

# AAS in Technical Studies - Electrician Technology Concentration

## CIP Code

47.9999

## Overview

### **A.A.S. in Technical Studies – Electrician Technology Concentration (47.9999)**

DIVISION: Technical Studies

DEPARTMENT: Electrician Technology

Program Coordinator: Bert O'Neal – robertooneal@cltcc.edu

#### **Program Description**

The purpose of this program is to provide a basic core of specialized instruction and practical shop experience to prepare students for employment in electrical trades. Students who complete the basic core may choose any of the specialty areas. Specialty areas prepare the graduate as an Industrial Electrician, Marine Electrician, or Commercial Electrician.

The Industrial Electrician course will prepare individuals to install, troubleshoot, and repair wiring, electrical equipment, and other electrical devices used in the industrial environment, such as motors (AC and DC drives), transformers, control systems, instruments, PLC's, and lighting systems.

The Marine Electricity program prepares individuals to install and repair wiring fixtures, and equipment for electrical services aboard ships and in shipyard facilities. Marine wiring methods and equipment will also be covered.

The Commercial Electricity program generally prepares individuals to install, maintain, troubleshoot, and repair electrical devices, components, and equipment that are utilized in residential and commercial electrical systems. Students have two options to complete this diploma: by course work, or by employment in a work- based course with an electrical contractor.

## Student Learning Outcomes

1. Demonstrate fundamental knowledge of electrical safety, calculations, and DC/AC electrical circuitry.
2. Identify various types of conductors, connections, boxes, parts of a breaker panel and service entrance, switches, and installation devices of residential service.
3. Install and troubleshoot single pole, receptacle circuits, and breaker panels.
4. Demonstrate modern techniques and skills with motor control applications to include installation and troubleshooting of motors, reversing starters, and VFD.

## Degree

Associate of Applied Science in Technical Studies – Electrician Technology  
Concentration

## Diploma

TD – Electrician Technology

## Exit Points

CTC – Electrician Helper

CTS – Residential Electrician

# Degree Requirements

## Curriculum

CourseNo.	CourseTitle	Lecture	Lab	TotalCreditHrs.	TotalClo
<a href="#">ELEC1010</a>	NCCER Core	1	1	2	60
ELEC1120	BasicElectricity	2	4	6	165
ELEC1210	ResidentialWiring	2	4	6	165
	<b>CTC–ELECTRICIANHELPER</b>	5	9	<b>14</b>	<b>390</b>
ELEC2460	TechnicalMathematicsforElectricians			2	45
ELEC1220	Electrical Raceways	0	3	3	90
ELEC1230	NationalElectricalCode	1	2	2	90
ELEC1311	ResidentialWiringInstallation	1	5	6	1
ELEC1430	BlueprintInterpretation	1	2	3	75
	<b>CTS–RESIDENTIALELECTRICIAN</b>			<b>31</b>	<b>900</b>
CPTR1000	IntroductiontoComputers	1	1	2	4
ELEC1330	Generators/Motors&TransformerOperation	1	2	3	
ELEC1440	MotorControls	1	3	4	

ELEC2720	IntroductiontoProgrammableLogicControllers	1	2	3	
JOBS2450	JobSeekingSkills	2	0	2	
	<b>TD–Electrician Technology</b>			<b>45</b>	
<b>GENERAL EDUCATION COURSES</b>					
<a href="#"><u>ENGL 1010</u></a>	English Composition I	3	0	3	
MATH XXXX	College Algebra OR Contemporary Math	3	0	3	
	Social Science Elective	3	0	3	
	Natural Science Elective	3	0	3	
	Humanities Elective	3	0	3	
<b>AAS in Technical Studies – Electrician Technology Concentration</b>				<b>60</b>	