

DataNOW Masterclass:

# Data Analytics with Python

Instructor
Jairie Q. Canupin, LPT





### Content



#### **Course Title:**

DataNOW Masterclass Data Analytics with Python

#### **Duration:**

7 sessions (3 hours per each)

#### **Target Audience:**

Aspiring data analysts, business intelligence professionals, software developers, and individuals interested in leveraging Python for data analysis and visualization.



### Content

#### **Mission Alignment:**

This course aims to empower participants by providing hands-on, practical experience in Python for data analytics, ensuring they acquire the skills to extract, clean, analyze, and visualize data efficiently.

#### **Vision Alignment:**

Through this masterclass, we aspire to create a community of data-driven professionals capable of making informed decisions that drive business success.



### Content



- **Dedication:** Sessions are designed to provide maximum value and practical exposure.
- Accessibility: The masterclass is structured to be affordable and accessible to all skill levels.
- Transparency: Clear explanations and real-world applications ensure practical learning.
- Adaptability: The syllabus integrates current industry trends and emerging technologies.
- **Nurturing:** A collaborative learning environment promotes knowledge sharing and mentorship.
- Optimization: The curriculum is continuously refined for better learning outcomes.
- Workmanship: Emphasizing best practices and effective methodologies in data analytics.





### Course Overview

DataNOW Masterclass: Data Analytics with Python





## Week 0: Course Introduction

Duration: 45 minutes

1. Welcome and Introduction

2. Overview of the Course Structure and Objectives

3. Participant Introductions



# Week 1: Foundations of Python for Data Analytics

#### **Session 1:**

Course Overview & What is Python?

#### **Session 3:**

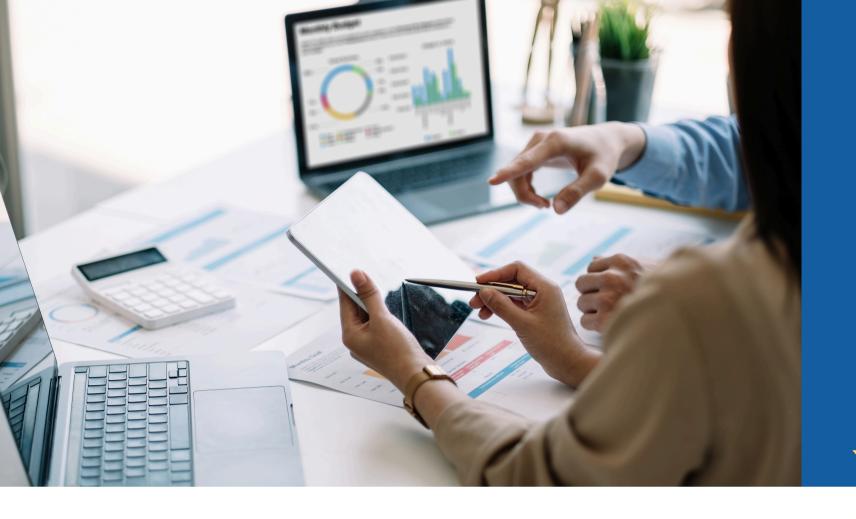
Input, Output, and Basic Debugging

#### **Session 2:**

Variables, Data Types, and Operations

#### **Weekly Activity:**

Create a basic calculator program and a flowchart for its logic using Python.



# Week 2: Control Flow and Iterative Processes

**Session 1:** 

**Conditional Statements** 

**Session 2:** 

Loops and Iteration

**Session 3:** 

Combining Conditions and Loops

#### **Weekly Activity:**

Develop a menu-driven calculator using loops and conditions that allows the user to perform multiple operations (add, subtract, multiply, divide) until they choose to exit.



