Course Information Form (CIF)

Course Code: ECJ 112

Course Title: IBEW Electrical Construction Journeyman II

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 46.0302
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 3-2-4
Credit Hour Distribution:

Lecture: 3	Lab: 2	Clinical: 0	**Total: 4**

General Course Information

Catalog Description

Part of the IBEW Apprenticeship Program: serial and parallel circuits, National Electric Code, and basic blueprint reading.

General Course Objectives

Gain experience and knowledge regarding series and parallel circuits, National Electric Code, and basic blueprint reading.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in ECJ 111

Methods of Evaluation

The minimum evaluation tools to be used are: 4 written tests, 4 quizzes, 25 homework lessons, attendance at 18 class sessions, and 4 lab exercises.

Instructional Materials and Additional Supplies

Cables and Wiring, 2nd Edition, by John Cadick 9780766802704
Delmar's Standard Textbook of Electricity, 6th Edition, Stephen L. Herman 9781285852706
Electrician's Guide To Conduit Bending, 3rd Edition, Richard Cox
Blueprint Reading Textbook, NJATC

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
DC Series Circuits and Batteries, Multimeters	1. Discuss and label components of a parallel circuit. 2. Demonstrate how to connect and test DC circuits and battery circuits with the use of multimeters.	15	10	0
Resistance Calculations in Series, Parallel, and Combination; Calculating Power, Voltage Polarity, and Voltage Drop; NEC Code Book; Three Wire Single Phase System	1. Calculate voltage drops, current consumption, and resistance of parallel, series, and series/parallel circuits using the product sums method and Ohm's Law. 2. Demonstrate understanding of Article 100 of the National Electrical Code Book. 3. Demonstrate understanding of Special Code definition of the National Electrical Code Book.	15	10	0
Magnetism and Electromagnetism, Generators, Superposition Method, Over Current Protection Devices	1. Define and describe magnetism and electromagnetism, generators, superposition method, and over current protection devices. 2. Demonstrate the use of electromagnetism, generators, superposition, and current protection devices.	15	10	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	30	0