**PY101: Crash Course Live: Programming Fundamentals with Python**

**About this Course**

Welcome to Crash Course Live: Programming Fundamentals with Python.

In this course we will learn about the fundamentals of programming and the Python language by building simulations and games together. This course is for beginners, no coding experience needed.

The idea of this course is to build a strong foundation in the skill of programming that will allow us to traverse the spectrum of what we can use programming for. Whether you want to use programming to build software, develop websites, manage networks, or perform big-data analytics, they all start with having a solid understanding and honed skills in programming fundamentals. Further, the skills we will learn in this class can be applied to most of the modern programming languages.

The goal is to gain hands-on experience with programming so that we can apply that knowledge to our own projects. And most importantly we will have a lot of fun in the process!

**What you we will learn**

*Section 1: Getting Started With Python*

--What is Python and how it is used.

--Basic Variables: Strings, Bools, Ints, Floats.

--Conditionals: if and elif

--Project: Rock-Paper-Scissors Game

*Section 2: Functions*

--Introduce Functions: How to use functions

--Functions: Practice problems

--Mini-Project: Guess that Number Game

*Section 3: Loops, Lists, Advanced Variables*

--Advanced Variables: Lists, Dictionaries, and their properties.

--Introduce Loops: For Loops, While Loops

--More Loops: Practice problems

--Project: Pig Latin Encryption Game

*Section 4: Continued Loops, Lists, Advanced Variables*

--Continue with Loops: For Loops, While Loops

--Loops and Lists: Practice problems

--Project: Hangman Game

*Section 5: Class Objects, and Other Concepts*

--Shell Processing, Tuples, other concepts

--Introduce Object Oriented programming

--Learn Class Objects

--Team Project: Blackjack Game

--Project: Deck Simulator / Kings Game

**Prerequisites and Requirements**

While no prior programming experience needed. Feel free to bring your own computer.

**How to Take This Course**

There are several ways to signup for this course. This course is primarily offered through Simpetopia Academy, but any of the following links would work.

--Simpetopia.com

--Eventbrite.com

--Meetup.com

**About the instructor**

Wen Cai is a data engineer and one of the co-founders of Simpetopia Academy and organizer for Tech DC and NOVA iOS Meetups.

He’s worked as a data research consultant for Government Executive and the National Journal Group. He frequently speaks on technology and programming at conventions across the country. Currently, he is building an tech / entrepreneurial community in DC. The goal is to bring together bring together an elite group of socially responsible entrepreneurs, developers, and young professionals.

Wen is passionate about using data analytics and building data driven products to help government and business leaders meet their challenges. Visit Simpetopia.com to learn more.