

# Python Level 2 - Course Structure (45 Sessions)

This curriculum outlines a 45-session course designed to build on intermediate Python skills, focusing on advanced functions, data structures, and data analysis/visualization using popular Python libraries.

The course is structured into four main modules, as detailed in the following table:

Module	Sessions	Topic
<b>Module 1</b>	1-9	Advanced Functions & Tkinter
Session 1		Recap of Functions
Session 2		Introduction to Advanced Tkinter
Session 3		Building a Simple Tkinter App
Session 4		Diving into Recursion
Session 5		Searching Techniques in Python
Session 6		Introduction to Sorting Techniques
Session 7		Advanced Sorting Techniques
Session 8		Practice Session: Algorithms in Action
Session 9		Interactive Application Development
<b>Module 2</b>	10-21	Advanced Data Structures
Session 10		Introduction to Stacks
Session 11		Introduction to Queues

Module	Sessions	Topic
Session 12		Linked Lists - Part 1 (Concept & Implementation)
Session 13		Linked Lists - Part 2 (Additional Operations)
Session 14		Practice Session: Linked List Challenges
Session 15		Divide and Conquer Techniques
Session 16		Advanced Divide and Conquer Strategies
Session 17		Introduction to Binary Trees
Session 18		Advanced Binary Tree Operations
Session 19		Practice Session: Tree Challenges
Session 20		Tree-Based Game Development Techniques
Session 21		Advanced Algorithm Development
<b>Module 3</b>	22-32	Statistics and Dataframes
Session 22		Introduction to Statistics in Python
Session 23		Probability and Data Handling Techniques
Session 24		Series: Creation, Accessing & Modifying
Session 25		Introduction to DataFrames and Indexing
Session 26		Adding & Removing Rows and Columns

Module	Sessions	Topic
Session 27		Handling Missing Data Effectively
Session 28		Combining and Merging DataFrames
Session 29		Custom Functions for Data Operations
Session 30		Grouping and Aggregation Techniques
Session 31		Practice Session: Advanced Pandas Techniques
Session 32		Interactive Dashboard Development Techniques
<b>Module 4</b>	<b>33-45</b>	<b>Visualization Techniques</b>
Session 33		Introduction to Seaborn and Matplotlib
Session 34		Univariate Plot Techniques (Histograms & Distributions)
Session 35		Advanced Univariate Plot Techniques and Styling
Session 36		Introduction to Bivariate Plots and Correlation
Session 37		Advanced Bivariate Plot Techniques
Session 38		Introduction to Categorical Plots
Session 39		Advanced Categorical Plot Techniques
Session 40		Practice Session: Complex Visualization Techniques
Session 41		Data Storytelling Techniques

Module	Sessions	Topic
Session 42		Final Project Part 1: Architecture & Design
Session 43		Final Project Part 2: Visualization & Analysis
Session 44		Final Project Part 3: Application Development Techniques
Session 45		Final Project Part 4: Presentation & Demo Techniques