

Course Code: ELX 112

Course Title: NEC Introduction, Definitions, Requirements, and Enclosures

Department: Applied Sciences and Technologies

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 46.0302

Repeatability: 0

Credit Hours

Catalog Notation: 0.5-1-1

Credit Hour Distribution:

Lecture: 0.5

Lab: 1

Clinical: 0

Total: 1

General Course Information

Catalog Description

Introduction to the National Electric Code (NEC); history, structure of the NEC code book, and common electrical definitions. Electrical equipment including boxes, fittings, and devices; rules that govern their installation.

General Course Objectives

The student should be able to articulate the purpose and history of the NEC, how the information is organized within the code book, and the topics that the first several articles address. The student should also be able to recognize several common types of wiring equipment; define common electrical terms; and recognize, define, or describe electrical symbols, boxes, fittings, devices, their types, and installation requirements. The student should be able to demonstrate the installation of basic electrical devices in a circuit.

Minimum Placement Levels

English	Reading	Math
None	None	Placement out of MAT 060

Prerequisites

Credit in ELX 111

Methods of Evaluation

Students will be given a minimum of 2 quizzes, 2 labs, 1 final exam, and 1 lab practical exam.

Instructional Materials and Additional Supplies

Illustrated Guide to the National Electrical Code, 8th Edition. Charles R. Miller. Cengage Publishing.
978-0357371527

National Electrical Code 2020, 978-1455922970

Safety glasses

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.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
NEC Introduction and Definitions	1. Define the history, purpose, and scope of the NEC code book (article 90). 2. Describe the meaning of selected terms from the NEC code book (article 100). 3. Demonstrate the ability to associate physical devices and structures with NEC definitions (article 100).	1.5	3	0
Requirements for Electrical Installations	1. Describe various selected requirements for electrical installations, including spatial and load considerations (article 110). 2. Demonstrate ability to perform measurements for spatial considerations in accordance with the NEC (article 110). 3. Demonstrate ability to select equipment and enclosures based on location and load (article 110).	2	3	0
Electrical Enclosures, Boxes, and Fittings	1. Identify and describe various outlet boxes and fittings; demonstrate how they are selected and installed into an electrical system (article 314). 2. Demonstrate the ability to install both new and old work outlet boxes and fittings in compliance with NEC regulations.	2	4	0
Electrical Devices	1. Demonstrate the ability to identify and describe various switches, receptacles, and lighting fixtures (lamp holders) and how they are incorporated into a circuit. 2. Identify and describe overcurrent devices and their importance in an electrical circuit. 3. Demonstrate the ability to terminate and install switches, receptacles, and other overcurrent devices in an electrical circuit.	2	5	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
7.5	15	0