Print Date: 7/29/14

Course Objectives/Course Outline
Spokane Community College

Course Title: **Introduction to AC Controls**
Prefix and Course Number: **ELMT 134**

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

- differentiate between types of pilot devices and their functions
- be familiar with basic circuitry layout and wiring diagrams of various pilot devices
- be able to identify pilot device symbols
- be able to number ladder diagrams to JIC Standards

*Two, three, and four credit class content will be determined from input provided by faculty from individual programs which have specific electrical requirements.

Course Outline:

I. Control Circuits
    A. "No voltage" release (2-wire control)
    B. "No voltage" protection (3-wire control)
II. Ladder Diagrams
    A. Numbering (JIC Standards)
III. Pilot Devices
    A. Limit Switches
        1. actuators
            a) linear
            b) radial
    B. Proximity Switches
    C. Push Button
    D. Pressure Switches
    E. Flow Switches
    F. Float Switches
    G. Foot Switches
    H. Indicator Lamps
        1. transformer
        2. full voltage
        3. resistance
        4. push to test
    I. Temperature Switches
IV. Troubleshooting and wiring applications
    A. Overload test with 2-wire control
    B. Start-stop with 3-wire control
    C. 2 PB stations with pilot lights
    D. Selector switch Jog/Run
    E. HOA selector switch with PB and Limit switches
    F. HOA with control relay and pilot lights