Virginia Western Community College
ELE 138
National Electric Code

Prerequisites

ELE 133 or department approval.

Course Description

Covers purpose and interpretation of the National Electrical Code as well as various charts, code rulings, and wiring methods. Prepares the student to take the Journeyman-Level exam.

Semester Credits: 2 Lecture Hours: 2 Lab/Clinical/Internship Hours: 0

Required Materials

Textbook:
National Electric Code. NEC 2011. ISBN: 9780877659167

Other Required Materials:
None

Course Outcomes

At the completion of this course, the student should be able to:

- Identify the primary purpose of the Code to protect people and equipment from electrical hazards.

- Define key terms and wiring methods described in the NEC.

- Apply principles contained in the NEC to electrical installations, equipment and wiring scenarios.

Topical Description

A. Definitions and Clearances
B. Grounding
    1. System Requirements
    2. Sizing
C. Service Equipment and Feeders Circuits
    1. Equipment
    2. Electrical Formulas
    3. Practical Calculations

4. Circuit Requirements
D. Feeders and Branch Circuits
    1. Raceway Fill
    2. Use of Derating
    3. Calculations involving Voltage Current
E. Equipment and Materials
    1. Proper Use of Boxes and Cabinets
    2. Calculations of Proper Size of Boxes and Cabinets
    3. Installation of Switches and Devices
    4. Code Rules Governing Appliances
F. Raceways
    1. Code Rules on Installation
    2. Sizing
G. Conductors
    1. Usage Requirements
    2. Ampacity
    3. Termination and Connections

Notes to Instructors

- Suggested Grading Scale:
  A = 91 – 100
  B = 81 – 90
  C = 71 – 80
  D = 60 – 70
  F = below 60
- See the program head for recommendations for lab materials, sample tests and supplemental handouts.
  Instructors should notify the program head at least a day in advance for any special accommodations or materials that will be needed for class.