

CATALOG INFORMATION

Dept and Nbr: DET 181 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	2.25	17.5	Lecture Scheduled	39.38
Minimum	3.00	Lab Scheduled	2.25	8	Lab Scheduled	39.38
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		Contact Total	78.75
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 78.75

Total Student Learning Hours: 157.50

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 81

Catalog Description:
The study of preventive maintenance and inspection practices as related to diesel vehicles and machinery. Preventive maintenance inspections are practiced.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100 and Course Completion of DET 80

Limits on Enrollment:

Schedule of Classes Information:
Description: The study of preventive maintenance and inspection practices as related to diesel vehicles and machinery. Preventive maintenance inspections are practiced. (Grade Only)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100 and Course Completion of DET 80
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:

Upon successful completion of this course students will:

1. Describe maintenance and inspection procedures for industrial machinery.
2. Evaluate symptoms of potential machine failure.
3. Perform and assess preventive maintenance inspections on the following:
 - a. tracks, tires and wheels
 - b. engine and powertrain components
 - c. electrical/electronic components
 - d. chassis and undercarriage components
4. Evaluate conditions and determine remedies.
5. Utilize digital media for service information.
6. Discuss and apply personal, shop, and environmental safety procedures.

Topics and Scope:

1. Maintenance and inspection procedures
 - a. scheduled maintenance
 - b. preventive maintenance
2. Using technical manuals
 - a. hard copy
 - b. computerized
3. Lubrication
 - a. solid and liquid lubricants
 - b. lubrication procedures
 - c. rating symbols
4. Failure analysis
 - a. metallic parts failures
 - b. failures due to neglect/lack of maintenance
5. Tracks, tires and wheels
 - a. condition and wear
 - b. rims, wheels, rollers
6. Engine compartment

- a. fluid levels
- b. leak inspection
- c. belts and hoses
- d. component mounting
- e. wiring and clamps
- f. air intake system
- g. fuel systems
- h. cooling systems
- 7. Electrical and Electronic systems
 - a. inspect/test batteries
 - b. battery cables and terminals
 - c. starting system tests
 - d. lighting system check
 - e. gauges and instruments
 - f. diagnostic display
 - g. computer malfunction lamp diagnosis
- 8. Power Train
 - a. transmission service
 - b. rear axle service
 - c. driveline inspection
 - d. clutch adjustment
- 9. Chassis/Undercarriage
 - a. steering system
 - b. suspension inspection
 - c. brake adjustment and inspection
 - d. anti-lock brake malfunction diagnosis
 - e. springs and attachments
 - f. component mounts
- 10. Hydraulic systems
 - a. fluid type and level indicators
 - b. filters and maintenance
- 11. Safety
 - a. personal
 - b. shop
 - c. environmental/hazardous material handling

Assignment:

- 1. Read 25 to 40 pages per week
- 2. Perform preventive maintenance inspections and prepare written reports
- 3. Complete inspection and evaluation worksheets
- 4. 3 to 5 exams including final exam

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.

Preventive maintenance inspection reports

Writing 0 - 20%

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

Inspection and evaluation worksheets

Problem solving
10 - 25%

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

Perform preventive maintenance inspections

Skill Demonstrations
20 - 40%

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

3 to 5 exams including final exam

Exams
30 - 50%

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

None

Other Category
0 - 0%

Representative Textbooks and Materials:

Heavy Duty Truck Systems, Bennett ed. 5, 2011