

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

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**Course Title: MACHINE CONTROLS**

**Prefix and Course Number: CAD 263**

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**Course Learning Outcomes:**

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

- understand the uses of machine control mechanisms
- be able to perform basic programming functions

**Course Outline:**

- I. Introduction and History of Electrical Control systems
- II. Control system components
  - A. Motors and Motor Starters
  - B. Relays, Timers, and Counters
  - C. Switches and Pushbuttons
  - D. Sensors
- III. Relay Control Systems
  - A. Ladder Logic Design
  - B. Wiring Design
- IV. Programmable Logic Control
  - A. History and Definition of PLC controllers
  - B. Programming Software
- V. Logic Circuit Design
  - A. Inputs/Outputs
  - B. Holding/Locking Circuits
  - C. Sequencing Circuits
  - D. Counting and Timing Circuits
  - E. Advanced Logic