# Lesson Summary

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Pillar(s)</th>
<th>Description/Topic(s)</th>
<th>Periods</th>
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</thead>
</table>
| 00 | Origin | Foundation      | 1. Summary of the course  
            2. Housekeeping                                                                   | 1       |
| 01 | Lecture 0 | Foundation | 1. Philosophical underpinnings of Living *with* Cyber  
            2. Bag of tricks (to help with problem solving)                                  | 1       |
| 02 | Introduction to Living *with* Cyber | Foundation | 1. What is Living *with* Cyber?  
            2. What is cyber?  
            3. What is computer science?                                                     | 2       |
| 03 | Introduction to Algorithms | Algorithms | 1. Introduction to algorithms  
            2. Problem statements  
            3. Step breakdown and control flow  
            4. To-do lists and flowcharts  
            5. Repetition in algorithms  
            6. Efficiency and runtime analysis  
            7. Computer programs and pseudocode                                               | 2       |
| 04 | Searching and Sorting | Algorithms | 1. Searching (covers the sequential search)  
            2. Sorted searching (covers the binary search)  
            3. Sorting (covers the bubble sort, selection sort, and insertion sort)  
            4. Sort comparisons and efficiency analysis                                       | 3       |
| 05 | Introduction to Computer Programming | Computer Programming | 1. Machine language, programming language, compilation, interpretation  
            2. Programming paradigms  
            3. Introduction to the Python programming language  
            4. The IDLE IDE  
            5. Scratch vs. Python  
            6. Python primer  
            7. Data types, constants, variables, I/O  
            8. Expressions and assignment  
            9. Subprograms  
            10. Operators  
            11. Identifiers and reserved words  
            12. Comments  
            13. Primary control constructs (sequence, selection, repetition)  
            14. Recursion  
            15. Program flow                                                               | 5       |
| 06 | Introduction to Data Structures | Data Structures | 1. Introduction to data structures  
            2. 1D arrays                                                                  | 3       |
| 07 | Introduction to Computer Architecture | Computer Architecture | 3. The Python sequence and Python lists  
4. Creating and populating an array  
5. The Python for loop  
6. Performing a sequential search on an array  
7. Performing a selection sort using an array  
8. Performing a binary search on an array | 3 |

| Pi Activities | 5 |
| Exams | 3 |
| Slack | 2 |
| **TOTAL** | **30** |