

APPLIED CIRCUITS & SYSTEMS – OCCUPATIONAL SKILLS CERTIFICATE

Top Code:

0934.00

The curriculum prepares the student for employment and career development in the Electrical industry. Students enrolling will have the opportunity to receive instruction and hands-on laboratory experience in theory and applications of direct current and alternating current circuits. Explanation of electrical terms, components, electrical codes and standards and applications and interaction of power distribution, energy management, cogeneration and alternate energy will be covered.

Additional studies include print and specifications, electrical code requirements and standards, conduits, lighting systems, control and protective devices, grounding systems, transformers, specialty systems and power generation and distribution systems. The use of precision test and measurement instruments such as analyzer and diagnostic scan tools keep students current with the latest industry standards. All related applicable specifications and technical calculations are covered.

An Occupational Skills Certificate is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

- Demonstrate an understanding of the basic principles of electricity, electrical laws, circuit concepts, application of DC and AC, and series/parallel/combo circuits.
- Demonstrate knowledge and skills required to perform basic apprentice level electrical duties per electrical codes, and safety practices.
- Differentiate and apply the proper selection of tools and materials for electrical service, installation and repairs.
- Demonstrate an understanding of the principles of power production, generation, transmission and distribution of electrical energy.
- Demonstrate an understanding of hardware/software and application of Programmable Logic Controller (PLC) Systems and their use in the manufacturing process.

Requirements for the Occupational Skills Certificate

Code	Title	Units
ELTY 248A	INTRODUCTION TO ELECTRICAL TECHNOLOGY	4
ELTY 248B	ALTERNATING CURRENT CIRCUITS – PRINCIPLES AND APPLICATIONS	4
ELTY 248C	ELECTRICAL POWER DISTRIBUTION SYSTEMS AND MACHINERY	4
ELTY 248D	PROGRAMMABLE LOGIC CONTROLLERS	4
Total Units		16

Recommended electives

Code	Title	Units
ELTY 217	ELECTRICAL INSPECTION AND CODES	2
BLDG 212	PRINT READING FOR CONSTRUCTION	3
BLDG 213	BUILDING CONSTRUCTION CODES AND STANDARDS	3