

PYTHON WITH AI

LEARN. BUILD. INNOVATE.

CORE PYTHON CONCEPTS COVERED:

- Introduction to Python
 - What is Python and where it is used
 - Installing Python and setting up the environment
- Python Basics
 - Variables, data types (int, float, string, list, tuple, dictionary)
 - Operators and expressions
- Control Flow
 - Conditional statements (if, else, elif)
 - Loops (for, while)
- Functions & Modular Programming
 - Creating and using functions
 - Code reusability and clean structure
- File Handling
 - Reading and writing files
- Error Handling
 - Try-except blocks and debugging basics
- Introduction to Python Libraries
 - Working with commonly used libraries
- Hands-on Practice
 - Real-world examples and small programs

INTRODUCTION TO ARTIFICIAL INTELLIGENCE (AI)

- What is Artificial Intelligence
- Difference between AI, Machine Learning, and Deep Learning
- Where AI is used:
 - Chatbots
 - Recommendation systems
 - Virtual assistants
 - Automation tools
- Role of Python in AI
 - Why Python is the most popular language for AI
 - Overview of AI libraries and APIs

PROJECT OBJECTIVE

To build a simple AI-powered chatbot using Python that can:

- Accept user input
- Understand the message
- Generate intelligent responses

What Students Will Learn in the Mini Project

- Chatbot working logic
- Text input and output handling
- Basic Natural Language Processing (NLP) concepts
- Connecting Python with AI models or APIs
- Writing clean and structured Python code
- Testing and improving chatbot responses

Features of the Chatbot

- Interactive conversation with users
- Predefined and AI-generated responses
- Real-time input/output
- Easy-to-understand project structure

Note: Students who wish to pursue a project of their own choice are free to do so. Our trainers will provide complete guidance and mentorship throughout the project.

LEARNING OUTCOMES

- After completing this course, students will be able to:
- Program confidently in Python
- Understand core AI concepts
- Build and explain an AI-based chatbot
- Apply Python + AI skills to real-world problems
- Take the next step toward careers in AI, data science, or backend development