

## AUTE-111-STEERING AND SUSPENSION 5 CREDITS

### SYLLABUS

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#### CATALOG DESCRIPTION

A theory and shop course to introduce the student to steering geometry, front and rear suspension service, wheel alignment, power steering service, and wheel balancing. Safety is emphasized.

Co-requisites: AUTE-112

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. Be prepared for competence on the latest steering and suspension systems.
2. Completion of 100% of NATEF priority 1 tasks.
3. Completion of 85% of NATEF priority 2 tasks.
4. Completion of 75% of NATEF priority 3 tasks.

## General Learning Outcomes

1. Demonstrate safe techniques in the service & repair of suspension and steering systems.
2. Align both front and rear suspension utilizing manufacturers' process and specifications.
3. Adjust caster, chamber, and toe.
4. Measure and adjust 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 such as leaks, noise and low pressure.
17. Remove and replace a rack and pinion steering gear.
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. Test and adjust tire pressure.
25. Adjust steering gear to factory specifications.
26. Remove and replace steering damper.
27. Remove and replace rear leaf springs.
28. Inspect and repair rear suspension linkage.