Python
With Django

Training Outline

neosphere
Shaping Digital Futures

> My favorite language for maintainability is Python. It has simple, clean syntax, object encapsulation, good library support, and optional named parameters.

Bram Cohen

```
class Mapping:
    def __init__(self, iterable):
        self.items_list = []
        self.__update(iterable)

    def update(self, iterable):
        for item in iterable:
            self.items_list.append(item)

    __update = update   # private copy of original update() method

class MappingSubclass(Mapping):

    def update(self, keys, values):
        # provides new signature for update()
        # but does not break __init__()
        for item in zip(keys, values):
            self.items_list.append(item)
```

Source: https://docs.python.org/3/tutorial/classes.html#multiple-inheritance

neosphere
Shaping Digital Futures

Master Module

- Fundamentals of Python
- Object Oriented Programming with Python
- Data Structure and Algorithms
- Network programming with Python
- Database Programming (MySQL)
- CGI programming with Python
- Numpy
- Pandas
- GUI programming with Python-TKInter
- Introduction to web development
- Django Web Framework
- DevOps

Python Fundamentals

- System setup
- Hello World using Python
- Jupyter Notebook
- Objects & Data Types
- Arrays
- Operators
- String Manipulation
- Built in classes and methods

In this module you will learn about setting up the Python for your project and different component(s) and approach about Python

Object Oriented Programming with Python

- Classes and Objects
- Properties and modifiers
- Magic Methods
- Inheritance
- Polymorphism
- Overriding
- Static Methods
- File Handling
- Errors and Exception Handling

This module covers the detailed approach of OOP development in Software Development

Data Structure and Algorithms

- Linked List
- Stack
- Queue
- Sorting algorithms
- Searching algorithms:
- Collections module

Data structures are basically just that - they are structures which can hold some data together.

This module covers the detailed training on Data Structure.

Network programming with Python

- TCP Sockets
- Client and Server
- Communication Breakdown
- Application Client and Server
- Sending an Application Message
- Running the Application Client and Server

This module describe the socket programming using Python, create a network based application using Python

CGI programming with Python

- Introduction to CGI programming
- Using the cgi module
- Web Browsing
- Built-in methods
- Using .htaccess

This module covers the CGI programming using python, and using the different built-in libraries and methods to achieve the solution

Database Programming (MySQL)

- Introduction to MySQL
- Creating Databases
- Working with Tables
- Views
- Joins
- Calling Stored Procedures
- Exception Handling

This module covers in-depth development skills on database. Learn different approach to work to create and manipulate the database using Python

NumPy

- Introduction to NumPy
- Environment Setup
- Data Types
- Array and its attributes
- Indexing and Broadcasting
- Manipulating data using built-in methods

NumPy is the fundamental package needed for scientific computing with Python.

Learn hands on development skills using NumPy

Pandas

- Introduction
- Environment Setup
- Method Chaining
- Pandas Data Frame & Manipulation
- Pandas Data Export
- Visualization
- Performance

Pandas is an open source, BSD-licensed library providing high-performance, easy-to-use data structures and data analysis tools for the Python

This module covers the detailed development skills using Pandas in Python

GUI programming with Python-TKInter

- Tkinter Modules
- Tk themed widgets
- Ttk Widgets
- Progressbar
- Sizegrip
- Treeview
- Menus
- Navigation and Code binding
- Startup and code execution

This module covers the GUI development using TKInter. Learn to develop desktop based application in Python

Introduction to web development

- Web development concepts
- Creating pages Using HTML5
- Adding CSS3 to the page
- Performing actions using JQuery
- Introduction to Bootstrap
- Table & Forms
- HTTP Errors

HTML, CSS, and JS & Jquery is the fundamental skills required for a web developer. Learn to develop HTML pages and how to manage it for your projects

Django Web Framework

- Django Architecture
- Project Configuration
- Model-View-Controller Application
- Introduction to JSON
- Django ORM
- CRUD Application using Django
- Caching in Django
- Managing Sessions and Cookies
- HTTP Authentication
- Sending Emails
- Developing RESTful API in Django
- Deploying Application on Server

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design.

Learn from scratch to advanced project development in Django

DevOps

- Introduction to Git & Github
- Managing Software Versions
- Add, pull, clone, commit
- Pushing your project on Github
- Managing Branching
- Rebasing your project

Git is a VCS—Version Control System. Git helps us to manage our project files.

Learn to manage your project from scratch

Python

With Django

neosphere

Shaping Digital Futures

6th floor, Indra's City Square, New Baneshwor, Kathmandu

Phone: 01- 555 15 15 | 9801 200 111 . Email: info@neosphere.com.np