

**PROGRAM:** **Electrical Systems Installation and Maintenance Technologies**  
(standards to be developed)

**PROGRAM  
CIP CODE:** **47.0100**

**DESCRIPTION:** The **Electrical Systems Installation and Maintenance Technologies** program is designed to prepare students to apply technical knowledge and skills to assemble, install, operate, maintain and repair one and two way communications equipment and systems, including television cable systems and mobile or stationary communication devices. An integrated approach of teaching and learning is provided as students enhance their technical knowledge and skills that are associated with functions within Electrical Systems Installation and Maintenance Technologies occupations. In addition to the occupation related skills, students completing this program will develop advanced critical thinking, applied academics, interpersonal relations, life management, business, economic and leadership skills required for the 21st century workplace. The program uses a delivery system made up of four integral parts: formal/technical instruction, experiential learning, supervised occupational experience and the Career and Technical Student Organization, SkillsUSA.

#### **RECOMMENDED PROGRAM SEQUENCE OF COURSES:**

##### **Career Preparation**

The following describes the recommended sequence of courses developed from industry-validated skills necessary for initial employment or continued related education. All the Career Preparation state-designated Electrical Systems Installation and Maintenance Technologies standards are addressed in this instructional sequence.

47.0100.10 **Electrical Systems Installation and Maintenance Technologies Fundamentals:** This course will introduce the basic components and principles involved in the assembly, operation, maintenance, repair, and installation of communications equipment and systems.

**-and-**

47.0100.20 **Electrical Systems Installation and Maintenance Technologies I:** This course offers the students the basics in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity and electronics as they relate to the repair and installation of communications systems.

**-and-**

47.0100.25 **Electrical Systems Installation and Maintenance Technologies II:** This course offers the students advanced knowledge, skill and instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity and electronics as they relate to the repair and installation of communications systems.

**And program may elect to add:**

47.0100.75 **Electrical Systems Installation and Maintenance Technologies - Internship:** This course provides CTE students an opportunity to engage in learning through participation in a structured work experience that can be either paid or unpaid and does not necessarily require classroom instruction that involves the application of previously developed Electrical Systems Installation and Maintenance Technologies knowledge and skills.

**-or-**

47.0100.80 **Electrical Systems Installation and Maintenance 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 Systems Installation and Maintenance Technologies program.

**TEACHER CERTIFICATION REQUIREMENTS FOR THE  
ELECTRICAL SYSTEMS INSTALLATION AND  
MAINTENANCE TECHNOLOGIES PROGRAM**

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

|   |                                   |
|---|-----------------------------------|
| <b>Electrical Systems<br/>Installation and<br/>Maintenance Technologies</b> | CERTIFICATES                      |
|   | Types: PCTI, PCTIEP, SCTI, SCTIEP |

- Note:**
- **Electrical Systems Installation and Maintenance Technologies, 47.0100.70** may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN).
  - Teacher/Coordinator **47.0100.75** is not required to have a Cooperative Education Endorsement (CEN).
  - Teacher/Coordinator **47.0100.80** is required to have a Cooperative Education Endorsement (CEN).

**CERTIFICATE ABBREVIATIONS FOR THE  
ELECTRICAL SYSTEMS INSTALLATION AND  
MAINTENANCE TECHNOLOGIES PROGRAM**

|                   |   |
|-------------------|---|
| Certificate Types |   |
| <b>PCTI</b>       | Provisional Career and Technical Education Industrial Technology                |
| <b>PCTIEP</b>     | Provisional Career and Technical Education Industrial and Emerging Technologies |
| <b>SCTI</b>       | Standard Career and Technical Education Industrial Technology                   |
| <b>SCTIEP</b>     | Standard Career and Technical Education Industrial and Emerging Technologies    |