

DET 81 Course Outline as of Spring 2003

CATALOG INFORMATION

Dept and Nbr: DET 81                      Title: PREVENT. MAINT. & INSPC.  
Full Title: Preventive Maintenance and Inspection  
Last Reviewed: 12/9/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	5.00	8	Lecture Scheduled	40.00
Minimum	3.00	Lab Scheduled	3.00	8	Lab Scheduled	24.00
		Contact DHR	0		Contact DHR	0
		Contact Total	8.00		Contact Total	64.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 80.00

Total Student Learning Hours: 144.00

Title 5 Category: AA Degree Applicable  
Grading:                      Grade Only  
Repeatability:              00 - Two Repeats if Grade was D, F, NC, or NP  
Also Listed As:  
Formerly:                      DET 68

**Catalog Description:**  
The study of preventive maintenance and inspection practices as related to vehicles and machinery. Preventive maintenance program design and vehicle and machinery compliance inspections are practiced. Students will work with area businesses in this class.

**Prerequisites/Corequisites:**

**Recommended Preparation:**  
Course Completion of DET 179 ( or DET 80 or DET 60)

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: The study of preventive maintenance and inspection practices as related to vehicles and machinery. Preventive maintenance design and vehicle and machinery compliance inspections are practiced. Students will work with area businesses in this class. (Grade Only)  
Prerequisites/Corequisites:  
Recommended: Course Completion of DET 179 ( or DET 80 or DET 60)  
Limits on Enrollment:

Transfer Credit: CSU;  
Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective: Fall 1981	Inactive: Fall 2014
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**  
Not Certificate/Major Applicable

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Upon successful completion of this course students will:

1. Describe maintenance and inspection procedures for a variety of industrial machinery.
  2. Recognize symptoms of potential machine failure.
  3. Perform preventive maintenance on and inspections of the following:
    - body and cab components
    - tracks, tires and wheels
    - engine compartment components
    - electrical/electronic components
    - chassis and undercarriage components
  4. Demonstrate methods and procedural practices in servicing, diagnosis, and repair.
  5. Evaluate conditions and recommend remedies.
  6. Use technical references properly, including maintenance specifications and terms from parts manuals.
  7. Discuss and apply personal, shop, and environmental safety procedures.
- [Outcomes and objectives meet or exceed NATEF Applied Academic & Workplace Skills for Medium/Heavy Truck Technicians (Reference Standard 6.5, ASE Program Certification Standards manual, 1998).]

### **Topics and Scope:**

- I. Maintenance and inspection procedures
  - a. scheduled maintenance
  - b. preventive maintenance
- II. Using technical manuals
  - a. hard copy
  - b. computerized
  - c. locating information

- d. interpreting instructions

### III. Lubrication

- a. solid and liquid lubricants
- b. lubrication points
- c. rating symbols

### IV. Failure analysis

- a. metallic parts failures
- b. failures due to neglect/lack of maintenance

### V. Cab and Body

- a. gauges and indicators
- b. federal/state safety inspection
- c. accessories/components
- d. visual inspection
- e. air pressure checks
- f. steering wheel and pedals

### VI. Tracks, Tires and Wheels

- a. condition and wear
- b. rims, wheels, rollers
- c. fasteners, locks, hubs and bearings

### VII. Engine Compartment

- a. fluid levels
- b. leak inspection
- c. belts and hoses
- d. component mounting
- e. wiring and clamps
- f. air intake system
- g. unusual noises
- h. optional equipment
- i. air conditioning equipment

### VIII. Electrical/Electronic

- a. inspect/test batteries
- b. battery cables and terminals
- c. starting system test
- d. lighting system check
- e. gauges and instruments
- f. diagnostic displays

### IX. Chassis/Undercarriage

- a. steering system test
- b. inspect suspension
- c. clutch adjustment
- d. springs and attachments
- e. component mounts
- f. fluid levels

### X. Safety

- a. personal
- b. shop
- c. environmental

## Assignment:

1. Reading assignments and worksheets covering course topics.

2. Individual and group activities interpreting maintenance and inspection procedures.
3. Field trips to area businesses to study various preventive maintenance programs being used.
4. Develop a preventive maintenance program
5. Practice preventive maintenance procedures
6. Study specific inspection procedures.
7. Practice inspection procedures.
8. Report findings in class.

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework, Lab reports

Writing  
5 - 10%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Lab reports, Quizzes

Problem solving  
15 - 25%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Structured Lab Exercises

Skill Demonstrations  
15 - 35%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion

Exams  
25 - 45%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation.

Other Category  
10 - 20%

### Representative Textbooks and Materials:

Instructor and/or industry provided handouts.