xtra curriculum

Computer Science Principles **- Level 11**

Computer Science Principles covers many topics including the Internet, Big Data and Privacy, and Programming and Algorithms. The curriculum is flexible to be taught as an AP or non-AP course.

- Audience: High school students, grades 9 - 12
- Curriculum length: 32 Hours
- Prior knowledge: None! Just bring your curiosity

CSP UNIT 4 – Variables, Conditionals, and Functions
CSP UNIT 5 – LISTS, LOOPS AND TRAVERSALS
CSP UNIT 6 - ALGORITHMS

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UNIT 4 – Variables, Conditionals, and Functions

Lesson 1: Variables Explore
Lesson 2: Variables Investigate
Lesson 3: Variables Practice
Lesson 4: Variables Make
Lesson 5: Conditionals Explore
Lesson 6: Conditionals Investigate
Lesson 7: Conditionals Practice
Lesson 8: Conditional Make
Lesson 9: Functions Explore/Investigate
Lesson 10: Functions Practice
Lesson 11: Functions Make

Project:
Lesson 12: Decision Maker App Part 1
Lesson 13: Decision Maker part App 2
Lesson 14: Decision Maker Part App 3

UNIT: 5 – LISTS, LOOPS AND TRAVERSALS

Lesson 1: Lists Explore
Lesson 2: Lists Investigate
Lesson 3: Lists Practice
Lesson 4: Lists Make
Lesson 5: Loops Explore
Lesson 6: Loops investigate
Lesson 7: Loops Practice
Lesson 8: Loops Make
Lesson 9: Traversals Explore
Lesson 10: Traversals investigate
Lesson 11: Traversals Practice
Lesson 12: Traversals Make

Project
Lesson 13: semester Hackathon Part1
Lesson 14: Semester Hackathon part 2
Lesson 15: Semester Hackathon Part 3
Lesson 16: Semester Hackathon Part 4
Lesson 17: Semester Hackathon Part 5

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UNIT 6 – ALGORITHMS

Lesson 1: Algorithms solve Problems
Lesson 2: Algorithms Efficiency
Lesson 3: Unreasonable Time
Lesson 4: The Limits of Algorithms
Lesson 5: Parallel and Distributed Algorithms