

Electrical Construction Technology (PIW)

The Electrical Construction Technology program is offered through a partnership with the International Brotherhood of Electrical Workers (IBEW) as part of their Joint Apprenticeship and Training Program. Enrollment is restricted to new and current apprentices.

PIW 110 History of the Labor Movement

3 Hours (3-0)

Prerequisites: Acceptance into the IBEW Apprenticeship Program
3 hours weekly

This course involves study of some of the key historical developments, which have shaped the present day labor movement. Particular attention will be placed on the rise of the national union, the recurrent debates over structure, the dynamics of the growth of the labor movement, and the impact of such forces as industrialism, urbanization, immigration, and internal migrations upon the American labor movement. Subject matter includes a historical look at the role of labor in the economy, internal union structure and administration, labor legislation, collective bargaining, the changing labor force, the union status of minorities and women, theories of the labor movement and how what we have learned can help us address current labor issues.

PIW 121 IBEW Professional Inside Wireman I

3 Hours (2-2)

Prerequisites: Acceptance in IBEW Apprenticeship School and MATH 106.
4 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include job site safety, electrician's tools, material rigging, basic conduit bending, direct current theory, and series circuit calculations.

PIW 122 IBEW Professional Inside Wireman II

4 Hours (3-2)

Prerequisites: PIW 121
5 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include serial and parallel circuits, national electrical code, and basic blueprint reading.

PIW 123 IBEW Professional Inside Wireman III

3 hours (2-2)

Prerequisites: PIW 122
4 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include codeology as it relates to the National Electrical Code (NEC), measuring processes used in the electrical industry, intermediate conduit bending, and hydraulic, mechanical and hand benders.

PIW 124 IBEW Professional Inside Wireman IV

4 hours (3-2)

Prerequisites: PIW 123
5 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include inductance and capacitance in AC circuits, National Electrical Code (NEC) standards relating to transformers, transformer theory, design, and calculations, and wiring methods and devices.

PIW 125 IBEW Professional Inside Wireman V

3 hours (2-2)

Prerequisites: PIW 124
4 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include DC/AC review, semiconductors, transistors, SCR's, amplifiers, and electronic applications.

PIW 126 IBEW Professional Inside Wireman VI

4 hours (3-2)

Prerequisites: PIW 125
5 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include National Electrical Code (NEC) Article 250, electrical theory to grounding, grounded conducted, service grounding, earth testing, WYE and Delta 3-phase transformers, and load calculations.

PIW 127 Electrician Apprenticeship I

2 hours (0-1600 lab hours)

Prerequisites: Acceptance in IBEW Electrical Apprenticeship Program.
1600 lab hours

The Electrician Internship course has been developed and established as the on-the-job component of the Electrician Apprenticeship program. The on-the-job component will consist of work relating to the wiring of residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journey worker.

PIW 128 Electrician Apprenticeship II

2 hours (0-1600)

Prerequisites: PIW 127
1600 lab hours

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PIW 129 Electrician Apprenticeship III

2 hours (0-1600)

Prerequisites: PIW128
1600 lab hours

The Electrician Internship course has been developed and established as the on-the-job component of the Electrician Apprenticeship program. The on-the-job component will consist of work relating to the wiring of residential, commercial, industrial and/or specialized electrical systems. All of the on-the-job work-related activities will be performed under the direct supervision of a journey worker.

PIW 221 IBEW Professional Inside Wireman VII

3 hours (2-2)

Prerequisites: PIW 126
4 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include motor constructions, motor installations, protection, controls, and schematic diagrams.

PIW 222 IBEW Professional Inside Wireman VIII

4 hours (3-2)

Prerequisites: PIW 221
5 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include digital logic, ladder logic, logic circuits and controls, AC motor speed controls, power factoring, power filtering, power harmonics, cable tray, motor control circuits and protection, and hazardous locations.

PIW 223 IBEW Professional Inside Wireman IX

3 hours (2-2)

Prerequisites: PIW 222
4 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include fire alarm systems-operation, installation, maintenance, and troubleshooting; fundamentals of instrumentation and equipment used for calibration; telephone wiring and introduction to TIA/EIA standards and codes; high voltage equipment; air conditioning systems and basic security systems.

PIW 224 IBEW Professional Inside Wireman X

4 hours (3-2)

Prerequisites: PIW 223
5 hours weekly

This course is a part of the IBEW Apprenticeship Program. The topics to be covered include programmable logic controllers (PLC)-basics, operation, and installation; designing and programming PLC; National Electrical Code (NEC) for special conditions; and NEW calculations.

PIW 225 Electrician Apprenticeship IV

2 hours (0-1600)

Prerequisites: PIW 129
1600 lab hours

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PIW 226 Electrician Apprenticeship V

2 hours (0-1600)

Prerequisites: PIW 225

1600 lab hours

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