



### CATALOG DESCRIPTION

An introduction to the maintenance of equipment utilizing mechanical, electrical and instrumentation concepts. Topics include: Hand tools, bearing fundamentals, equipment lubrication, material handling, electrical safety, battery systems, diagrams, electrical production and distribution, transformers, breakers, switches, AD and DC motors, motor controllers and operation, and introduction to automation and instrumentation control.

Prerequisites: **ENGY-1110,1310,& 1330**

Semester Offered: All

#### **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. **Explain basic safety practices and tools used when involved in maintenance activities**
2. **Explain the importance of preventive maintenance and identify and explain basic PM practices.**
3. **Define terms associated with the input side of a control system**

4. Discuss basic mechanical equipment and concepts such as hand tools, bearings, lubricants, lubrication applications, packings and mechanical seals
5. Identify and describe basic components as well as procedures in lifting maneuvers
6. Identify and discuss basic electrical terms, and equipment
7. Explain various sources of electricity, the equipment used to produce it and how the electricity gets to the end user