SAN JUAN COLLEGE
Success Matters

ASEP-125-GENERAL MOTORS HYBRID TECHNOLOGY 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

This course will explain and demonstrate theory and operation of key General Motors hybrid vehicle systems and components. Knowledge retention and subject understanding will be enhanced by interactive classroom components whenever possible. Procedures for handling high voltage batteries will be covered. Personal safety will be emphasized. Co-requisite ASEP 110 & ASEP 120.

Prerequisites: ASEP 110, 120

Semester Offered: Fall

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. Work with automotive electrical systems utilizing the manufacturers' recommended safety procedures.

2. Demonstrate knowledge of electrical fundamentals by properly using an amp, volt, and ohmmeter (digital and analog).
3. Diagnose circuits which have conditions such as: shorts, opens, and grounds.
4. Inspect electrical connections and repair them using accepted manufacturers' procedures.
5. Diagnose and repair various electrical circuits and components.
6. Diagnose and repair electronic level controls.
7. Test switches, fuses, and circuit breakers.
8. Remove and replace fuse block & associated assemblies.
9. Test a turn signal circuit.
10. Test instrument gauges.
11. Test the specific gravity of a battery.
12. Perform a load test on a battery.
13. Properly charge a battery.
14. Perform a starter amp draw test.
15. Perform a voltage drop test on a starter system.
16. Perform a charging system output test.
17. Repair a no charge condition.
18. Remove and replace electronic control units.
19. Diagnose and repair solid-state ignition systems.
20. Demonstrate the use of an oscilloscope and identify four patterns.