

Python Basic Lesson Plan
16 Lessons
Start Date: 06/30/2023

Curriculum Plan: Python Basics - Lesson Topic, Objective, and Key Terms/Definitions

Lesson 1: Introduction to Programming

Objective: Introduce students to the world of programming, explain the importance of programming, and familiarize them with basic programming concepts.

Key Terms/Definitions: Programming, Algorithm, Syntax, IDE, Compiler, Interpreter Python Interpreter, IDE

Lesson 2: Getting Started with Python

Objective: Teach basic Python syntax and usage of print statements and simple input/output functions.

Key Terms/Definitions: Syntax, Comments, Print Function, Input Function

Lesson 3: Variables and Data Types

Objective: Introduce the concept of variables and explore different data types in Python, such as integers, strings, floats, and booleans.

Key Terms/Definitions: Variables, Data Types, Integers, Strings, Floats, Booleans

Lesson 4: Basic Operations and Expressions

Objective: Teach arithmetic operations, comparison operators, and logical expressions in Python.

Key Terms/Definitions: Operators, Arithmetic Operations, Comparison Operators, Logical Operators, Expressions

Lesson 5: Conditional Statements (if, elif, else)

Objective: Introduce conditional statements for decision-making in Python.

Key Terms/Definitions: Conditional Statements, if, elif, else

Lesson 6: Lists and Tuples

Objective: Introduce lists and tuples, their properties, manipulation, and indexing.

Key Terms/Definitions: Lists, Tuples, Indexing, Slicing, List Methods

Lesson 7: Working with Strings

Objective: Cover string manipulation, string methods, and formatting in Python.

Key Terms/Definitions: String Manipulation, String Methods, String Formatting

Lesson 8: Loops (for and while)

Objective: Teach the use of for and while loops for repetitive tasks and iterations in Python.

Key Terms/Definitions: Loops, for Loop, while Loop, Iteration

Lesson 9: Dictionaries and Sets

Objective: Teach the use of dictionaries and sets for efficient data organization and retrieval.

Key Terms/Definitions: Dictionaries, Sets, Key-Value Pairs

Lesson 10: Lists and Tuples and Dictionaries and Sets

Objective: Cover other methods to using and accessing Lists and Tuples and Dictionaries and Sets, their properties, manipulation, and indexing.

Key Terms/Definitions: Lists, Tuples, Indexing, Slicing, List Methods

Lesson 11: Functions

Objective: Introduce functions, arguments, parameters, and return statements in Python.

Key Terms/Definitions: Functions, Arguments, Parameters, Return Statement

Lesson 12: Functions Part 2

Objective: Continue working with functions, arguments, parameters, and return statements in Python. Complete exercise and challenges given in class

Key Terms/Definitions: Functions, Arguments, Parameters, Return Statement

Lesson 13: Modules and Libraries

Objective: Introduce built-in modules and external libraries for extended functionality.

Key Terms/Definitions: Modules, Libraries, Built-in Modules

Lesson 14: File Handling

Objective: Teach reading from and writing to files using Python.

Key Terms/Definitions: File Handling, Reading Files, Writing to Files

Lesson 15: Exception Handling

Objective: Cover handling errors and exceptions using try-except blocks.

Key Terms/Definitions: Exceptions, try-except Block

Lesson 16: Final Basic Python Project

Objective: Students will complete a final project that will apply all concepts learned from Lesson 1 through lesson 15. Students should understand the prompt given in class.

Key Terms/Definitions: All

Note: This curriculum plan is designed for absolute beginners with no prior programming experience. Each lesson should include hands-on coding exercises and practical examples to reinforce the concepts learned. As students progress through the curriculum, encourage them to work on projects and real-world applications to gain confidence and proficiency in Python programming.