DET 181 Course Outline as of Fall 2014

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