

Python Training – Essential Foundations for Data Science

Module 1 – Introduction to Python

- Overview of Python and its key applications in analytics and scientific computing
- Installing Python and choosing a development environment (IDLE, VS Code, or Jupyter)
- Getting started with the Python console and running your first scripts

Module 2 – Core Programming Concepts

- Understanding variables, data types, and type conversion
- Working with strings, numbers, and booleans
- Essential arithmetic and logical operations

Module 3 – Control Flow Essentials

- Writing conditional statements (if, elif, else)
- Using loops effectively (for, while)
- Mastering indentation and clean coding practices

Module 4 – Functions and Script Structure

- Defining and calling functions
- Passing arguments and returning values
- Organizing your code into clear, reusable blocks

Module 5 – Introduction to Object-Oriented Programming (Optional)

- Understanding objects and their role in Python
- Creating simple classes and instances

Module 6 – Working with Files

- Reading and writing text files
- Processing data line by line for real-world tasks

Module 7 – Practical Workshop

- Building a small end-to-end program combining variables, loops, and functions
- Personalized feedback and improvement tips