urbancode>

Training & Solutions

PYTHON BASIC TO ADVANCE COURSE

Beginner

Module 1: Python Fundamentals

- Introduction to Python and its applications
- Setting up your development environment
- Data types and variables
- Operators and expressions
- Conditional statements and loops
- Functions and modules
- Debugging and error handling

Module 2: Working with Data

- Lists, tuples, and dictionaries
- String manipulation
- Working with files
- Regular expressions
- Data structures and algorithms

Module 3: Building Applications

- Introduction to user input and output
- Object-oriented programming concepts
- Working with APIs
- Version control with Git
- Building simple GUI applications

Intermediate Course:

Module 1: Advanced Python Topics

- Decorators and closures
- Iterators and generators
- Context managers and metaclasses
- Asynchronous programming
- Unit testing and debugging

Module 2: Data Analysis with Python

- Introduction to NumPy and pandas
- Data manipulation and exploration
- Statistical analysis and modeling
- Data visualization with Matplotlib and Seaborn
- Machine learning basics

Module 3: Web Development with Python

- Introduction to Flask and Django web frameworks
- Building web applications with templates and forms
- Database integration with SQL and SQL Alchemy
- API development and deployment

Expert Course:

Module 1: Advanced Web Development

- Micro services architecture
- Authentication and authorization
- Security best practices
- DevOps and continuous integration/continuous delivery (CI/CD)

Module 2: Advanced Data Science

- Deep learning with TensorFlow and PyTorch
- Natural language processing (NLP)
- Computer vision
- Text analysis and mining

Module 3: Advanced System Programming

- Concurrency and parallelism
- C Python internals and optimization
- Python for embedded systems
- Network programming