

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
DIESEL TECHNOLOGY - TRUCK
COURSE SYLLABUS
November 14, 2025

I. CATALOG DESCRIPTION

Course Number: DESL2431
Course Title: Steering and Suspension/Preventive Maintenance
Prerequisite(s): DESL1111, DESL1116

Catalog Description: Principles, components, operation, service, repair, adjustment and troubleshooting of the steering and suspension systems used on today's trucks and tractor and trailer alignment. Lecture, demonstration, and laboratory course for entry level technician designed to introduce the student to correct procedures and practices of vehicle preventive maintenance and inspection.

Credit Hours: 6.0
Class Hours: 45
Lab Hours: 135
Total Contact Hours: 180

II. COURSE OBJECTIVES *Course will:*

- A.** Cover components and operation of various steering systems.
- B.** Cover components and operation of various medium- and heavy-duty suspension systems.
- C.** Cover steering angles affecting tire wear, directional stability and handling.
- D.** Discuss proper procedure for maintaining, diagnosing and repairing steering and suspension systems.
- E.** Cover proper procedure for measuring and adjusting truck alignment.
- F.** Cover best practices and procedures of preventive maintenance (PM), condition-based maintenance (CBM), and predictive-based maintenance (PBM).
- G.** Cover guidelines of the Code of Federal Regulations, CMVSA and ATA Technology and Maintenance Council.
- H.** Identify different categories of preventative maintenance schedules.
- I.** Describe inspector qualifications and record-keeping requirements.
- J.** Give safety procedures related to the Hazard Communication and Globally Harmonized Systems as well as specific program rules for tool and equipment use.

III. STUDENTS LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

- 1. Identify the components of the various steering systems.
- 2. Describe the procedure for inspecting steering components for wear.

3. Explain how different steering angles affect tire wear, directional stability and handling.
4. Measure and adjust truck alignment angles to factory specifications.
5. Identify the components of various suspension systems.
6. Demonstrate steering and suspension system repair and replacement procedures.
7. Describe how to select the correct lubricants for servicing trucks on a PM schedule.
8. Demonstrate how to prepare trucks and trailers for cold weather by winterizing.
9. Describe the criteria for out-of-service (OOS) tagging a vehicle.
10. List and describe the steps of the pre-trip inspection.

B. GENERAL EDUCATION LEARNING OUTCOMES

GELO #3: Critical Thinking & Problem Solving

Outcome(s):

1. Collect, identify, interpret and analyze data.
2. Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE

- A. Steering systems
- B. Alignment
- C. Alignment equipment
- D. Adjustments
- E. Suspension systems
- F. Tires and wheels
- G. Service schedules
- H. Service procedures
- I. Commercial vehicle DOT inspection

V. INSTRUCTIONAL MATERIALS

The Course Information Document lists the current text(s), tools/equipment, and/or supplies required for this class. This list is also available from the campus bookstore.

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Demonstrations
5. Project boards
6. Handouts
7. Observations
8. Assigned lab projects
9. Field trips

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook
2. Quizzes

3. Tests
4. Lab grades
5. Class conduct

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** See Course Information Document for specific details on how the course grades will be calculated.

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student must:

1. Complete all tests, projects, assignments, and notebook (if required).
2. Earn a final grade of 70% (2.0) or higher.

B. Attendance:

1. Attendance is required for successful completion of this course.
2. This is an Engaged Learning course and students are expected to complete pre-class preparation assignments/homework and attend sessions for class, lab, including assignments missed due to absence.
3. Each instructor will inform students by means of a syllabus and Course Information Document of attendance requirements at the first-class meeting.
4. It is expected that students will be on time and present for all scheduled class/lab times unless PRIOR arrangements have been made with the instructor.
5. Missed class or lab sessions, regardless of cause, reduces the opportunity for learning and may affect student achievement of course learning outcomes and the student's grades.
6. Students are responsible for all content missed, regardless of the reason for the absence.
7. Students must, whenever possible, notify the instructor if unable to attend any class/lab session.
8. Emergency absences will be considered on an individual basis to determine if learning activities can reasonably be rescheduled during the current session.

C. Participation:

1. For every hour of classroom learning students are expected to perform two hours of related studies as homework or hands-on / simulated/on-line activities outside the classroom.
2. Students are expected to be responsible for meeting scheduled class/lab/ homework & assigned due dates unless prior arrangements have been made with the instructor 24 hours before the due date.
Students are expected to complete all exams, quizzes, lab activities and assignments / homework at the scheduled times unless PRIOR arrangements have been made with the instructor before the due date and time.
3. When reasonably possible, and only when prior arrangements have been made, students may ask the instructor to have a test or exam rescheduled prior to 24 hours before the activities scheduled date and time.
4. Unscheduled Quizzes may be given at any time and may not be repeated or taken at a later time, unless approved by the instructor.
5. Exceptions due to emergency absences will be considered on an individual basis.

D. Program shop safety rules will be followed. Please see the course outline for any additional safety rules established by the instructor.