ENER-113-INTRODUCTION TO SEPARATORS AND TANKS .5 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Course presents basic principles of separator and tank design for production operations. Students will learn standard terminology for effective communication regarding: principles of separation, separator components, preventive maintenance, and operational efficiencies; types of tanks, regulatory compliance, maintenance issues, and reasons for tank failure. By understanding and correctly indentifying separator and tank design and function, students will be able to perform basic troubleshooting.

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. Identify separator type
2. Identify separator location and type of heat source
3. Explain separation process and relationship between separator and tank
4. Assess location for potential environmental and operational problems related to separators and tanks
5. Identify separator type and distinguishing features: direct v. indirect heat; single stage, 2-stage; phase; vertical, horizontal.
6. Explain how liquids separate and how the efficiency improves tank API gravity
7. Identify separator safety pressure control equipment (pop-offs, rupture disc, inlet choke, control valves)

8. Identify dump valves, pressure gauges, sight glasses, firetube, and signs of mechanical repairs needed
9. Understand and identify environmental concerns (gas leaks, oil leaks, oil in pit) related to separator and tank
10. Keep accurate tank data for operational benefits and for reporting to various regulatory agencies