the basic laws and theorems that govern the operation of electrical circuits. Topics covered include scientific notation, engineering notation, metric prefixes, definitions of energy and power, power sources, measuring instruments, DC and AC concepts, simple series and parallel networks, electromagnetism, inductor, inductance, transformers, Kirchhoff's Voltage and Current Laws, Current and Voltage Divider Rules.

### **Topic 2: Digital Principles**

Covers the principles and design techniques to enable students to design simple combinational circuits using commercial SSI and MSI integrated circuits. Simple sequential logic circuits such as flip-flops and mono-stables are also introduced.

## **3. Certificate in Electronics**

It covers the fundamentals of Analog and Digital Electronics to provide foundation knowledge to appreciate the role of technology in engineering firms.

### **Topic 1: Analog Electronics**

Builds upon and extends the fundamentals covered in Electrical Principles. Topics covered include capacitor, capacitance, Superposition Theorem, semiconductor physics, semiconductor

devices such as diodes, special diodes and bipolar transistors, transducers such as thermistors, and application of operational amplifiers.

**Topic 2: Digital Electronics**

Builds upon and extends the fundamentals covered in Digital Principles. More complex circuits such as adders, multiplexers/de-multiplexers, decoders/encoders, counters and shift registers are covered.

**4. Certificate in Job Specialisation for Computer Engineering Specialist**

This certificate equips participants with the fundamental concepts of IOT and trains the necessary skills required for creating an IOT application. Topics include sensors, communication, networking, cloud computing, data analytics and mobile application development. Python programming will be taught and used to read sensors and control IOT devices.

**Topic 1: Python Programming for IoT (Internet of Things)**

This module aims to equip students with basic Python programming knowledge and skills. The students will learn to use the programming language for various IoT related applications. The topics include physical computing, sensor data collection, storage, visualisation, analytics and sending data to the cloud, setting up a web server and creating a GUI. These will enable them to use Python programming in their work and project.

**Topic 2: Fundamentals of IoT (Internet of Things)**

This module aims to equip students with key concepts and skills in various technologies required for an IoT application, such as sensors, communication, networking, Cloud computing, data analytics and mobile app development. These will enable them to work on IoT related project in their work or studies.