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## SECTION HEADING

### MECH 2165: Instrumentation and Control Lab

#### 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.

#### Credits

1

#### Prerequisite

None

#### Corequisite

Concurrent Enrollment with RNEW 1160

#### Topics to be Covered

1. Signal devices
2. Measurement devices for flow rate, pressure, temperature, and analytical control
3. Control concepts

#### Learning Outcomes

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

#### Credit Details

Lecture: 0

Lab: 1

OJT: 0

MnTC Goal Area(s): None