

Python Basics Syllabus for WhatsApp Online Class (10 Hours)

Lecture 1: Introduction to Python

- What is Python? Why use Python?
- Installing Python & setting up an IDE (VS Code / Online Compiler)
- Writing your first Python program: `print("Hello, World!")`
- Comments and basic syntax

Lecture 2: Variables and Data Types

- Variables and assignment
- Data types: `int`, `float`, `str`, `bool`
- Type conversion: `int()`, `str()`, etc.
- Simple input/output using `input()` and `print()`

Lecture 3: Operators and Expressions

- Arithmetic operators: `+`, `-`, `*`, `/`, `//`, `%`, `**`
- Comparison operators: `==`, `!=`, `<`, `>`, `<=`, `>=`
- Logical operators: `and`, `or`, `not`
- Assignment operators: `=`, `+=`, `-=`, etc.

Lecture 4: Control Structures

- `if`, `elif`, `else` statements
- Nested conditions
- Indentation and blocks

Lecture 5: Loops

- `while` loop
- `for` loop
- `range()` function
- `break`, `continue`, `pass`

Lecture 6: Data Structures - Lists

- Creating lists
- Accessing and modifying elements
- List methods: `append()`, `remove()`, `pop()`, `sort()`, etc.
- Looping through lists

Lecture 7 : Strings and String Methods

- String indexing and slicing
- Useful methods: `lower()`, `upper()`, `replace()`, `find()`, `split()`
- f-strings for formatting

Lecture 8 : Functions

- Defining and calling functions
- Parameters and return values
- Scope of variables

Lecture 9 : Dictionaries and Tuples

- Basics of dictionaries: keys and values
- Adding, updating, deleting items
- Tuples and immutability

Lecture 10: Basic Projects / Practice