

## (Py100) Everyone can Code with Python



### Course Description:

In this course, learners will learn basic concepts in coding using the Python Programming Language. Python has been ranked consistently number one in many coding language popularity surveys. It has an easy-to-understand syntax, yet versatile and powerful libraries, making it a superb choice as an introductory programming language for first-time coders.

The exposure to basic coding skills will lay the foundation for higher level concepts whose acquisition will widen one employability and future-proof their skill sets.

### Details:

<b>Date:</b>	8 to 11 December 2020 or 15 to 18 December 2020 (Tuesday to Friday)
<b>Time:</b>	1.30 pm to 4.30 pm
<b>Venue:</b>	Math Arena Enrichment Centre
<b>Address:</b>	Blk 488B Tampines Street 45 #B1-147 Singapore 521488

**Prerequisite:** No coding experience needed. Basic mouse and keyboarding skills suffice

**Recommended Age:** 11 years and above

**Session Format:** 4 x 3 hours

**Fee before 2020 Year End Holiday Program E.B.D.: SGD 520**

### Trainer:

Mr. Dean Ang (Honours Degree, National University of Singapore, Double Major in Mathematics and Computational Science; Ex-HOD ICT of Raffles Institution and School of Science and Technology, Singapore)

### Who this course is for:

This course is designed with challenge-based activities and hosted on Google's online learning platform. It is perfect for learners aged 11 years and above who want to learn how to code. The trainer will introduce basic concepts in a friendly and non-intimidating environment.

## Course Outline:

<b>Session 1 - Introduction to Python</b> <ul style="list-style-type: none"><li>● Setting Up and Running Python</li><li>● Basic Data Types</li><li>● Variables</li><li>● Expressions</li></ul>	<b>Session 2 - Input-Process-Output</b> <ul style="list-style-type: none"><li>● Input - Process - Output</li><li>● Operators</li><li>● Input/Output</li><li>● Mini projects - Shape Calculator</li></ul>
<b>Session 3 - Flow Control I</b> <ul style="list-style-type: none"><li>● Booleans</li><li>● Conditionals - if / if-else / if-elif-else</li><li>● Mini projects - Grade Converter</li></ul>	<b>Session 4 - Flow Control II</b> <ul style="list-style-type: none"><li>● List</li><li>● Iteration using the for loop</li><li>● Mini projects - Memory, Simon Says</li></ul>
<b>Further Enrichment - Project Management</b> <ul style="list-style-type: none"><li>● Iteration using the while loop</li><li>● Indexing / Slicing</li><li>● Mini projects - Develop a number guessing game</li></ul>	

**Learners will take home:** Project files/Notes, badges and certificate upon completion.

## Frequently Asked Questions (FAQ)

### 1. What is Coding?

Coding is the process of writing a set of instructions for the computer to perform tasks. It is a highly valued skill, with big companies actively seeking high ability coders to solve complex problems and create new products.

### 2. What is Python and why Python?

Python is a general-purpose programming language that has been ranked consistently number one in many coding language popularity surveys. It is supported by big technology companies like Google. We chose Python as an introductory programming language because of its easy-to-understand syntax, yet versatile and powerful libraries.

### 3. How will coding help my child in School?

Coding helps your child in logical thinking and problem-solving skills. The ability to break down a complex problem into many smaller and simpler tasks enhances the chances of a successful solution. The skills are easily transferable to other subjects such as Math and Science.

### 4. My child is 10/11 years old and has no programming experience. Should he take the Scratch Introduction course or the Python Introduction course?

It depends on his level of comfort with text-based input using a laptop. The Scratch Introduction uses a block-coding interface, which is more children-friendly. Python, on the other hand, is a complete programming language that uses a text-based input.

### 5. My child is new to programming. Will he/she be able to follow?

The course is designed for beginners with zero programming experience. To maximise the learning, the learner needs to possess basic mouse and keyboarding skills.

### 6. Do I need to bring my computer laptop or any other equipment?

All equipment and notes will be provided. Learners may only need to bring their water bottle and basic writing materials just in case they want to plan on a piece of paper.