

# ICDL Data Analytics – Foundation



COURSE DURATION

**16 Hrs**



MODE OF TRAINING

**Classroom**

The ICDL Data Analytics – Foundation module sets out essential knowledge and skills relating to data analytics concepts, statistical analysis, data set preparation, data set summarisation and data visualisation.

## Course Objectives

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

- Understand the key concepts relating to the application of data analytics in business.
- Understand and apply key statistical analysis concepts.
- Import data into a spreadsheet and prepare it for analysis using data cleansing and filtering techniques.
- Summarise data sets using pivot tables and pivot charts.
- Understand and apply data visualization techniques and tools.
- Create and share reports and dashboards in a data visualization tool

## Who Is This Course For

- Data scientists, finance/accounting professionals, consultants, project managers, administrators and
- other professions who require some knowledge of data management and analysis.



FULL FEE

**\$490**

(Subject to 9% GST)



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## Course Content

### 1 Concepts and Statistical Analysis

#### 1.1 Key Concepts

- Identify the main types of data analytics: descriptive, diagnostic, predictive, prescriptive, quantitative, qualitative.
- Outline the business benefits of data analytics: identifies patterns/trends, improves efficiency, supports decision making, presents information effectively.
- Identify the main phases of data analysis: business understanding, data understanding, data preparation, modelling, evaluation, deployment.
- Recognise data protection considerations when analysing data like: anonymise personal data if possible, comply with applicable data protection regulations.

#### 1.2 Statistical Analysis

- Describe measures of central tendency of a data set: mean, median, mode.
- Calculate the central tendency value of a data set using a function: mean, median, mode.
- Describe measures of variation of a data set: quartiles, variance, range.
- Calculate the variation of a data set: quartile, variance, range.

### 2 Data Set Preparation

#### 2.1 Importing, Shaping

- Import data into a spreadsheet application: .csv file, spreadsheet, website table, database table.
- Remove duplicate data.
- Validate that given values belong to a reference data set using the vlookup function.
- Validate that given values belong to a specified range using one or more if functions.
- Extract values from a string using text functions: left, right, len, mid, find.

#### 2.2 Filtering

- Format a data set as a built-in table.
- Insert and use table slicers.

### 3 Data Set Summarisation

#### 3.1 Pivot Table Data Aggregation

- Change the method of aggregation for a value: sum, average, count, minimum, maximum.

- Display multiple aggregation values.
- Display values as: % calculation, difference from specific values, running total, ranked.

#### 3.2 Pivot Table Frequency Analysis

- Automatically, manually group data and rename groups.
- Ungroup data.

#### 3.3 Filtering Pivot Tables

- Use the report filter
- Insert and use slicers to filter single, multiple pivot tables.

- Insert and filter a timeline

#### 3.4 Using Pivot Charts

- Insert a pivot chart for an existing pivot table.
- Create a pivot chart from fields in a data set.

### 4 Data Visualization

#### 4.1 Concepts and Setup

- Understand the concept of data visualization using reports and dashboards. Outline common visualizations like: charts, key performance indicators (KPIs), maps.
- Recognise common data visualization tools and their functions like: visualise data, publish and share business intelligence.
- Understand good design practice in reports and dashboards like: clean and uncluttered layout, descriptive titles, consistent fonts and colour, use of colour for emphasis and understanding.

- Import a data set from a spreadsheet into a data visualization tool and save the file.

#### 4.2 Visualization

- Create tables in a report.
- Visualise data as a chart: column, bar, line, pie.
- Apply, edit font and background conditional formatting to show: high/low values, above/below average values.
- Apply, edit data bars.
- Apply, edit visual level filters.

#### 4.3 Publishing and Sharing

- Publish a report.
- Create a dashboard.
- Share a report, dashboard using a link. Share a report to web

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