

PROGRAM: Residential Electrician

**PROGRAM
CIP CODE:** 46.0300.20

DESCRIPTION: The **Residential Electrician** program prepares individuals to apply technical knowledge and skills to install indoor and outdoor residential, electrical systems and associated power transmission lines. Includes instruction in electricity, safety procedures, wiring, insulation and grounding, schematic blueprint interpretation, equipment operation and maintenance, and applicable codes and standards. The program is designed and delivered as a coherent sequence of experiences using technical instruction, academic foundations, experiential learning, supervised occupational experience and leadership and personal development through the Career and Technical Student Organization, SkillsUSA.

RECOMMENDED PROGRAM SEQUENCE OF COURSES:

**Career
Preparation** The following describes the recommended courses developed from industry-validated skills necessary for initial employment or continued related education.

46.0300.10 **Fundamentals of Electrical and Power Transmission Technologies:** This foundation course will prepare students to use a wide variety of tools and equipment and maintain a safe work environment. The student will develop an understanding of construction math, reading blueprints, install, operate, repair electric apparatus and systems such as residential, commercial and industrial electric power wiring; DC and AC motors controls, electrical distribution panels, and techniques. The student will develop skills in oral and written communication as they relate to the electrical industry. This course is designed to help students develop an enhanced understanding of teamwork, employability skills and career opportunities in the electrical field.

-and-

46.0300.20 **Residential Electrician:** This course prepares the individual to apply and demonstrate advanced technical knowledge and skills to install, operate, maintain and repair electrical apparatus and systems such as residential electric power wiring; AC and DC motors, controls and electrical distribution panels. Includes instruction in principles of electronics and electrical systems, wiring, power transmission, safety, job estimation, electrical testing and inspection and applicable codes and standards.

And program may elect to add:

46.0300.75 **Electrical and Power Transmission Technologies - Internship:** This course provides CTE students an opportunity to engage in learning through participation in a structured work experience that can either be paid or unpaid and does not necessarily require classroom instruction that involves the application of previously developed Electrical and Power Transmission Technologies knowledge and skills.

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46.0300.80 **Electrical and Power Transmission Technologies - Cooperative Education:** This course utilizes a cooperative education methodology to combine school-based and supervised work-based learning experiences, directly related to the standards identified for the Electrical and Power Transmission Technologies program.

**TEACHER CERTIFICATION REQUIREMENTS FOR THE
RESIDENTIAL ELECTRICIAN PROGRAM**

CAREER PREPARATION: The instructor must be vocationally certified according to the following table:

Residential Electrician	CERTIFICATES
	Types: PCTI, PCTIEP, SCTI, SCTIEP
<p>Note:</p> <ul style="list-style-type: none"> ▪ Electrical and Power Transmission Technologies, 46.0300.70 may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN). ▪ Teacher/Coordinator 46.0300.75 is not required to have a Cooperative Education Endorsement (CEN). ▪ Teacher/Coordinator 46.0300.80 is required to have a Cooperative Education Endorsement (CEN). 	

**CERTIFICATE ABBREVIATIONS FOR THE
RESIDENTIAL ELECTRICIAN PROGRAM**

Certificate Types	
PCTI	Provisional Career and Technical Education Industrial Technology
PCTIEP	Provisional Career and Technical Education Industrial and Emerging Technologies
SCTI	Standard Career and Technical Education Industrial Technology
SCTIEP	Standard Career and Technical Education Industrial and Emerging Technologies