ENER 131- Basic Electrical Theory

.5 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course is specifically designed for maintenance technicians and other non-electrical personnel working in the Oil and Gas Industry. Designed for anyone needing to understand basic electricity and its uses. Basic science of electricity: current flow, voltage, resistance, DC/AC circuits, reactive load, impedance, and basic concepts of electrical generation, etc., including basic electrical safety.

Prerequisites: None

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. Understand how electricity is produced and distributed.
2. Know the difference between AC and DC.
3. Identify the relationship between voltage, current and resistance.
4. Use the Ohm's Law wheel to determine electrical values.
   Understand electric power and power measurement.
5. Identify the types and characteristics of commonly used electrical test equipment.
6. Understand the terminology associated with major electrical components.
7. Identify the types of PPE required for various electrical tasks.
8. Identify properties of the different types of conductors and insulation materials.