Faculty are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Collegewide Curriculum Committee.

DEPT. MANUFACTURING COURSE NO. CST 2120
NUMBER OF CREDITS: 4
COURSE TITLE: Computer integrated manufacturing
CATALOG DESCRIPTION: Students have the opportunity to develop skills in designing, wiring, troubleshooting and operation of electrical control circuits. A supervised time for students to hardwire and program various programmable logic controllers. Provides the students with an understanding of and the ability to use plc’s in all phases of industrial automation.

AUDIENCE
FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area : by meeting the following competencies:
Area : by meeting the following competencies:
Area : by meeting the following competencies:
PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: none
LENGTH OF COURSE: 4 credits/4 lect/0 lab
THIS COURSE IS USUALLY OFFERED:
Every other year fall spring X summer undetermined

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: THE STUDENT WILL RECEIVE THE KNOWLEDGE AND SKILLS TO FUNCTION IN INDUSTRY.

2) THINKING SKILLS: THE STUDENT WILL SYSTEMATICALLY SOLVE CONTROL LOGIC PROBLEMS

3) COMMUNICATIONS SKILLS: THE STUDENT WILL BEGIN TO DEMONSTRATE APPROPRIATE COMMUNICATIONS BOTH ORAL AND WRITTEN.

4) HUMAN DIVERSITY: THE STUDENT WILL GAIN SELF AWARENESS REGARDING THEIR FEELINGS TOWARDS PEOPLE OF DIFFERENT CULTURES, VALUE SYSTEMS AND SOCIOECONOMIC STATUS.

TOPICS TO BE COVERED:
(*designates a CRUCIAL goal)
1. DESCRIBE GE HARDWIRE
2. hardwire GE AND AB PLC’S
3. describe PLC BLOCK DIAGRAM
4. DESCRIBE AB HARDWIRE
5. DESCRIBE GE AND AB DIGITAL LOGIC ELEMENTS
6. PROGRAMMING
7. DESCRIBE GE AND AB TIMERS/COUNTERS
8. DESCRIBE GE AND AB SEQUENCERS
9. PROGRAM GE 90/20 RELAYS
LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning       X Problem Solving
Student Presentations          Interactive Lectures
X Creative Projects            Individual Coaching
X Lecture                      Films/Videos/Slides
X Demonstrations               Other (describe below)
Lab
ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading                      X Tests          X Individual Projects
Oral Presentations             X Worksheets X Collaborative Projects
Textbook Problems              Papers          Portfolio
Group Problems                 Term Paper
Other (describe below)

The information in this course outline is subject to revision.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.
To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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