Miami Dade College

Course Description

ETS2520C | Process Measurement Fundamentals | 3.00 credits

This course is designed for students who will be supporting industrial equipment processes. Students will learn how to perform the typical measurements made in industrial measurement and control loops. Topics include the basic physics involved in the measurements, as well as the common types of sensors used in industry with emphasis on pressure, temperature, flow, level, and analytical measurement theory. Prerequisites: EET1025C, PHY 1025

Course Competencies

Competency 1: The student will analyze the fundamental principles of physics that govern industrial measurement and control loops by:

1. Evaluating the relationship between physical properties and measurement techniques
2. Investigating the effects of environmental factors on measurement accuracy
3. Comparing different measurement theories and their applications in industrial settings

Competency 2: The student will demonstrate proficiency in utilizing various types of sensors in industrial environments by:

1. Calibrating pressure, temperature, and flow sensors for optimal performance
2. Implementing analytical measurement techniques for precise data collection
3. Troubleshooting common sensor issues to ensure reliable operation

Competency 3: The student will apply measurement and control loop concepts to real-world industrial processes by:

1. Designing measurement setups that incorporate appropriate sensors for specific applications
2. Monitoring and interpreting data from industrial measurement systems to enhance operational efficiency
3. Developing strategies for optimizing control loops based on sensor feedback and measurement results

Learning Outcomes

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information