

## **Program Planning Guide**

### **Electrical Systems Technology, Certificate (C35130)**

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Program Length: 2 Semesters

Career Pathway Options: Associate in Applied Science Degree in Electrical Systems Technology; Diploma in Electrical Systems Technology; Certificate in Electrical Systems

Program Site/s: Chatham Main Campus

Suggested Course Schedule:		Hours				Notes:
		Class	Lab	Clinical	Credit	
<b>1st Semester (Fall)</b>						
ELC 112	DC/AC Electricity	3	6	0	5	
ELC 113	Residential Wiring	2	6	0	4	
					9	
<b>2nd Semester (Spring)</b>						
ELC 114	Commercial Wiring	2	6	0	4	
ELC 117	Motors and Controls	2	6	0	4	
					8	
<b>Total Semester Hours Credit Required for Graduation:</b>					<b>17</b>	

#### **Course Descriptions:**

##### **ELC 112 ☐ DC/AC Electricity☐ 3-6-5**

This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits.

##### **ELC 113 ☐ Residential Wiring☐ 2-6-4**

This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print reading; planning, layout, and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

##### **ELC 114 ☐ Commercial Wiring☐ 2-6-4**

This course provides instruction in the application of electrical tools, materials, and test equipment associated with electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with electrical installations.

##### **ELC 117 ☐ Motors and Controls☐ 2-6-4**

*Local Prerequisites: ELC 112*

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.