



Irizpro Training Solutions is a premier training institute that was founded in January 2019. The institute provides comprehensive training solutions to students and corporate clients alike. The training programs are designed to equip learners with the knowledge and skills they need to succeed in their respective fields. With a team of highly qualified and experienced trainers.

Our courses are designed to meet the evolving needs of the industry, and our trainers are dedicated to helping learners achieve their goals. Whether you are a student looking to enhance your skills or a corporate client seeking to upskill your workforce, Irizpro is the perfect training partner for you.

## **Education Partners**











# **Python Curriculum**

#### Module 1: Introduction to Python (3 days)

- -Understanding Python
- -Setting up a Python development environment (IDEs, text editors, Python installations)
- -Your first Python program (Hello World)
- -Python's syntax and indentation
- -Variables and data types (int, float, str, bool)
- -Basic input and output

#### Module 2: Control Flow and Conditional Statements (3 days)

- -Conditional statements (if, elif, else)
- -Comparison operators
- -Logical operators (and, or, not)
- -Nested conditions
- -Ternary conditional expressions
- -Loops (for and while)
- -Iterating through sequences (lists, strings)

## **Module 3: Data Structures (6 days)**

- -Lists and their operations
- -Tuples and immutability
- -Dictionaries and key-value pairs
- -Sets and their unique elements
- -List comprehensions
- -Manipulating data structure
- -Slicing and indexing

## **Course Curriculum**

#### Module 4: Functions (3 days)

- -Defining and calling functions
- -Function parameters and return values
- -Scope and lifetime of variables
- -Built-in functions (e.g., len, range)
- -Function Arguments
- -Lambda Functions
- -Functions as First-Class Citizens

### Module 5: File Handling (2 days)

- -Opening and Closing Files
- -Reading from Files, Writing to Files
- -File Modes, Working with Context Managers
- -File Object Attributes, File Navigation
- -Exception Handling

## Module 6: Module and Packages (2 days)

Creating and using Module and Packages

Types of Modules – Built in Modules and User Defined Modules

## Module 7: Mathematical Computing with Numpy (5 days)

- -Arrays and Data Structures, Array Creation , Array Manipulation
- -Indexing and Slicing, Broadcasting
- Mathematical Functions, Random Number Generation
- Advanced Features and Performance Optimization

## **Course Curriculum**

#### Module 8: Data Manipulation Using Pandas (10 days)

- -Data Structures: DataFrame, Series
- -Data Loading and Storage, Data Cleaning and Preparation
- -Data Exploration, Data Analysis, Indexing and Selection
- -Visualization, Time Series, Merging and Joining
- -Handling Categorical Data, Performance Optimization
- -Custom Functions and Data Transformation

#### **Module 9: Data Visualization Using Matplotlib (5 days)**

- -Types of Plots boxplot, barplot, scatterplot etc.
- -Customization, Subplots and Figures
- -3D Plotting, Interactive Plots
- -Animations

### Module 10: Advanced Data Visualization Using Seaborn (5 days)

- Statistical Data Visualization
- Types of plot line plot, bar plot, Scatter plot, distplot, kdeplot, jointplot, boxplot etc
- strip plot, factor plot, Pairplot, PairGrid.
- High-Level Plotting Functions
- Color Palettes, Facet Grids, Automatic Data Aggregation
- -Regression Plots, Matrix Plots etc.

## **10 Major Projects**