

BELLINGHAM TECHNICAL COLLEGE

DIESEL EQUIPMENT TECHNOLOGY

COURSE NUMBER: DET 205

COURSE TITLE: SUSPENSION AND STEERING

CLOCK HOURS: 5 CR

COURSE DESCRIPTION: This course will address the basic operation of suspension and steering systems, with the emphasis on preventive maintenance and logical troubleshooting.

OUTCOME: Systematically repair and maintain various suspension/steering systems and logically troubleshoot problems within those systems.

OUTLINE:

1. introduction to suspension and steering systems
2. principles of suspension and steering systems
3. alignment
4. 6 wheel alignment
5. springs, air springs
6. torque rods

STUDENT PERFORMANCE OBJECTIVES:

Given logical sequencing, reference materials, tools of the trade and following industry approved safety procedures the student will:

1. set toe in to + or - 1/32"
2. identify major system components with 90% accuracy
3. logically troubleshoot systems to industry standard times
4. read and evaluate schematics
5. identify different types power steering and suspension systems with 90% accuracy

METHOD OF INSTRUCTION:

1. demonstration
2. Team Based Learning methods
3. discussion
4. interactive software
5. lecture
6. field trips and audio/visual

Provide opportunity for disadvantaged or disabled students by providing alternate modes of learning.

STUDENT ASSIGNMENTS/REQUIREMENTS:

The following must be completed before a grade can be given:

1. 90% class attendance required

2. Completion of assigned competencies and tasks required
3. Completion of self evaluation forms required

Clickers:

You will use a small, hand-held transmitter ("clicker"), much like a remote, to answer practice questions in class. The clicker is your responsibility. Specifically:

- You must first register your clicker in order to receive credit for using in class. (Even if you registered your clicker last semester, you must register it again this semester.)
- If you forget to bring your clicker to class, you are out of luck. I will have no spare clickers, and I will not allow students to share clickers.
- If the battery in your clicker dies, you must replace it. The battery should last for a couple of years or more, but it is recommended that you change the battery each year, or carry a spare one with you.
- If you lose or damage your clicker, you must buy a new one.
- If you have your clicker replaced or buy a new one, you must register it again, and let me know so that I can keep track of it.
- You can miss one clicker class per semester with an excused absence and your grade will be prorated.

EVALUATION AND GRADING:

1. Assigned competencies, tasks, quizzes are required. The class teams will select grading criteria the first day of class
2. Completion of quarterly self evaluation **required** by the last class day of each month. The self evaluation grade weight will be set by each class.
3. You have 2 free days for attendance. Absence of more than 2 days will lower your grade by one letter. 2 tardy instances count for one day absence.
4. Letter grades:

0 - 61 = F 63 - 72 = D 73 - 82 = C 83 - 92 = B 93 - 100 = A

REQUIRED STUDENT SUPPLIES AND MATERIALS:

REQUIRED TEXT: HEAVY DUTY TRUCK SYSTEMS

4th Edition DELMAR

ADDITIONAL INSTRUCTIONAL RESOURCES:

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| 1. <u>CONCRETE CONSTRUCTION</u> | trade magazine |
| 2. <u>CRANE WORKS</u> | trade magazine |
| 3. <u>CONSTRUCTION EQUIPMENT</u> | trade magazine |
| 4. <u>DIESEL PROGRESS</u> | trade magazine |
| 5. <u>HYDRAULICS AND PNEUMATICS</u> | trade magazine |