

INST-2850-PLC APPLICATIONS 4 CREDITS**SYLLABUS**

CATALOG DESCRIPTION

An introduction to Programmable Logic Controllers and the basic building blocks of digital control circuits including ladder logic circuits, timers, counters and sequencers in typical applications. The study will include software and hardware applications.

Prerequisites: INST1740, INST2250

Semester Offered: Sprint/Fall

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Describe the function of the hardware components used in PLC systems.
2. Interpret typical I/O and CPU specifications
3. Write and enter ladder logic programs

4. Convert fundamental relay ladder diagrams to PLC ladder logic programs
5. Understand timers, counters, latches and math instructions.
6. Understand PLC installation practices.
7. Describe a typical SCADA application.