



### **Course Description**

#### **ETM1315C | Applied Pneumatics and Hydraulics | 3.00 credits**

This course prepares students to perform mechanical maintenance on industrial equipment and devices. Students learn the theory and application of fluid mechanics, how to calibrate metering devices, and conduct elementary hydraulic tests. Pre/Corequisite: MAC 1105

### **Course Competencies**

**Competency 1:** The student will demonstrate proficiency in mechanical maintenance by:

1. Diagnosing mechanical issues in industrial equipment
2. Repairing and replacing faulty components in machinery
3. Performing routine maintenance checks to ensure optimal operation

**Competency 2:** The student will apply principles of fluid mechanics by:

1. Analyzing fluid flow in various industrial systems
2. Calculating pressure drops and flow rates in hydraulic circuits
3. Evaluating the performance of pumps and valves in fluid systems

**Competency 3:** The student will conduct effective calibration and testing by:

1. Calibrating metering devices to ensure accurate measurements
2. Executing elementary hydraulic tests to assess system functionality
3. Documenting test results and maintenance activities for compliance and reporting

### **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