

# SYLLABUS

COURSE # AND TITLE DIME 131 Fluid Power/ HVAC # OF CREDITS 9

## CATALOG DESCRIPTION

Study of liquids and gases and their ability to accomplish work. Hydrodynamic and hydrostatic systems, pneumatic, and compressed air systems, Hydraulic and air braking systems, heating, ventilation and air conditioning systems, on-highway refrigeration systems will be covered. Diagnosis and repairs will be performed on various manufacturer's equipment and components. Safety will be strictly enforced.

Semester Offered: Fall numbered years

Prerequisites:

### *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. To provide the student with the techniques and procedures to adjust, diagnose, service, and repair fluid power and HVAC systems found on on-highway trucks and mobile construction equipment.

## SPECIFIC LEARNING OUTCOMES

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

1. Identify system type and conduct performance test of the A/C system; determine needed repairs.
2. Leak test A/C system; determine needed repairs.
3. Evacuate, recover, and recharge A/C system using appropriate equipment.
4. Inspect and adjust A/C compressor drive belts and pulleys; repair or replace as needed.
5. Verify correct operation of refrigerant handling equipment.
6. Test recycled refrigerant for non-condensable gases.
7. Interpret hydraulic symbols using schematics and diagrams.
8. Identify different types of hydraulic lines and fittings and be able to inspect, remove, and replace these hoses and lines.
9. Perform a hydraulic system pressure check and flow test.
10. Inspect, remove, replace, or repair a hydraulic pump, hydraulic cylinder, hydraulic spool valve, hydraulic relief valve and various hydraulic system valves.
11. Determine operational characteristics of different hydraulic circuits based on flow, pressure, system controls and actuators.

Syllabus developed by \_\_\_\_\_ Date: \_\_\_\_\_

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.**