## Week 3: Functions and Data Structures

**Session 1:** 

**Functions** 

**Session 2:** 

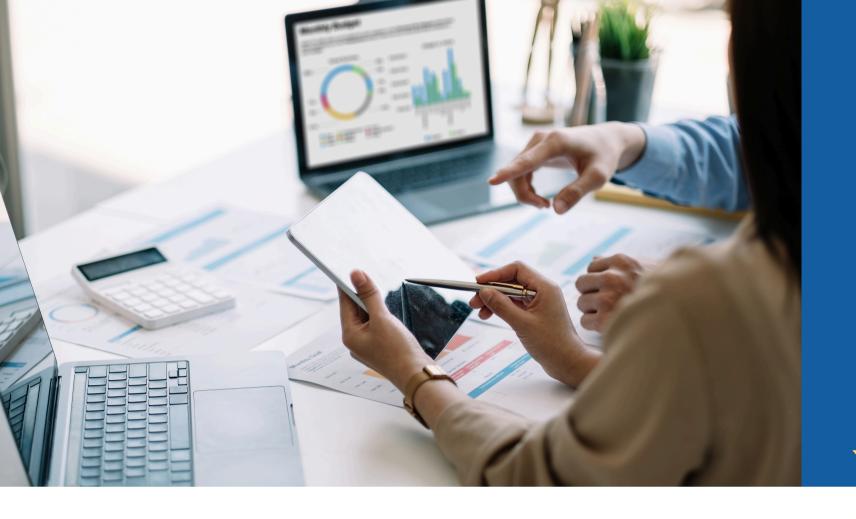
Lists and Tuples

**Session 3:** 

Dictionaries and Sets

#### **Weekly Activity:**

Create a program using lists to generate and manage a simple task list where users can add, remove, or mark tasks as completed.



## Week 4: File Handling and Managing Real Data

**Session 1:** 

Reading and Writing Files

**Session 2:** 

**Error and Exception Handling** 

**Session 3:** 

Working with CSV Files

#### **Weekly Activity:**

Create a script that reads a text file and counts the frequency of each word in it, handling exceptions for invalid files or missing data gracefully.



# Week 5: Data Wrangling and Preprocessing

#### **Session 1:**

Introduction to Pandas for Data Analysis

#### **Session 2:**

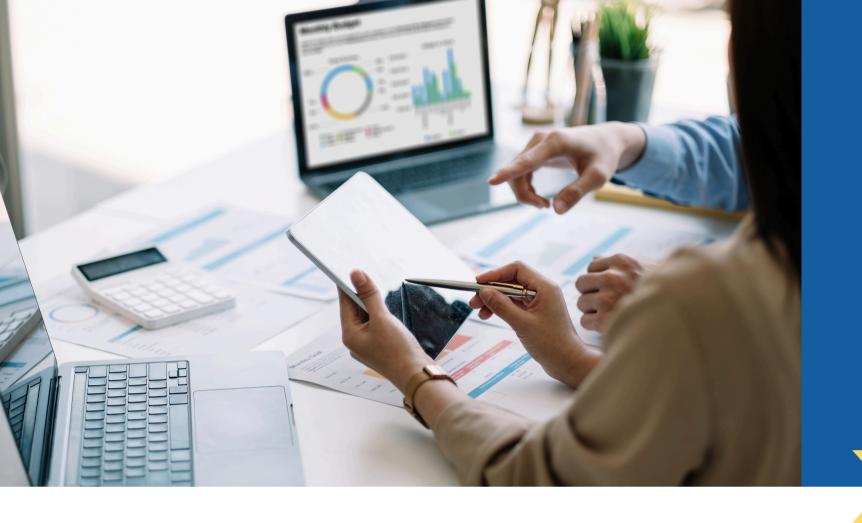
Data Cleaning Techniques, Data Manipulation and Aggregation

#### **Session 3:**

Working with APIs and Web Scraping

#### **Weekly Activity:**

Fetch data from an open API and process it using Pandas. Scrape data from a simple webpage and save it to a csv file



# Week 6: Exploratory Data Analysis (EDA) and Visualization

#### **Session 1:**

Fundamentals of EDA

#### **Session 2:**

Visualization with Matplotlib

#### **Session 3:**

Advanced Visualization with Seaborn

#### **Weekly Activity:**

Using the cleaned dataset from Week 5: Generate visualizations such as histograms, bar plots, and scatter plots to explore data trends and relationships.



## Week 7: Capstone Project and Beyond

#### **Session 1:**

**Project Implementation** 

#### **Session 2:**

Visualization and Storytelling

#### **Session 3:**

Final Project Presentation

#### **Weekly Activity:**

Prepare and present a final capstone project.



## Assessment and Certification

- Participants must complete hands-on exercises and submit a final project.
- A certificate of completion will be awarded upon successful completion of the course.









### Contact Us

www.datanow.ph



+63 995 799 4194



Makati City



info@datanow.ph

