

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. MECH

COURSE NUMBER:2165

NUMBER OF CREDITS: 1

Lecture: 0 Lab: 1 OJT 0

Course Title:

Instrumentation and Control Lab

Catalog Description:

Instrumentation and Control Lab provides hands-on experience to the essential elements of a process control system. It will provide plant operators and entry-level instrument mechanics, basic knowledge of common process instrumentation and control schemes cover an introductory look at the fundamental principles of automatic process control.

Prerequisites or Necessary Entry Skills/Knowledge:

Concurrent Enrollment with RNEW1160

FULFILLS MN TRANSFER CURRICULUM AREA(S)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

Signal devices

Measurement devices for flow rate, pressure, temperature, and analytical control

Control concepts

Student Learning Outcomes
Identify and interpret process instrumentation and the most common process variables monitored by process instrumentation.
Describe the general function of an instrument system and identify the basic instruments/devices and the function of each.
Identify basic operator responsibilities associated with process control.
Explain the functions of the basic elements of an automated process control system.
Describe the functions of the basic elements of an automated process control system.
Explain the general operation of a complex PID process control scheme.

Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Revised Date: 2/1/2022