ELEC COURSE STUDENT LEARNING OUTCOMES

ELEC 101 - Electrician 1st Year Apprenticeship

Students will be able to identify industry safety standards including OSHA 10, first aid, CPR, hand and power tool use and safety and will demonstrate site hazard recognition.

Students will be able to use basic residential blueprint reading to identify the correct materials to use on the job and to properly assemble and install these materials.

Students will be able to utilize multiple modes of communication towards enhancing effectiveness in the work environment.

Students will be able to utilize Mathematical, Algebraic, Geometric, and Trigonomic concepts and functions to analyze and calculate the properties of electrical circuits and systems and calculate formulas necessary to bend electrical conduit.

Students will be able to use DC Theory to calculate the properties of series, parallel and combination direct current circuits and will also use DC Theory to understand and calculate potential hazards of energized circuits.

ELEC 151 - Electrician 2nd Year Apprenticeship

Students will be able to perform conduit fabrication and installation.

Students will be able to read commercial blueprints at a basic level.

Students will be able to use AC Theory Level 1 to calculate the properties of basic series, parallel and combination alternating current circuits.

Students will be able to use appropriate math skills to allow them to calculate electrical circuits using A.C. theory and national codes.

ELEC 198 - Special Topics in Electrical Apprenticeship

CSLOs are under review.

ELEC 201 - Electrician 3rd Year Apprenticeship

Students will be able to demonstrate basic electrical systems analysis, repair and certification.

Students will be able to demonstrate basic industrial blueprint reading and how to use a variety of electronic practices in such applications as energy management systems, etc.

Students will be able to properly install transformers as well as show how to do electrical grounding.

Students will be able to use AC Theory to calculate the properties of complex series, parallel and combination alternating current circuits.

ELEC 251 - Electrician 4th Year Apprenticeship

Students will be able to execute intermediate electrical systems analysis, repair and certification.

Students will be able to demonstrate the installation of digital electronics and fiber optics.

Students will be able to provide the proper power and controls to motors as well as Programmable Logic Controls (PLC).

ELEC 291 - Electrician 5th Year Apprenticeship

Students will be able to demonstrate their knowledge of distributed generation, process controls and alternative energy technologies.

Students will be able to execute advanced systems analysis, repair and certification, including telecommunications applications.

Students will be able to install building automation and environmental systems, fire alarms, security systems and LAN networks.