Print Date: 7/29/14

Course Objectives/Course Outline
Spokane Community College

Course Title: **National Electric Code – Article 430**
Prefix and Course Number: **ELMT 253**

Course Learning Outcomes:
By the end of this course, a student should be able to:

- interpret and express NEC Code 430 content
- use the NEC as a reference guide
- apply code requirements to specific electrical jobs
- Course content will vary depending on the individual professional/technical program needs.

Course Outline:

I. Motor Circuit Conductors
   A. General
   B. Single Motor
   C. Wound-Rotor Secondary
   D. Feeder Demand Factor
   E. Capacitors with Motors
   F. Feeder Traps
   G. Constant Voltage DC Motors-Power Resistors
II. Motor and Branch Circuits
   A. Overload Protection
   B. Short Circuit Protection
   C. Ground Fault Protection
III. Motor Feeders
   A. Short Circuit Protection
   B. Ground-Fault Protection
IV. Motor Control Units
   A. Overcurrent Protection
   B. Mechanical Protection of Conductor
   C. Disconnection
V. Motor Controllers
   A. Definition
   B. Controller Design
   C. Conductors
   D. Limitations
      1. number of motors served by a controller
      2. speed
   E. Motor Controller Enclosure Types
VI. Disconnecting Means
   A. Location
   B. Controller
   C. Motor
   D. Switches
      1. air break
      2. oil break
   E. Circuit Breakers
      1. inverse time

VII. Protection of Live Parts
  A. General Requirements
  B. Guards for Attendants
VIII. Grounding All Voltages
  A. Stationary Motors
  B. Portable Motors
  C. Controllers
  D. Methods
    1. terminal housings
    2. separation of junction box
    3. controller mounted devices