SAN JUAN COLLEGE
Success Matters

ENER-116 INTRODUCTION TO PLUNGER LIFT .5 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Course presents basic principles of the design and operation of a plunger lift system and its relationship to the wellhead separator. Instruction provides students with standard terminology to promote effective communication regarding incremental deliquification for maximum uplift, maintenance issues, and potential malfunctions. By understanding and correctly identify plunger lift system 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 (deliquification) by focusing on basic tasks involving the plunger lift system.
2. Proactively identify and communicate potential malfunctions on a plunger lift system to save money and time, and to avoid environmental incidents.
3. Perform basic troubleshooting techniques on a plunger lift system, reducing production downtime.
4. Better understand and mitigate the safety risks inherent to operating a plunger lift system.
5. Describe and identify plunger types.
6. Identify components of the plunger lift system.
7. Explain principles of plunger lift system operation.
8. Explain wellbore schematic as it relates to plunger lift system.
9. Explain how the arrival signal instrument works, and know how to test it for proper functioning.
10. Monitor tubing and casing pressure, and calculate tubing liquid level for slug flow (separator capacity).
11. Use the morning report to troubleshoot plungers for any abnormal arrivals (too slow, too fast, or not at all).
12. Respond appropriately to emergency and critical situations related to Plunger Lift system.