Big Bend
COMMUNITY COLLEGE

MASTER COURSE OUTLINE
Prepared By: Bill Autry   Date: May 2014

COURSE TITLE
Introduction to Programmable Logic Controllers

GENERAL COURSE INFORMATION

Dept.: IST	Course Num: 150	(Formerly:)
CIP Code: 15.0404	Intent Code: 21	Program Code: 770
Credits: 5		

Total Contact Hrs Per Qtr.: 77

Lecture Hrs: 33	Lab Hrs: 44	Other Hrs:

Distribution Designation:

COURSE DESCRIPTION (as it will appear in the catalog)
Introduction to programmable logic controller principles, hardware, and operation. Includes ladder logic, instruction, maintenance and troubleshooting.

PREREQUISITES
IST 107 and MAP103/117 or Instructor Permission

TEXTBOOK GUIDELINES
Appropriate textbook as determined by faculty (Example: *Technicians Guide to Programmable Controllers* by Richard E. Cox)

COURSE LEARNING OUTCOMES
Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills.
1. Demonstrate basic computer skills.
2. Describe the functions of hardware and components, i.e. the PLC system.
3. Recognize the correlation between field devices and the PLC system.
4. Describe how the PLC system relates to other systems—SCADA systems, networking devices, etc.
5. Interpret simple ladder logic structure

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE
1) Recognizing Hardware
2) Understanding the Input/Output section
    a) I/O section
    b) Discrete I/O modules
3) Processor Units
    a) Memory types, size, and structure
    b) Peripherals
4) Programming devices

5) Memory organization
    a) Memory words and word locations
    b) A-B SLC500 File Structure
6) Numbering systems
7) Understanding and using Ladder Logic
8) Relay type instruction
9) Understanding & applying basic MS DOS commands
10) Basic PLC programming

DEPARTMENTAL GUIDELINES *(optional)*

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DIVISION CHAIR APPROVAL   **DATE**