

**Python Course content**

**Duration: Core + advance Python:2 Months, Web Development: 1 Month, Session:2 hours**

**Installation**

* Getting Started 3
* Installing Python
* Installing PyCharm IDE
* Setup Virtual Environment

**Basic Python programming**

* A first program
* Printing
* Getting input
* Variables
* Exercises

**Conditional Statement**

* Simple if statement
* If & else statement
* If,elif & else statement
* Nested if else
* Ternary Operator
* Exercises

**Loops**

* For loop
* Range function
* Loop variable
* While loop
* Break statement
* Continue statement
* Exercises

**Numbers**

* Integers and Decimal Numbers
* Math Operators
* Order of operations
* Math functions
* Exercises

**Strings**

* Basics
* Concatenation and repetition
* The in operator
* Indexing
* Slices
* String methods

**Lists**

* Basics
* Similarities to strings
* Built-in functions
* List comprehensions
* Two-dimensional lists
* Exercises

**Dictionaries**

* Basics
* Dictionary methods
* Dictionary comprehensions
* Exercises

**File Operation**

* Reading from files
* Writing to files
* Creating folder
* Reading all files
* Exercises

**Functions**

* Basics
* Arguments
* Returning values
* Default arguments and keyword arguments
* Named Arguments
* Local variables
* Exercises

**Object-Oriented Programming**

* Creating classes
* Constructor
* Private member
* Instance vs class variable
* Inheritance
* Exercises

**Exceptions**

* Basics
* Try/except
* Try/except/else
* try/ except /finally
* Exercises

**Miscellaneous**:

* Tuples
* Sets
* Lambda function
* map, filter, reduce
* enumerate and zip
* Exercises

**Advanced Concept (Data Science Tools)**

* Setup Jupiter notebook
* Pandas
* NumPy
* Exercises

**Web development**

* Flask
* Django

**Live Projects**

* Personalise blog
* Employee management