From Data to Visualisation

Course Synopsis:

Preparing data is the most time consuming but most important part of an analytics project. Data visualisation provides a powerful way to communicate data-driven insights and discover patterns to detect anomalies. Through this course, learners will develop competencies in transforming raw data into appropriate format for building interactive and effective visualisations that address diverse needs and expectations of the key stakeholders. Learners will also be competent to perform data exploratory analysis to discover patterns and trends.

Learning Objectives:

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

1. Perform data preprocessing techniques to impute data format, transform, reshape and protect the data in accordance with the business requirements and data protection principles.
2. Develop interactive and effective visualisations with a global perspective to address international and cultural differences, diverse needs and expectations of the key stakeholders using visualisation tools.
3. Perform data exploratory analysis to identify underlying data patterns, trends and analytical insights using visualisation tools.

Course Duration:

3 days

Analytical Software:

- Microsoft Excel
- Power BI / Tableau / QlikSense

Course Fee:

This is a course under the SkillsFuture Series. The course fee and subsidy table as follows (exclude GST):

Course Name	Total Programme Fee	Singapore Citizen < 40 yrs old and Permanent Residents	Singapore Citizens ≥ 40 yrs old	Singapore Citizens and Permanent Residents under PR
From Data to Visualisation	$650.00	$195.00	$65.00	$65.00

The course fee is inclusive of venue and course materials. Certificate of completion will be provided for participants who have attended 75% of the course.

Course Programme:

Program	
Day 1	**Introduction to Business Analytics** - Overview of business analytics process and methodology - Understand the phases of Data Analytics Lifecycle (CRISP-DM) - Discuss on the influence of data in our daily life and disciplines
	Descriptive Statistics - Descriptive vs Inferential statistics - Types of data (quantitative vs qualitative) and level of measurement - Central tendency (mean, median, mode) - Shape of distributions, deviation, variance and standard deviation <u>Lab 1:</u> - Descriptive statistics using Excel
	Data Preparation Techniques - What leads to poor data and its impact - Understand the data extraction, transformation and loading (ETL) processes - Data sources, data meta data and dictionary - Handle common data issues: missing data, duplicate data, masking data etc <u>Lab 2:</u> - Data Preparation using Excel - Data Preparation using Power Query
Day 2	**Introduction to Visualisation and Tool** **Basic Visualisation Techniques** **Preparing data for analysis** <u>Lab 3:</u> - Importing data from external data sources - Combine multiple tables into a single table - Profile data

Program		

		Visualising Data
		Lab 4:
		- Add visualisation items to reports
		- Choose an effective visualisation
		  * table and matrix
		  * bar and columns chart
		  * line an area charts
		  * pie chart, donut chart, and treemaps
		  * combo charts
		  * card visualisation
		  * funnel visualisation
		  * gauge chart
		  * waterfall chart
		  * scatter chart
		  * slicer visualisation
		  * Q&A visualisation *(depend on selected analytical software)*
		- Format and configure visualisations

Day 3		**Visualising Data** Lab 5: - Import custom visual - Work with key performance indicators
		Create data-driven story - Best practices for dashboard/report design - MICE Framework for Data Visualisation Lab 6: - Design report layout - Design report navigation - Use basic interactions - Publish and export reports
		Try-it-yourself activity