

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title: National Electric Code**

**Prefix and Course Number: ELMT 251**

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**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

- demonstrate the ability to interpret and express code content
- be familiar with code terminology
- be able to use the NEC as a reference guide

**Course Outline:**

I. General

- A. Definitions
- B. Requirements for Electrical Installations
  - 1. general
  - 2. over 600 volts, nominal

II. Wiring Design and Protection

- A. Use and Identification of Grounded Conductors
- B. Branch Circuits
  - 1. general provisions
  - 2. ratings
  - 3. required outlets
- C. Feeders
- D. Branch Circuit and Feeder Calculations
  - 1. general
  - 2. feeders
  - 3. optional calculations
  - 4. method for computing farm loads
- E. Outside Branch Circuits and Feeders
- F. Services
  - 1. general
  - 2. overhead service-drop conductors
  - 3. underground service-lateral conductors
  - 4. service entrance conductors
  - 5. service equipment
    - a) general
    - b) disconnecting means
    - c) overcurrent protection
    - d) services exceeding 600 volts, nominal

G. Overcurrent Protection

H. Grounding

III. Wiring Methods and Materials

- A. Wiring Methods
  - 1. general requirements
  - 2. over 600 volts, nominal
- B. Cable Trays
- C. Intermediate Metal Conduit
  - 1. general
  - 2. installation

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3. construction specifications
- D. Rigid Metal Conduit
1. installation
  2. construction specifications

- E. Rigid Nonmetallic Conduit
  - 1. installation
  - 2. construction specifications
- F. Electrical Metallic Tubing
  - 1. installation
  - 2. construction specifications
- G. Flexible Metallic Tubing
  - 1. general
  - 2. construction and installation
- H. Flexible Metal Conduit
- I. Liquidtight Flexible Metal Conduit and Liquidtight Flexible Nonmetallic Conduit
- J. Surface Metal Raceways and Surface Nonmetallic Raceways
- K. Outlet, Device, Pull and Junction Boxes, Conduit Bodies and Fittings
  - 1. general
  - 2. installation
  - 3. construction specifications
- L. Cabinets and Cutout Boxes
  - 1. installation
  - 2. construction specifications
- M. Auxiliary Gutters
- N. Switches
  - 1. installation
  - 2. construction specifications
- O. Switchboards and Panelboards
  - 1. construction specifications
- IV. Equipment for General Use
  - A. Lighting Fixtures, Lampholders, Lamps, Receptacles, and Rosettes
    - 1. fixture supports
    - 2. grounding
    - 3. wiring
    - 4. special provisions for lighting systems of 1000 volts or less
  - B. Transformers and Transformer Vaults
  - C. Capacitors