ENER 117- Introduction to Pumping Unit .5 Credits

SYLLABUS

CATALOG DESCRIPTION

Course presents basic principles of the design and operation of a pumping unit, aka beam lift, and its relationship to the wellhead separator. Instruction provides students with standard terminology to promote effective communication regarding maintenance issues and potential malfunctions. By understanding and correctly indentifying pumping unit (surface equipment and downhole insert pump) design and function, students will be able to perform basic operations and troubleshooting tasks.

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. Improve operational efficiency through pump sizing and deliquification by focusing on basic tasks involving a pumping unit.
2. Provide consistent terminology for troubleshooting and maintenance communications related to pumping unit operations.
3. Proactively identify potential equipment failures to save money and time, prevent environmental incidents, and provide a **safe** work environment.
4. Keep accurate data for operational benefits.
5. Describe and identify pumping unit types.
6. Identify components of the pumping unit (surface equipment and downhole insert pump).

7. Explain principles of pumping unit operation.
8. Explain wellbore schematic as it relates to pumping unit operation.
9. Explain normal start-up and shut-down of pumping unit.
10. Understand how to operate and maintain the pumping unit.
11. Troubleshoot the efficiency of the downhole pump.