

## WEB USING PYTHON-DJANGO COURSE CONTENTS

This course is divided into multiple parts which covers below things as :

1. Python Programming language Fundamentals
2. Python Programming language Advanced
3. Introduction to Front End technologies
4. Python-Django Fundamentals
5. Python-Django Advanced

### Python Programming language Fundamentals

- Python Programming Language Fundamentals
- Introduction of Python Programming
- History of of Python Language
- Features of Python language and its importance
- Versions of Python
- Toolchain of Python application
- First application in Python
- Data types in Python
- Variables and its types
- Operators and its types
- Bitwise operators and its working
- Memory allocation strategy used by Python
- Numbers in Python
- Input Output mechanisms
- Command line arguments
- Procedural programming approach in Python
- Function definition and function calling techniques
- Function arguments and its types
- Inner function and its calling techniques
- Returning multiple values from function
- Anonymous function and its use
- Default function arguments



Courses Offered : Programming in C & C++, Core and Advanced Java, Python, IOT workshops, Placement Preparation, Web Development, etc.

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- Required function argument
- Variable number of argument of function
- Keyword arguments of function
- Iterative approach using loops
- Iteration using for loop
- Use of break and continue keyword
- Iteration using while loop
- Recursive function approach
- Programs control using if, else, else if
- Array and its types
- Manipulate different types of array
- Creation and use of multidimensional array
- List in Python
- Dynamic input in List
- Range in python
- Tuples in Python
- String in Python
- Dictionaries and its use
- Manipulation of String
- File Handling
- File Reading Writing
- File creation and manipulation

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### **Python Programming Language Advanced**

- Module in Python
- Creation of user defined Module
- Multiprocessing application development
- Multitasking using thread
- Thread Synchronisation techniques
- Single threaded vs multithread application development
- Parallel programming in Python using Pool class
- Duck Typing in Python
- Decorators in Python



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- Practical use of Decorators
- Lambda functions in python
- Filter Map Reduce concept in Python
- Exception handling
- Object Oriented programming in Python
- Concept of Encapsulation using Class
- Characteristics of class and its types
- Behaviours of class and its types
- Nested class and its use
- Use of self keyword
- Object creation
- Constructor and its types
- Abstraction in Python
- Polymorphism and its types
- Inheritance for reusability and its types
- Function Overloading technique
- Multiprocessing concept and its use
- Special variables in python

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## Introduction to Front End technologies

- HTML Basics to Advanced
  - basic tagging
  - lists
  - divs and spans
  - attributes
  - tables
  - forms and labels
- CSS Basics to Advanced
- **Project One : using HTML CSS**
- Bootstrap Overview
  - grid system
  - buttons
  - forms



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- navigation bars
  - **Project 2 : using bootstrap**
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## Python-Django Fundamentals

- Back-End Introduction
  - Django setup
  - Django Project
  - Django Application
  - URL mappings
  - Templates
  - static files
  - Django models
  - creating Models
  - Model Templates Views Paradigm
  - Django Forms
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## Python-Django Advanced

- Form validation
- Model Forms
- User Models
- Registration
- Logins
- Setting Git hub
- Full Deployment walkthrough on python Anywhere
- **Final Project : VisionWrae Site Project using Django Bacckend**

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