MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT.  Renewable Energy Technology  COURSE NO.  RNEW 1125

NUMBER OF CREDITS:  1  COURSE TITLE:  P&ID and PFD Reading

CATALOG DESCRIPTION:

This course will cover the symbols and diagrams commonly used on piping and instrumentation diagrams (P&ID) and Process Flow Diagrams (PFD). Focus will be on identifying the types of diagrams, identifying instrument symbols and line symbols used on P & ID’s, understanding the types of information typically found on a legend, using a P & ID to locate the components of a system, and reading a PFD to trace the flow paths of a system.

AUDIENCE:  Trainees for Process Operation and Plant Personnel

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:
Minimum score or higher on entrance exam.

LENGTH OF COURSE: One semester

THIS COURSE IS USUALLY OFFERED:
Every other year  []  fall  X  spring  []  summer  []  undetermined  []

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

1)  ACADEMIC CONTENT: The student will achieve the basic skills required to read and understand a technical diagram.

2)  THINKING SKILLS: The student will understand the information required to apply the components and concepts discussed in this course.

3)  COMMUNICATIONS SKILLS: The student will demonstrate both written and oral communication skills.

4)  HUMAN DIVERSITY: The student will gain self-awareness regarding the feelings towards people regardless of culture, values or socioeconomic status.
TOPICS TO BE COVERED:

1. Identify instrument and major equipment symbols.
2. Describe the process flow of a Dry Mill ethanol plant.
3. Identify and distinguish between various diagrams including PFD and P & ID diagrams.
4. Describe in general terms the type of information found on the various diagrams.
5. Distinguish between process lines and instrument control lines used on a P&ID.
6. Identify control loops on a P&ID and describe their function.

LIST OF EXPECTED COURSE OUTCOMES:
The main focus of this course is to familiarize students with the various technical diagrams used at a process facility. The student will be able to identify instrument symbols and line symbols used on P & ID’s and to be able to use a Process Flow Diagram (PFD) to trace the flow paths of a system.

LEARNING/TEACHING TECHNIQUES used in the course are:

X Collaborative Learning
X Student Presentations
X Creative Projects
☐ Lecture
☐ Demonstrations
☐ Lab

Problem Solving
Interactive Lectures
Individual Coaching
Films/Videos/Slides
Other (describe below)

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

X Reading
X Written Presentations
X Textbook Problems
X Group Problems
☐ Other (describe below)

X Tests
X Worksheets
X Papers
X Term Paper
X Individual Projects
X Collaborative Projects
☐ Portfolio

EXPECTED STUDENT LEARNING OUTCOMES:
The student will be able to describe the process flow of a Dry Mill ethanol plant, as well as identify and locate the symbols commonly used on Piping & Instrumentation (P & ID’s) and Process Flow Diagrams (PFD).

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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