**Java FRC Crash Course Outline**

**Note: The end goal of this class is to get students programming the kit drivetrain on the 2023 robot as well as some of it’s pneumatics. If we don’t have enough time, I’m considering having the students program a function to control the lights on the robot.**

**(Explanation = Purple)**

**(Demo = Yellow)**

**(Lab = Teal)**

**Part 1 – Gauging Basics:**

**Note:** The speed a which we move through this part’s content largely depends on how well students understand the fundamentals of code. If we finish with extra time, we might be able to cover the beginning of part two’s content.

Part 1: Syntax

1. What is syntax
2. Compare syntax (Python and Java)
3. “Hello World” Multiple Syntax (Python and Java)

Part 2: Variables and Arrays

1. Fundamental Variable
2. Fundamental Array
3. Variables in Java

Part 3: Conditional And Loop Statements

1. If, Else and Else If Statement
2. If Statements in Java
3. Switch Statement
4. While, For and For Each Loop
5. Loops in Java

Part 4: Functions

1. Functions and their purpose
2. Java Functions

**Part 2 – OOP and Working With Libraries:**