

ENGY-1180-INTRUCTION TO INSTRUMENTATION TECHNOLOGY 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course covers an introduction and overview to Instrumentation Control & Electrical technician career. It also covers introduction to the basic physical quantities such as pressure, level, flow, temperature; introduction to basic electrical quantities such as voltage, current, resistance; introduction to the concept of control technology such as motor control and PLC.

Prerequisites: None

Semester Offered: Spring, Summer, Fall

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

Upon successful completion of the course, the student will be able to...

1. Describe the Instrumentation Control & Electrical career;
2. Identify the industrial ICE applications;

3. Explain the basic physics concepts such as pressure, level, flow and temperature;
4. Explain the common measurement instruments;
5. Define electrical voltage, current, resistance;
6. Calculate voltage, current and resistance by Ohm's Law;
7. Describe open-loop/close-loop control systems.