

Skill Based Course Content				Total Hours:	50
Skill Code:	SCSE-109	Skill name:	Advanced Python	Credit:	2
Designed By	Md.Mainuddin			Total Class:	20
Class	Class Title	Class Details	Class Hour	Practice Hour	
Class-1	Introduction to Python	<ul style="list-style-type: none"> ● Introduction to Python ● Benefits of learning Python ● Setup Python environment and IDE ● Details about IDE functionality ● Create first program 	2	2	
Class-2	Working with data types and variables	<ul style="list-style-type: none"> ● Introduction to python data types ● Operators in Python ● Operator precedence in Python ● Input ● Output ● Variables ● Comments 	2	5	
Class-3	Working with strings and booleans	<ul style="list-style-type: none"> ● Python strings ● Slicing and formatting strings ● Working with string methods ● Booleans 	2	8	
Class-4	Working with conditional logic	<ul style="list-style-type: none"> ● Getting started with conditional logic ● Working with if, else and elif ● Working with comparison operator and logical operator in details ● Nesting conditions ● Short hand if - else (ternary) 	2	10	
Class-5	Loops in Python	<ul style="list-style-type: none"> ● Getting started with python loops ● While loop ● For loop ● Nesting loops ● Break, continue and else in loops 	2	10	
Class-6	Working with List and Tuple	<ul style="list-style-type: none"> ● Introduction to list in Python ● List methods ● List comprehension ● Introduction to tuple in Python ● Tuple methods ● Tuple unpacking 	2	8	

Class-7	Working with Set and Dictionary	<ul style="list-style-type: none"> ● Introduction to set in Python ● Accessing and looping set items ● Set methods ● Introduction to dictionary in Python ● Accessing and looping dictionary items ● Dictionary methods 	2	8
Class-8	Getting started with function	<ul style="list-style-type: none"> ● Getting started with function in Python ● Recursive function ● Introduction to lambda function in Python ● Introduction to built in function in Python ● Scopes in Python ● Pass statement in python 	2	15
Class-9	Working with modules	<ul style="list-style-type: none"> ● Modules in python ● Creating basic modules ● Built in modules in Python ● Working with Python Dates ● Working with Math module ● Introduction to PIP 	2	10
Class-10	Debugging and error handling	<ul style="list-style-type: none"> ● Debugging ● Error handling in Python ● Working with Try, Except, Else and Finally in Python 	2	5
Class-11	Advanced concepts in python	<ul style="list-style-type: none"> ● Iterators ● Generators ● Decorators 	2	8
Class-12	File handling	<ul style="list-style-type: none"> ● Introduction to file handling in Python ● Reading and Writing files ● Working with CSV 	2	8
Class-13	OOP in python 1	<ul style="list-style-type: none"> ● Introduction to OOP ● Class ● Object ● Method 	2	8

Class-14	OOP in python 2	<ul style="list-style-type: none"> ● Constructor ● Destructor ● Abstraction ● Data-hiding ● Class method and class property 	2	10
Class-15	OOP in python 3	<ul style="list-style-type: none"> ● Inheritance ● Polymorphism ● Special magic methods 	2	8
Class-16	Web Application Framework Django - 1	<ul style="list-style-type: none"> ● HTTP ● MVC model ● Difference between MVC and MTV design pattern ● Creating virtual environment 	2	10
Class-17	Web Application Framework Django - 2	<ul style="list-style-type: none"> ● Installing Django ● Creating a project ● Overview of project structure 	2	5
Class-18	Web Application Framework Django - 3	<ul style="list-style-type: none"> ● Creating our first app ● Overview of a basic app ● Overview of Django settings 		8
Class-19	Web Application Framework Django - 4	<ul style="list-style-type: none"> ● Views in Django ● Function based views ● URLs in Django 	2	10
Class-20	Web Application Framework Django - 5	<ul style="list-style-type: none"> ● Introduction to generic views in Django ● Generic list view ● Generic detail view ● Generic update view ● Generic delete view ● Custom view 	2	10
Class-21	Web Application Framework Django - 6	<ul style="list-style-type: none"> ● Templates in Django ● Django templating system ● Template tags in Django ● Template filters in Django ● Serving static files 	2	10

Class-22	Web Application Framework Django - 7	<ul style="list-style-type: none"> ● Models in Django ● Database migration in Django ● Introduction to Django admin panel ● Introduction to Django ORM ● Introduction to basic queries 	2	15
Class-23	Web Application Framework Django - 8	<ul style="list-style-type: none"> ● Introduction to forms in Django ● Basic form creation in Django ● Model form in Django 	2	10
Class-24	Project development using Django (Part 1)	<ul style="list-style-type: none"> ● Project development using Django 	2	15
Class-25	Project development using Django (Part 2)	<ul style="list-style-type: none"> ● Project development using Django 	2	15