Lesson Summary

#	Title	Pillar(s)	Description/Topic(s)	Periods
01	Number Systems and Binary Arithmetic	Computer Architecture	1. The binary number system 2. The hexadecimal number system 3. Number system conversion 4. Binary arithmetic 5. Binary addition (including half adders, full adders, and chaining full adders)	3
02	Computer Programming in Python	Computer Programming	1. Why Python? 2. Scratch vs. Python 3. Data types, constants, and variables 4. I/O 5. Expressions, assignment, and operators 6. Primary control constructs 7. Comments, identifiers, and reserved words 8. Subprograms 9. Formal vs. actual parameters 10. Variable scope 11. Program flow 12. Sequences (lists) 13. Searching and sorting examples in Python 14. Exiting repetition constructs early 15. Other operators and string methods 16. Importing external libraries	6
03	Chaos	Algorithms	1. The coordinate system 2. The Chaos Game 3. Fractals, randomness, and probability 4. Random number generators	1.5
04	Recursion	Algorithms	1. The Towers of Hanoi 2. Breaking problems down 3. Recurrence relations 4. Recursion 5. Famous recursive algorithms (e.g., factorial, Fibonacci)	1.5
05	The Object-Oriented Paradigm	Computer Programming	1. Introduction to the object-oriented paradigm 2. State and behavior 3. Objects, classes, and instances 4. Class definitions 5. Object references 6. Accessors and mutators 7. Range checking and input validation 8. Operator overloading 9. Class diagrams	6.5

			10. Inheritance	
06	High Level Data Structures	Data Structures	1. Linked lists 2. Stacks 3. Queues 4. Binary search trees	1.5
Pi Activities				5
Exams				3
Housekeeping				1
Slack				1
TOTAL				**30**