INTRODUCTION TO PROGRAMMING

PYTHON TASTER COURSE

WITH OXFORD COMPUTER SCIENTIST, OLIVER

Learning programming in a classroom setting is hard, it is much easier when you have a clear project to work towards. Each session in this course contains a small mini project (third column) which students will complete by applying the brief bit of theory taught at the start of the session (first column). Towards the end of each lesson, students should have the knowledge and skills to answer some difficult questions (second column). All of this builds up to the final two sessions where students finish on a high by completing and extending their own small project, hopefully giving them the confidence to continue coding after this short introductory course into Python has ended.

COMPUTER SCIENCE: PYTHON COURSE

LESSON 1: WHAT IS CODE?

**Brief history of code
Are computers stupid?
How python works**

Differences with Scratch

**'Hello World' in Python
Basic input & Output**

LESSON 2: VARIABLES & TYPES

**What are variables?
Strings & Numbers
What is a 'Type'?**

What is None?

How many times does Simon say?

LESSON 3: BRANCHING & LOOPS

**What are we missing?
Binary Conditions
To branch or to loop?**

When are conditions evaluated?

Restaurant Table allocator

LESSON 4: FUNCTIONS & LISTS

**How to write less code?
Why are lists useful?
Mapping & Filtering**

Parameters vs variables

Register taker

LESSON 5: MORSE CODE - PROJECT

**Dictionaries
Indicies in loops & strings**

**Indexing from 0
Using dictionaries backwards**

Morse Code Project

LESSON 6: PROJECT SHOWCASE

**Debugging
Good development practices**

Should I care about lint errors?

Morse Code Project extension