

PYTHON COMPLETE MASTERY COURSE

Comprehensive Python Programming Guide

From Beginner to Advanced Level

TABLE OF CONTENTS

- Python Installation & Setup
- Basic Syntax & Variables
- Data Types & Structures
- Control Flow
- Functions & Modules
- Object-Oriented Programming
- File Handling & Exceptions
- Libraries & Frameworks
- Data Science with Python
- Web Development with Django

CHAPTER 1: PYTHON INSTALLATION & SETUP

Python Installation:

-
- Download Python from python.org
 - Install with PATH option checked

- Verify installation: `python --version`
- Install pip package manager
- Set up virtual environment

Virtual Environment Setup:

```
python -m venv myproject
```

```
source myproject/bin/activate # Linux/Mac
```

```
myproject\Scripts\activate # Windows
```

Essential IDE Setup:

- VS Code with Python extension
- PyCharm Community Edition
- Jupyter Notebook for data science

CHAPTER 2: BASIC SYNTAX & VARIABLES

Python Syntax Rules:

- Indentation is crucial (4 spaces)
- Case-sensitive language
- No semicolons needed
- Comments start with `#`

Variable Declaration:

```
# Variables in Python
```

```
name = 'John Doe'
```

```
age = 25
```

```
height = 5.9
```

```
is_student = True
```

```
# Multiple assignment
```

```
x, y, z = 1, 2, 3
```

```
# Constants (by convention)
```

```
PI = 3.14159
```

```
MAX_SIZE = 100
```

Print Function:

```
-----
```

```
print('Hello, World!')
```

```
print(f'Name: {name}, Age: {age}')
```

```
print('Multiple', 'values', sep='-')
```

Course includes 50+ hands-on exercises

and real-world projects to master Python programming.

Certificate of Completion

This certifies successful completion of the

Python Complete Mastery Course

Duration: 60+ Hours of Content

Level: Beginner to Advanced

Based on official Python documentation and industry best practices

