

### Electronics KS4 Curriculum Map



	Term 1		Term 2		Term 3	
<b>Year 10 THEMES - Electronics</b>	<b>Monostable project/related theory</b>		<b>Astable project/ related theory</b>		<b>Comparator project /related theory</b>	
<p><b>GCSE Electronics (EDUQAS)</b></p> <p>The students will study the following contained in Component 1 of the qualification.</p> <ul style="list-style-type: none"> <li>Electronic systems and sub-systems</li> <li>Circuit concepts</li> <li>Resistive components in circuits</li> <li>Switching circuits</li> <li>Applications of diodes</li> <li>Combinational logic systems</li> <li>Component 2 Year 10 topics include timing circuits</li> </ul>	CAD simulation of project and circuit design, CAM circuit manufacture. Soldering / de-soldering techniques. Use of digital multimeter. Circuit testing and fault finding.  Theoretical topics; P.D. Electrical current and resistance in series and parallel circuits. Ohms law Monostable time delay calculations. Oscilloscope graph interpretation. Resistor/ capacitor networks Pull up/down resistor in trigger circuit. LED protection resistor calculations. Potential Difference across components		CAD simulation of project and circuit design, CAM circuit manufacture. Circuit testing and fault finding  Theoretical topics; Astable frequency including calculations. Mark/Space ratio including calculations Electrical power including calculations. Logic gates plus combinational logic. Logic redundant gates. Boolean expressions NAND gate equivalents Bipolar transistor theory plus gain calculations.		CAD simulation of project and circuit design, CAM circuit manufacture. Circuit testing and fault finding  Theoretical topics: Op-Amp as a comparator. Potential dividers including calculations. Thermistor MOSFET theory plus gain.	
<b>Assessment</b>	Assessment 1	Assessment 2	Assessment 3	Assessment 4	Assessment 5	End of Year mock examination
<b>Year 11 THEMES – Electronics</b>	<b>EDUQAS Non-Examined Assessment</b>					
<p><b>GCSE Electronics (EDUQAS)</b></p> <p>The students will study the remaining Component 2 topics of the qualification.</p> <ul style="list-style-type: none"> <li>Term 1 - NEA (design, build, test and evaluate their own electronic system).</li> </ul>	Extended system design and realisation task.		Component 2 topics. PIC theory plus flowcharts. Non-inverting and inverting amplifier including calculations and graphs. Counting systems / sequential systems Schmitt inverter Amplifier systems Diodes Interfacing digital to analogue circuits		Exam technique for extended questions. Control circuits.	
<b>Assessment</b>	Assessment 1 – NEA (Internally assessed – externally moderated (20% GCSE Value))		Assessment 2	Assessment 3	Assessment 4 (Multiple exam preparation assessments)	