**4-Week Python Programming Course Syllabus**

**Overview:** This course is designed to provide a comprehensive yet manageable introduction to Python programming for a full-time student. Each weekday includes a focused topic with a brief assignment, and each weekend has a project that reinforces that week's concepts. Assignments are designed to take 30-60 minutes, while weekend projects may take 2-3 hours.

**Week 1: Python Basics**

* *Monday: Introduction to Python, Variables, and Data Types*
  + Assignment: Write a script that prints your name, age, and favorite color.
* *Tuesday: Input/Output and String Manipulation*
  + Assignment: Create a script that takes user input and formats a sentence.
* *Wednesday: Arithmetic and Comparison Operators*
  + Assignment: Build a simple calculator that adds, subtracts, multiplies, and divides.
* *Thursday: Control Flow (if, elif, else)*
  + Assignment: Write a script that classifies a number as positive, negative, or zero.
* *Friday: Loops (for, while)*
  + Assignment: Print the first 10 numbers in the Fibonacci sequence.
* *Weekend Project: Build a command-line quiz game that asks 5 questions and scores the user.*

**Week 2: Data Structures and Functions**

* *Monday: Lists and Tuples*
  + Assignment: Write a program to reverse a list without using reverse().
* *Tuesday: Dictionaries and Sets*
  + Assignment: Create a phone book app using a dictionary.
* *Wednesday: Functions and Parameters*
  + Assignment: Write a function that checks if a string is a palindrome.
* *Thursday: Scope and Return Values*
  + Assignment: Modify your palindrome function to ignore spaces and capitalization.
* *Friday: Nested Data Structures*
  + Assignment: Create a nested dictionary to represent a simple contact list.
* *Weekend Project: Develop a text-based inventory system for a small store using functions and data structures.*

**Week 3: File Handling and Error Handling**

* *Monday: Reading Files*
  + Assignment: Read a text file and count the number of words.
* *Tuesday: Writing to Files*
  + Assignment: Write a script that logs user input to a file.
* *Wednesday: Working with CSV Files*
  + Assignment: Parse a CSV file and print its contents neatly.
* *Thursday: Try/Except Blocks*
  + Assignment: Add error handling to your file reading script.
* *Friday: Custom Exceptions*
  + Assignment: Create a function that raises a custom exception for invalid input.
* *Weekend Project: Build a command-line contact manager that reads/writes to a CSV file and includes error handling.*

**Week 4: Object-Oriented Programming and Final Project**

* *Monday: Classes and Objects*
  + Assignment: Define a class Person with attributes and a greeting method.
* *Tuesday: Constructors and Instance Methods*
  + Assignment: Extend Person with an \_\_init\_\_ method and multiple behaviors.
* *Wednesday: Inheritance and Polymorphism*
  + Assignment: Create a subclass Student that inherits from Person.
* *Thursday: Magic Methods and String Representations*
  + Assignment: Override \_\_str\_\_ for your Student class.
* *Friday: OOP Review and Mini Design Challenge*
  + Assignment: Design a simple class hierarchy for an RPG game (e.g., characters, weapons).
* *Weekend Final Project: Build a basic student management system using OOP principles. Include features for adding students, assigning grades, and printing summaries.*