Learning Programme

Algorithms – 2nd Year

Topic/Content	Objectives/Skills	Homework	Assessment	Success Criteria (for E/S/D at KS3)	Stretch & Challenge (Thirst for Learning)
Flowcharts - Symbols & Rules	Be able to define the terms Algorithm and Flowchart Able to identify the different flowchart symbols Can create flowcharts for a given scenario		Students will take a written exam where they will be tested on their understanding of the topics taught The homework will be used when forming a judgement/grade for the end of unit mark	See Below	Students can use flowol and create flowcharts for the additional mimics that haven't been used in class.
Flowcharts – Adding Loops	Can add loops to a flowchart Create complex flowcharts	Create a flowchart around a given scenario			
Flowol – Introduction and Inputs	Understand how inputs can be used to control an output Know how to make mimics more realistic				
Flowol - Sensors	Identify common types of sensors used in control systems Develop a control solution for a system that uses multiple sensors Understand what sub routines are, and how they are used to make control technology more efficient.				

| Flowol – Variables | Understand what variables are in Flowol

Understand how they can be used in control technology | Revise for test | | | |
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| Assessment | Complete an assessment based on flow charts and flowol | | | | |

Excellent	Secure	Developing
- Can use the correct symbols when creating a flowchart - Can identify and implement all of the flowchart rules - Can create flowcharts for advanced tasks - Can break down activities into the smallest entities and turn them into an algorithm - Understands what a sub routine is and can use one in appropriate situations - Understands what variables are and can use them correctly in an algorithm - Can discuss the input, sensors and output devices on a single device	- Uses the correct symbols most of the time when creating flowcharts - Can identify flowchart rules but doesn't always follow them - Can create flowcharts for advanced tasks - Can break down activities into smaller entities to create an algorithm - Can make use of a sub routine but this may not be in the most appropriate situation - Can give advantages of sub routines - Understands what variables are and can use one in an algorithm - Can discuss the input and output devices on a single device - Can create complex flowcharts in flowol	- Can create a flowchart but symbols not always correct - Know some of the flowchart rules and occasionally implements them - Can create flowcharts for simple tasks - Can turn activities into a basic flowchart, these may not be broken down into the most amount of detail - Understands what a sub routine is - Can explain what a variable is - Can identify different types of input and output devices - Can create basic flowcharts in flow

• Can create complex flowcharts in flowol and can clearly describe what these flowcharts are doing		