

SYLLABUS

DATE OF LAST REVIEW: 4/23/2020
CIP CODE: 47.0613
SEMESTER: Departmental Syllabus
COURSE TITLE: Suspension and Steering
COURSE NUMBER: DEVT 0150
CREDIT HOURS: 3
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: Departmental Syllabus
KCKCC-issued email accounts are the official means for electronically communicating with our students.

PREREQUISITES: None

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, <http://www.kckccbookstore.com> for the required text for your particular class.

COURSE DESCRIPTION: Suspension and Steering addresses the theory, operations and troubleshooting of various steering and suspension system components.

This is a hands-on course focusing on work that includes common light, medium and heavy truck suspension and steering systems and components. Basic operating theory is covered at the level required to understand or perform the operation, maintenance, inspection, diagnosis, wear pattern interpretation, failure analysis, reconditioning, disassembly, re-assembly of systems including a basic alignment. Basic usage of Oxyacetylene equipment is also covered.

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I. Suspension and Steering Systems

II. Steering Pump and Gear Units

- A. Inspect, service, repair and/or replace steering linkage components.
- B. Inspect, service, repair and/or replace shock absorbers and related components.
- C. Inspect, repair, and/or replace leaf springs, center bolts, clips, pins, bushings, shackles, U-bolts, insulators, brackets and mounts.
- D. Inspect, repair and/or replace axle and axle aligning devices.
- E. Inspect, repair, and/or replace tandem suspension equalizer components.
- F. Inspect, repair, and/or replace air springs, mounting plates, suspension arms and bushings.
- G. Inspect, test, repair, and/or replace air suspension pressure regulator and height control valves and fittings.
- H. Inspect and service kingpins and related components.
- I. Measure, record and adjust ride height.
- J. Diagnose rough ride problems.
- K. Alignment angles.
- L. Diagnose causes of steering wheel problems.
- M. Check, record, and adjust camber.
- N. Check, record, and adjust castor.
- O. Check, record, and adjust toe settings.
- P. Check rear axle(s) alignment and tracking.
- Q. Identify turning/Ackerman angle problems.
- R. Check front axle alignment.

III. Wheels and Tires

- A. Inspect, service, and/or adjust fifth wheel and related components.
- B. Inspect frame and frame members for damage.
- C. Inspect, install, and/or replace frame hangers and related components.
- D. Inspect, repair, or replace pintle hooks and draw bars.
- E. Inspect, service, and/or adjust sliding fifth wheel and related components.

IV. Basic Oxyacetylene Welding

- A. Review safety and health standards.
- B. Proper assembly of welding attachments.
- C. Adjust gauge and torch settings.
- D. Perform straight cut on mild steel.
- E. Be able to heat a fastener.
- F. Heat mild steel for forming.
- G. Perform a basic braze on mild steel.
- H. Perform basic gas weld on mild steel, flat, horizontal only.

EXPECTED LEARNER OUTCOMES:

- A. The student will be able to demonstrate knowledge of suspension and steering systems.
- B. The student will be able to describe steering pumps and gear units.
- C. The student will be able to demonstrate knowledge of wheels and tires.
- D. The student will be able to demonstrate knowledge of basic oxyacetylene welding.

COURSE COMPETENCIES:

Upon successful completion of this course:

The student will be able to demonstrate knowledge of suspension and steering systems.

1. The student will be able to identify steering systems.
2. The student will be able to diagnose steering systems.
3. The student will be able to repair steering systems.
4. The student will be able to identify suspension systems.
5. The student will be able to diagnose suspension systems.
6. The student will be able to repair suspension systems.

The student will be able to describe steering pumps and gear units.

7. The student will be able to diagnose total vehicle alignment.
8. The student will be able to adjust total vehicle alignment.
9. The student will be able to interpret wear patterns.

The student will be able to demonstrate knowledge of wheels and tires.

10. The student will be able to diagnose problems of frame & coupling devices.
11. The student will be able to repair frame & coupling devices.
12. The student will be able to adjust frame & coupling devices.

The student will be able to demonstrate knowledge of basic oxyacetylene welding.

13. The student will be able to describe basic oxyacetylene welding.

ASSESSMENT OF LEARNER OUTCOMES: Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

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Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center, in Rm. 3354 or call at: 288-7670.