Course Outline

For Python

Edublocks

Course Outline: Python Using Edublocks at Code Ninja Pro Academy

Course Overview

This course introduces students to Python programming using Edublocks, a visual programming tool that makes learning Python more accessible. Through a series of hands-on projects and lessons, students will master fundamental programming concepts, develop problem-solving skills, and create a variety of engaging applications.

Course Length: 24 Weeks

Key Learnings

- Python Programming Basics
- Data Types and Variables
- User Inputs and Conditions
- Loops and Data Structures
- Functions and Advanced Concepts
- Project-Based Learning

Achievements

- Solid Understanding of Python Basics
- Improved Analytical and Problem-Solving Skills
- Confidence in Coding and Project Development
- Experience with Real-World Applications

Module 1: Python Basics

Description: Introduction to the Edublocks platform and basic Python syntax.

Lessons: 2

Sample Projects: Introduction to Edublocks, Basic Calculator 1

Module 2: Data Types & Variables

Description: Understanding different data types and how to use variables in Python.

Lessons: 2

Sample Projects: Introduction to Python Data Types & Variables, Basic Calculator 2

Certificate: Unlock Certificate of Python Basics

Module 3: User Inputs & Variables

Description: Learning how to take user inputs and use variables to store and manipulate data.

Lessons: 2

Sample Projects: Student Recording System, Advanced Calculator 1

Module 4: Conditions in Python

Description: Introduction to conditional statements for decision-making in Python programs.

Lessons: 3

Sample Projects: Simple Problem-Solving Program, Advanced Calculator 2, Secret Code Game 1

Certificate: Unlock Certificate of Intermediate Python Programming

Module 5: Loops in Python

Description: Learning about loops and how to iterate over data in Python.

Lessons: 2

Sample Projects: Find My Space, Library Management System

Module 6: Data Structures in Python

Description: Introduction to basic data structures like lists and dictionaries.

Lessons: 2

Sample Projects: Number Guessing Game, Tic Tac Toe Game

Certificate: Unlock Certificate of Python Data Structures

Module 7: Python Functions

Description: Understanding how to create and use functions to organize and reuse code.

Lessons: 3

Sample Projects: Spelling & Grammar Checker Program, Guess It, Secret Code Game 2

Module 8: Motion in Python

Description: Introducing graphical programming and motion using PyTurtle.

Lessons: 2

Sample Projects: Move PyTurtle, Object Builder Program

Certificate: Unlock Certificate of Advanced Python Programming

Final Project and Presentation

Description: Students will design and create their own custom Python program, incorporating all the skills they have learned. They will present their final project to the class, demonstrating their understanding and creativity.

Final Project: Design and Create Your Own Program

Presentation: Presenting Final Project

Summary

This Python course using Edublocks at Code Ninja Pro Academy provides a comprehensive introduction to programming in Python. Students will progress from basic concepts to more advanced topics, culminating in a final project that showcases their skills and creativity. Through practical, hands-on learning, students will gain a deep understanding of Python and confidence in their coding abilities.