

DISL 120-ON-HIGHWAY STEERING AND SUSPENSION 5 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Steering and suspension system components, diagnosis, and repair. Students will learn on a variety of Class 6 to Class 8 on-highway truck suspension as well as learn wheel end components, wheel alignment, frames, and 5th wheels. Safety will be strictly enforced. A grade of "C" or better must be earned to receive credit for this course.

Prerequisites: None

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

1. To provide the student with techniques and procedures to inspect, adjust, and repair medium and heavy-duty steering and suspension systems to manufacturer's specification.

Specific Learning Objectives:

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

1. Measure steering knuckle bushing wear.
2. Check/Adjust wheel bearing preload.
3. Diagnose steering problems, looseness, and binding problems.
4. Perform a pre-alignment inspection.
5. Inspect, adjust, and align power steering pump drive belt(s), pulley(s), and tensioners; repair/replace as needed.
6. Disassemble, inspect and reassemble a manual steering gear. Set worm bearing and total mesh preload.
7. Inspect, adjust, and replace drag link and tie rod ends.
8. Inspect steering arm and levers and linkage pivot joints; replace as needed.
9. Inspect clamps and retainers; position or replace as needed.
10. Check steering linkage and wheel stops; adjust as needed.
11. Inspect, remove and replace kingpin, steering knuckle, bushings, locks, bearings, seals, and covers; determine needed repairs.
12. Check toe, camber, caster, king pin inclination and turning radius; adjust as needed.
13. Diagnose unusual tire wear patterns; determine needed repairs.
14. Check and adjust center steer on a vehicle.
15. Check and adjust tire air pressures to specification.
16. Inspect frame misalignment relating to suspension components.
17. Diagnose steering problems, looseness, and binding problems.
18. Check and adjust air bag height to specifications.
19. Inspect front axles, U-bolts, and fasteners; determine repairs as needed.
20. Inspect leaf springs, center bolts, clips, eyebolts and bushings, shackles, slippers, insulators, brackets, and mounts; determine needed service or repairs.
21. Inspect wheels, rims, spacers, clamps, studs, and nuts; replace as needed.
22. Measure tire diameter; match tires on tandem axle.
23. Inspect frame and frame members for cracks, breaks, distortion, elongated holes, looseness, and damage; determine needed repairs.
24. Remove, inspect and replace a steer axle and suspension components.
25. Remove, inspect and replace a spring type drive axle suspension.
26. Remove, inspect and replace an air bag type drive axle suspension.
27. Perform basic drive axle alignment.