

Big Data Analytics: Essentials for Smart-City

This essential **Big Data Analytics** course allows participants to learn and apply Business Intelligence Analysis in Smart-City. Participants will get to understand Big Data concepts and the use of Big Data Map Reduce Techniques which can help on efficient information dissemination. They will also learn about the practical use of Analytics on Large-Scale Document Management System, Monitoring IoT Devices, Smart Meter and Smart Drainage to enhance their project management skills for Smart-City.

Programme code	10009833
Date and time	21 – 22 May 2020 (Thurs & Fri) 09:30 – 17:00
Venue	1/F, HKPC Building, 78 Tat Chee Avenue, Kowloon Tong
Medium	Cantonese (English terms will be used where appropriate)
Course fee	HK\$4,800
Remarks	Duration: 6 hours per day, total 12 lecture hours

Award the “Diploma in Big Data Analytics”

In addition to this programme, participants have to complete a total 60 learning hours (any 4 workshops including below), with 75% attendance and pass the assessment will be awarded the **“Diploma in Big Data Analytics”**:

1. Big Data Analytics: Data Science By R for Business and Internet+
2. Big Data Analytics: High Speed Searching & Micro-Services
3. Big Data Analytics: Internet of Things Sensor Data and Time Series Analysis
4. Big Data Advanced Artificial Intelligence: Deep Learning and Application

Award prerequisites for **“Diploma in Big Data Analytics”**:

1. Certificate Holder in related areas; or
2. Grade E or above in five subjects in HKCEE or equivalent; or
3. Five passes plus Level 2 or above in English and Chinese in HKCEE or equivalent; or
4. Level 2 in five subjects in HKDSE or equivalent: or
5. Mature student for diploma courses must be 18 years old or above and with 2 years or above working experience.

Course Outline

1. Introduction to Big Data Analytics

- What is Big Data?
- What is Big Data Analytics?
- Trends and History
- Business Driver and Motivation

2. Big Data Analytics on Smart City Application

- What is Smart-City?
- Examples of Analytics in Smart-City

3. Project Management

- Project Management Process
- Typical Architecture of Big Data Analytics
- Deployment Concerns and Consideration
- Project Management checklist

4. Big Data Basics

- High-Level Architecture of Hadoop
- Introduction to Big Data HDFS
- Basic Building Blocks of Big Data Computation
- Installation of Hadoop
- Basic Hadoop Administration
- Distributed Computations on Hadoop
- What is Map-Reduce?
- Map-Reduce Example-Simple Counting Examples

5. Business Intelligence

- What is Business Intelligence?
- Basic Use of BI Tools
- Case Study Examples
- Connecting BI with Big Data Architecture

6. Basic Machine Learning Algorithms

- Basic Running of Machine Learning Algorithms
- Statistical Techniques: Clustering
- Practical Examples of Clustering Examples
- Statistical Techniques: Classifier
- Practical Examples of Classifiers Examples

7. Case Study: Analytics on Large-scale Document Management System

- Document Management System
- Practical Exercise
- Practical Project Planning

8. Case Study: Internet Of Things Devices Monitoring Analytics

- Device Log Monitoring
- Machine Log Management System
- Abnormality analytics
- Practical Exercise
- Practical Project Planning

9. Case Study: Storage and Searching of Public Image/Video

- Storage of Unstructured Data
- Big Data Storage
- Big Data Image Retrieval
- Big Data Video Retrieval

10. Case Study: Smart Meter and Smart Drainage Analytics

- Energy Optimization
- Monitoring and Alert
- Practical Exercise
- Practical Project Planning

11. Case Study: Analytics and Cloud Integration

- Public Cloud in Smart City
- Interoperability with different public clouds

Award of Certificate

Participants who have completed 100% attendance will be awarded a certificate of attendance issued by the Hong Kong Productivity Council.

Instructor: Mr. LEE Chi Man, Alan

Mr. LEE Chi Man, Alan held a senior management role in the technology division of an investment bank, overseeing the corporate strategy, product development and production management for more than 14 years. With extensive IT background, Mr Lee possesses practical project experience on sophisticated analytics and large-scale global technology project management. He also has rich training experience in the design and delivery of Big Data analytics, Fintech and Blockchain Technologies and Applications.

Enrolment method

1. Scan the QR code to complete the enrolment and payment online.
2. Mail the crossed cheque with payee name "Hong Kong Productivity Council" (in HK dollar) and the application form should be mailed to:
Hong Kong Productivity Council, 3/F, HKPC Building, 78 Tat Chee Avenue, Kowloon (attention to Ms. Winnie SER). Please indicate the course name and course code on the envelope. [Enrolment form can be downloaded at <https://www.hkpcacademy.org>]

