Reasonix®

REASONIX PY30 • PROFESSIONAL TRAINING COURSE

APPLIED PYTHON PROGRAMMING

From First Line of Code to Practical Problem Solving

Python • Jupyter • Problem Solving • Files & Data • Mini Applications

A 30-hour, practice-first pathway that develops confident Python programming through live coding, guided exercises, debugging, and practical applications for data, automation, and AI-ready workflows.

30	2 + 28	2
TOTAL TRAINING HOURS	THEORY + PRACTICAL HOURS	PORTFOLIO PROJECTS

COURSE OVERVIEW

Reasonix PY30 is a focused, standalone programme for building a reliable Python foundation. Learners work in Jupyter or Colab and progress from variables and program flow to functions, data structures, text processing, files, exceptions, and modular code.

Short explanations are followed by live coding, guided challenges, and debugging. The goal is to translate practical problems into clear, testable, and maintainable Python programmes.

WHAT PARTICIPANTS WILL BE ABLE TO DO

- set up and work effectively in Jupyter Notebook or Google Colab;
- write Python programmes using variables, data types, expressions, conditions, and loops;
- design reusable functions and organise code into clear, logical units;
- select and use strings, lists, tuples, sets, dictionaries, and comprehensions;
- read and write text, CSV, and JSON data using safe file-handling practices;
- trace program execution, handle exceptions, and debug common errors systematically;
- build, document, and present two portfolio-ready Python applications.

THE 30-HOUR LEARNING PATH

Six practice-led modules, sequenced from first principles to independent application building.

1	**Python Setup & Core Syntax** Jupyter, Colab, variables, types, expressions, input/output	4 H
2	**Control Flow & Problem Solving** Conditions, loops, tracing, decomposition, coding patterns	6 H
3	**Functions & Code Organisation** Parameters, return values, scope, modules, reusable code	5 H
4	**Data Structures & Text Processing** Lists, tuples, sets, dictionaries, strings, comprehensions	6 H
5	**Files, Errors & Data Handling** Paths, text, CSV, JSON, exceptions, systematic debugging	5 H
6	**Applied Projects & Final Challenge** Plan, implement, test, document, demonstrate, improve	4 H

WHO SHOULD ATTEND

Beginners, students, graduates, employees, analysts, and aspiring data/AI learners seeking a structured, practical introduction to Python.

ENTRY REQUIREMENTS

No prior programming experience is required. Basic computer literacy and regular practice between sessions are expected.

TRAINING EXPERIENCE

Short concept briefings, live coding, guided labs, coding challenges, debugging clinics, a mini-project, and a final practical project.