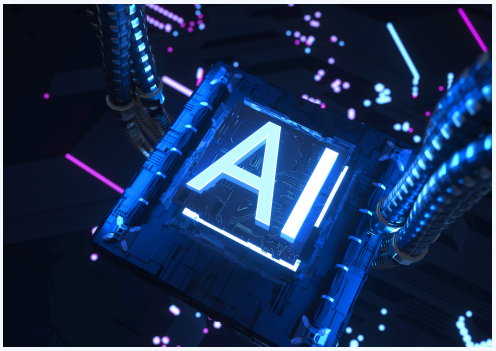

Artificial Intelligence (Python Programming) (Level 2)

Learning Mode:
Online via Zoom

Duration:
3 Days

This course is specifically designed to provide participants with:

- A comprehensive understanding of Python basics.
- Hands-on experience using Anaconda, Jupyter Notebook, and PyCharm.
- The ability to develop and write Python code with ease.
- Knowledge of retrieving user input, and applying basic methods and statements.
- Skills to work with various data structures and handle files.
- A strong foundation in programming principles.

Course Overview

SUMMARY

This introductory course provides participants with a comprehensive foundation in Python programming for Artificial Intelligence applications. It covers essential topics such as Python syntax, data types, variables, control structures, functions, and data structures, along with hands-on exercises using tools like Anaconda, Jupyter Notebook, and PyCharm.

Participants will learn how to develop, test, and execute Python programs, manipulate files, and apply key programming principles to solve real-world problems.

The course emphasizes practical application through coding exercises and simple AI-related tasks, enabling learners to understand how Python serves as the backbone of data science, deep learning, and automation. Designed for both graduates and working professionals, this course prepares participants to pursue more advanced AI and machine learning pathways while enhancing digital readiness for Industry 4.0.

Course Content

MODULE 1
Introduction to Python

- What is Python?
- Where Python is used (automation, data, web, AI)
- Why Python is beginner-friendly

MODULE 2
Introduction to Python

- Installing Python
- Using VS Code
- Running the first Python program

MODULE 3
Python Basics

- Variables and data types
- Numbers
- Strings
- Boolean
- Basic input and output
- Simple comments and formatting

MODULE 4
Functions: Body of a Function

- Arithmetic operators
- Comparison operators
- Logical operators (basic idea)

MODULE 5
Conditional Statements

- if, elif, else
- Simple decision-making logic

MODULE 6
Loops

- if, elif, else
- Simple decision-making logic

MODULE 7
Data Structures (Basic Level)

- Lists
- Tuples (concept only)
- Dictionaries (basic usage)

MODULE 8
Functions (Introduction)

- What is a function?
- Creating and calling functions
- Passing simple parameters

MODULE 8
Working with Files (Basic)

- Reading from a text file
- Writing to a text file
- Simple file-based programs

MODULE 9
Introduction to GitHub (Light & Practical)

- What is GitHub?
- Why developers use GitHub
- Git vs GitHub (simple explanation)

MODULE 10
GitHub Hands-On

- Creating a GitHub account
- Creating a repository
- Uploading Python files
- Making simple commits
- Viewing code history

MODULE 11
Mini Project
Small Python project using learned concepts
Example:

- Simple contact manager
- T o-do list
- File-based calculator