

Week	Topics	Expanded Subtopics
0	Python setup, Pycharm installation	
1	Python Basics & Computational Thinking	- Intro to programming & Python syntax- Printing text and numbers- Variables & data types (int, float, str)- Basic arithmetic operations- Input/output basics
2	Control Flow & Decision Making	- if , elif , else statements- Comparison operators (== , != , < , > , <= , >=)- Boolean logic (and , or , not)- Nesting conditionals
3	Loops & Iteration	- for loops with range() - Iterating over strings & lists- while loops and loop control (break , continue)- Infinite loop handling
4	Functions & Modular Programming	- Defining functions with def - Parameters and return values- Multiple functions in one program- Function scope (local vs global variables)
5	Lists, Dictionaries & Data Handling	- Creating and modifying lists- Indexing and slicing- Basic dictionary creation and key-value access- Iterating through lists and dictionaries
INCLUDE ONE WEEK OF REVIEW AND EXERCISES IF WE HAVE TIME (May be around here)		
6	File Handling & Basic Data Processing	- Opening and closing files- Reading text files line by line- Writing to files- Intro to .csv files and simple parsing
7	Advanced Loops & Nested Structures	- Nested for loops- Nested while loops- Nested lists (2D arrays)- Iterating through grids/matrices
8	Functions Deep Dive & Scope	- Default parameters- Return multiple values- Recursion basics (factorial, Fibonacci)- Variable scope: local vs global
9	Error Handling & Debugging	- Syntax vs runtime vs logical errors- Using try/except blocks- Common exceptions (ValueError , ZeroDivisionError , etc.)- Debugging with print() statements

- 10** Working with Libraries & Modules - Importing built-in libraries (`math`, `random`, `datetime`)- Installing external libraries (intro only)- Using `import ... as` and `from ... import`- Structuring code with modules
- 11** Intermediate Data Structures - Lists of lists- Dictionaries with lists- Dictionary comprehension- List comprehension