COMP-113-NATURAL GAS ENGINE THEORY 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course will assist students in developing knowledge of the natural gas fueled internal combustion engine and its subsystems, to include: air intake systems, exhaust systems, lubrication and cooling systems, basic ignition functions, fuel gas analysis and basic fuel systems.

Prerequisites: Fall, Spring, Summer

Semester Offered: CPT or equivalent, DOT Medical Exam, Drug Test

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 basic engine parts.
2. Discover how internal combustion engines work.
3. Develop knowledge of the sequence of events in 2 cycle and 4 cycle engines.
4. Identify engines by manufacture and model.
5. Recognize and understand basic engine terminology as related to natural gas compression.
6. Understand basic splash and pressurized lubrication systems.
7. Determine how different types of cooling systems work.
8. Recognize the operating differences between 2 cycle and 4 cycle engines.
9. Become skilled in the use of Micrometers.
10. Develop proper skill in the use of a torque wrench.

11. Identify bolts and fasteners and their proper use.
12. Gain knowledge of the basic types of Governors.
13. Identify different types of ignition sources.
14. Understand basic principals of Turbo-Chargers.