

ASEP-190-GM STEERING AND SUSPENSION

3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

A theory and shop course covering steering geometry, front and rear suspension service, wheel alignment, and wheel balancing. This course will cover the theory and operation of the electrical, mechanical, and hydraulic systems of the computer-controlled suspension systems on GM vehicles. Proper service procedures and techniques will be presented. Safety will be emphasized.

Prerequisite: ASEP-120

Corequisite: ASEP-180

Semester Offered: Spring

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. Safe techniques in the repair of front/rear suspension and steering systems.
2. Demonstrate Align both front and rear suspension utilizing manufacturers' process.
3. Adjust caster, chamber, and toe.
4. Measure curb height.
5. Remove and replace an idler arm.
6. Remove and replace lower ball joints.
7. Remove and replace tie rods and ends.
8. Remove and replace drag links.
9. Remove and replace upper and lower control arms.
10. Remove and replace spindles.
11. Clean, inspect and replace wheel bearings.
12. Remove and replace bearing races.
13. Remove and replace coil springs.
14. Remove and replace shock absorbers.
15. Inspect frame for structural damage.
16. Diagnose power steering system problems.
17. Remove and replace a rack and pinion steering unit.
18. Remove and replace power steering lines.
19. Dynamically balance tires.
20. Inspect suspension system for worn parts.
21. Replace suspension bushings.
22. Inspect tires and wheels for damage and irregular wear.
23. Remove and replace McPherson strut assembly.
24. Rebuild McPherson strut assemblies.
25. Check and service fluid levels.
26. Test and adjust tire pressure.
27. Adjust steering gear to factory specifications.
28. Remove and replace steering damper.
29. Demonstrate safe techniques in the repair of computer controlled suspension and steering systems.
30. Test a computer controlled suspension system using manufacturers' approved processes.
31. Test an automatic leveling system using manufactures' approved processes.

SPECIFIC LEARNING OUTCOMES

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

1. Complete 100% of NATEF priority 1 tasks.
2. Complete 85% of NATEF priority 2 tasks.
3. Complete 75% of NATEF priority 1 tasks.