

Engineering Technology Department

Scope and Sequence: **Electricity / Electronics**

# of Weeks	Topic Sequence	Scope
1	Introduction	<ul style="list-style-type: none">• Introduction• Lab Safety• Gen Classroom Rules• What is Electricity• Basic Terminology
3	Electrical Energy Fundamentals	<ul style="list-style-type: none">• Static Electricity• Electrical Circuits• Ohms Law• Types of Electrical Currents• Energy – Power, Force, Work
4	Circuit Components	<ul style="list-style-type: none">• Resistors• Capacitors• Inductors<ul style="list-style-type: none">• Magnetic Theory• Transformers• Diodes• Transistors• Silicon Controlled Rectifiers (SCR)
4	Introduction of Arduino Microcontroller	<ul style="list-style-type: none">• Purpose• Basic Functions : Input – Process - Output• Arduino and Robotics• Hardware Overview• Arduino IDE & Sketch overview
2	Programming the Arduino	<ul style="list-style-type: none">• C computer language• Arduino syntax• Functions

		<ul style="list-style-type: none"> • Variables
5	Solving Problems using the Arduino	<ul style="list-style-type: none"> • Blinking LED's • 7 Segment Display • Arduino Roadster <ul style="list-style-type: none"> • Construction • H Bridge integration • Roadster coding challenges
1	Arduino Sound and Music	<ul style="list-style-type: none"> • Source code and Libraries

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