

ELECTRICIAN TECHNOLOGY

Electrician's Helper

Occupational Skills Award

This OSA was created for students interested in a career as an electrician's helper, as well as those currently working in a building trades-related profession who want to update or improve their proficiencies.

This program provides training on basic electrical systems in the commercial, residential and industrial setting and prepares students for an Electrician Assistant Certificate.

Electrician Assistant

Certificate

The Electrician Assistant program will prepare students to help assemble, install, test and maintain electrical systems. They will be trained to read blueprints, plan and layout wiring for residential, commercial and industrial projects to meet job specifications of local and state NEC codes. Additionally, students will diagnose malfunctioning systems, apparatus and components, using testing devices such as ohmmeters and voltmeters.

Graduates of this program will also gain knowledge in the installation of electrical systems in factories, office buildings, homes and other structures. Graduates will be eligible to apply for an apprentice license and work under the direct supervision of a Master Electrician to obtain the Journeyman License, followed by an examination for licensure after completion of 8,000 hours of field experience.

Electrician Technology

Associate of Applied Science

The Electrician Technology Associate of Applied Science degree will further the study of the necessary technical, academic, work habit, communication and interpersonal skills required for employment in the field. The curriculum will include studies in electrical theory that will advance into complex electrical systems, building upon the knowledge and skills acquired throughout the program.

The program will also prepare students to apply technical knowledge and skills to install, operate, maintain and repair of electric equipment and systems such as residential, commercial, industrial projects, wind and solar technology, electric-power wiring, DC and AC motors, controls and electrical distribution panels. Instruction will also include the study of the principles of electrical systems, wiring, power transmission, safety, industrial, electrical testing/inspection and applicable codes and standards.

Program Learning Outcomes

Certificate

1. Students will be able to formulate material, equipment and labor cost.
2. Student will demonstrate safety practices and proper use of electrical tools.
3. Students will be able to interpret the National Electrical Code book for safety practices.
4. Demonstrate the ability to identify series and parallel circuits.

Associate of Applied Science

1. Students will convert wiring diagram into a ladder diagram.
2. Student will demonstrate safety practices and proper use of electrical tools.
3. Students will be able to interpret the National Electrical Code book for safety practices.
4. Demonstrate the ability to identify series and parallel circuits.
5. Students will be able to define renewable energy systems.

Advisory Committee Members

Agapito Perez Jr., Enlighten Electric
Carlos Perez, CEP Electric and Solar, LLC
Enrique Aguirre, IBEW
Irene Sanchez, Metro Electric
Jesus Alaniz, Magic Valley Electric
Juan E. Pastor, City of Edinburg Code Enforcement
Mario Garza, Committee Chairperson
Moises Hernandez, Komplex Electric
Natalia Velasquez, City of Edinburg
Servando Gutierrez, STX Electric

Occupational Skills Award

- Electrician's Helper Occupational Skills Award

Certificate

- Electrician Assistant Certificate (p. 1)

Associate Degree

- Electrician Technology Associate of Applied Science (p. 2)

Electrician's Helper Occupational Skills Award

TSI Exempt

| Course | Title | Credit Hours |
|---------------------------|-------------------------------|--------------|
| Fall | | |
| ELPT 1419 | Fundamentals of Electricity I | 4 |
| ELPT 1325 | National Electrical Code I | 3 |
| ELPT 1429 | Residential Wiring | 4 |
| Credit Hours | | 11 |
| Total Credit Hours | | 11 |

Electrician Assistant Certificate

TSI Exempt

| Course | Title | Credit Hours |
|---------------------------|---|--------------|
| Fall | | |
| ELPT 1411 | Basic Electrical Theory | 4 |
| ELPT 1419 | Fundamentals of Electricity I | 4 |
| ELPT 1325 | National Electrical Code I | 3 |
| ELPT 1429 | Residential Wiring | 4 |
| Credit Hours | | 15 |
| Spring | | |
| ELPT 1420 | Fundamentals of Electricity II | 4 |
| ELPT 1445 | Commercial Wiring | 4 |
| ELPT 2325 | National Electrical Code II | 3 |
| ELPT 2437 | Electrical Planning and Estimating ¹ | 4 |
| Credit Hours | | 15 |
| Total Credit Hours | | 30 |

¹ Capstone: Successfully passing ELPT 2437 Electrical Planning and Estimating.

Electrician Technology Associate of Applied Science

TSI Liable

| Course | Title | Credit Hours |
|--|---|--------------|
| First Year | | |
| Fall | | |
| ELPT 1411 | Basic Electrical Theory | 4 |
| ELPT 1419 | Fundamentals of Electricity I | 4 |
| ELPT 1325 | National Electrical Code I | 3 |
| ELPT 1429 | Residential Wiring | 4 |
| Credit Hours | | 15 |
| Spring | | |
| ELPT 1420 | Fundamentals of Electricity II | 4 |
| ELPT 1445 | Commercial Wiring | 4 |
| ENGL 1301 | Composition I ¹ | 3 |
| ELPT 2325 | National Electrical Code II | 3 |
| Credit Hours | | 14 |
| Second Year | | |
| Fall | | |
| SPCH 1311 | Introduction to Speech Communication ¹ | 3 |
| ELPT 2437 | Electrical Planning and Estimating | 4 |
| ELPT 1357 | Industrial Wiring | 3 |
| ELPT 2319 | Programmable Logic Controllers I | 3 |
| Credit Hours | | 13 |
| Spring | | |
| MATH 1332 | Contemporary Mathematics ¹ | 3 |
| ELMT 1411 | Solar Fundamentals | 4 |
| WIND 2359 | Wind Power Delivery System | 3 |
| Humanities Elective ¹ | | 3 |
| Credit Hours | | 13 |
| Third Year | | |
| Fall | | |
| Social and Behavioral Sciences Elective ¹ | | 3 |
| ELPT 2264 | Practicum- Field Experience | 2 |
| Credit Hours | | 5 |
| Total Credit Hours | | 60 |

¹ Identifies courses to fulfill minimum 15 credit hour General Education requirement.