

C++ PROGRAMMING SYLLABUS

Ivy League School Prep Center

Created and updated by Mr. Lawrence

Week 1:

- Introductions
 - o What's your name? What grade you're in, what do you want to learn and what's your goal?
 - o Who I am: What I'm doing, what I went to school for, age, AMA!
 - o C++ description and uses
 - o Downloading Codeblocks together!
 - o Running 'Hello World'
- Printing:
 - o Breakdown 'Hello World!'
 - o Tell me about yourself, but on the terminal! Get creative! Two truths and one lie.
 - o Introduction to print formatting commands.
 - o Share screens and feedback.
 - o Questions
 - o Homework - Describe your favorite day with new formatting commands. (3 paragraphs - intro, body, and conclusion)

Week 2:

- Variables & Arrays
 - o Questions and review homework
 - o Introduction of variables
 - Data types: int, string, float, char
 - Modify and edit!
 - Arrays: A collection of the same type of variables
 - o Create your own Mad Libs!
- User Input / Operators
 - o Mad Libs (part 2)
 - o Introduction to operators & math (+, -, *, /, %)
 - o Homework - Create a simple calculator
 - Simple arithmetic
 - Constraints

Week 3:

- Logic in Programming
 - o Questions and review homework

- If-else statement introduction
 - Comparison operators (==, !=, >, <, <=, >=)
- Numerical examples (age, height, weight)
- Nested If-else statements
- Loops
 - While loops & For Loops
 - What is the difference between them?
 - Which one to use
 - Homework - Taking Bob the Snail through his quest by utilizing if-else statements and at least while/for loop. Must also include a form of user input.

Week 4:

- Functions
 - Questions and review homework
 - What are Functions?
 - Arguments, data types, returns
 - Scope
 - Modifying Calculator to be more organized and efficient with functions
- Classes
 - Introduction to Classes (what makes C++ special)
 - Classes uses and objects
 - Access specifiers
 - Let's create ourselves!
 - Good-bye and farewell!
 - Game outro 😊