

## [ICDL-DA] ICDL Data Analytics

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|-----------------|---|
| Length          | : 16 (hours) / 2 (days)   |
| Audience(s)     | : Anyone interested in developing data analysis skills            |
| Delivery Method | : Instructor-led (Classroom) with hands-on exercises on computers |
| Technology      | : Microsoft Excel and Power BI Desktop                            |

### Course Overview

This module gives you the essential knowledge and skills relating to key data analytics concepts, statistical analysis, data set summarisation and data visualization. Developed with input from subject matter experts, it develops a knowledge of key concepts and a practical understanding of how to use data analytics in business. Once you have developed the skills and knowledge set out in this course, you will be able to become certified in an international standard in this area – ICDL Data Analytics – Foundation.

### Course Objectives

- 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.

### Pre-Requisites

Proficient in using a Microsoft Windows computer and spreadsheet software

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## Course Outline

### **Lesson 1 – Key Concepts**

- Types of Data Analytics
- Business Benefits
- Data Analysis Process
- Data Protection Considerations
- Review Exercise

### **Lesson 2 – Statistical Analysis**

- Summary Statistics Introduction
- Measures of Central Tendency
- Calculating Central Tendency
- Measures of Variation
- Calculating Variation
- Review Exercise

### **Lesson 3 – Importing Data Sets**

- Importing Data Sets Introduction
- Importing Data from Text Files
- Importing Data from Spreadsheets
- Importing Data from Website Tables
- Importing Data from Database Tables
- Review Exercise

### **Lesson 4 – Shaping Data Sets**

- Shaping Data Sets Introduction
- Removing Duplicate Data
- Validating Data Using VLOOKUP
- Validating Data using IF Functions
- Extracting Values using Text Functions
- Review Exercise

### **Lesson 4 – Shaping Data Sets (Continuation)**

- Shaping Data Sets Introduction
- Removing Duplicate Data
- Validating Data Using VLOOKUP
- Validating Data using IF Functions
- Extracting Values using Text Functions
- Review Exercise

### **Lesson 5 - Filtering Data Sets**

- Formatting Data Sets as Tables
- Using Table Slicers
- Review Exercise

### **Lesson 6 – Pivot Table Data Aggregation**

- Summarising Data Introduction
- Changing Aggregation Methods
- Displaying Multiple Aggregation Values
- Using Built-In Calculations
- Review Exercise

### **Lesson 7 – Pivot Table Frequency Analysis**

- Grouping Date, Time and Numeric Data
- Creating Custom Groups
- Ungrouping Data
- Review Exercise

### **Lesson 8 – Filtering Pivot Tables**

- Using Report Filters
- Using Pivot Table Slicers
- Using Timelines
- Review Exercise

### **Lesson 9 – Using Pivot Charts**

- Inserting Pivot Charts from Pivot Tables
- Creating Pivot Charts from Tables
- Review Exercise

### **Lesson 10 – Data Visualization Tools**

- Key Features of Data Visualization Tools
- Data Visualization Tools Setup
- Visualization Tool Environment
- Importing Data Sets from Spreadsheets
- Review Exercise

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**Lesson 11 – Creating Basic Data****Visualizations**

- Creating Table Visualizations
- Creating Chart Visualizations
- Enhancing Visualizations Using Conditional Formatting
- Enhancing Visualizations Using Visual Level Filters
- Creating Visualizations Using Maps
- Review Exercise

**Lesson 12 – Creating Additional Data****Visualizations**

- Creating Visualizations to Measure Progress
- Creating Card Visualizations
- Creating Matrix Visualizations
- Adding Interactivity Using Slicers
- Review Exercise

**Lesson 13 – Publishing and Sharing**

- Creating and Preparing to Share Reports
- Publishing and Sharing Reports
- Creating Dashboards
- Sharing Dashboards
- Good Design Practice
- Evaluating Results
- Review Exercise

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