

## SYLLABUS

**COURSE # AND TITLE** \_\_\_COMP111 Nat Gas Engine Theory\_\_\_ **# OF CREDITS** \_\_\_5\_\_\_

**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.

**Semester Offered:** Fall, Spring and Summer

**Prerequisites:** CPT, DOT Medical Exam, Work Steps, Drug Test, SAFE139 (work experience and/or alternative engine theory credits will qualify an individual to test out of this course)

**Requirements for Course Challenge:** Pass course exam with a "C" or better

*Common Student Learning Outcomes*

*Upon successful completion of San Juan College programs and degrees, the student will...*

<i>Learn</i>	<i>Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.</i>
<i>Think</i>	<i>Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.</i>
<i>Communicate</i>	<i>Students will exchange ideas and information with clarity and originality in multiple contexts.</i>
<i>Integrate</i>	<i>Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.</i>
<i>Act</i>	<i>Students will act purposefully, reflectively, and respectfully in diverse and complex environments.</i>

### GENERAL LEARNING OBJECTIVES

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

### SPECIFIC LEARNING OUTCOMES

**Upon successful completion of the course, the student will be able to ...**

1. Understand basic splash and pressurized lubrication systems
2. Determine how different types of cooling systems work
3. Recognize the operating differences between 2 cycle and 4 cycle engines
4. Become skilled in the use of Micrometers
5. Develop proper skill in the use of a torque wrench
6. Identify bolts and fasteners and their proper use
7. Gain knowledge of the basic types of Governors
8. Identify different types of ignition sources
9. Understand basic principals of Turbo-Chargers

**Syllabus developed by** \_\_\_Randy R Randall and Linda J Martinez\_ **Date:** \_\_\_February 14, 2006\_\_\_

**Syllabus reviewed by** \_\_\_\_\_ **Date:** \_\_\_\_\_

**A current syllabus must be on file in the dean's office for every course being taught during a given semester.**